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THE ECONOMICS OF DAIRY MARKETING

AN ANNOTATED BIBLIOGRAPHY

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FOREWORD

This bibliography should be used jointly with a companion work: Wolf, A. F., A BIBLIOGRAPHY ON COSTS, MARGINS, AND EFFICIENCY IN MARKETING DAIRY PRODUCTS, unnumbered publication, Economic Research Service, Mar. 1965. The two bibliographies cover different areas of dairy marketing. It is not known if the publications listed herein are still available from the publishers. The Department of Agriculture has supplies available of many recent Department publications; most others may be found in major libraries. Those issued elsewhere should be requested from the publisher.

Listings of items overlooked, particularly if accompanied by an abstract, will be welcomed by the Animal Products Branch, Marketing Economics Division, Economic Research Service, U.S. Department of Agriculture, Washington, D.C. 20250. When sufficient additions are received, a supplement to the bibliography will be issued.

The following bibliographies were extremely helpful in preparing this bibliography:

- Bercaw, L. O. and E. M. Colvin. BIBLIOGRAPHY ON THE MARKETING OF AGRICULTURAL PRODUCTS. U.S. Dept. Agr. Misc. Pub. 150, 351 pp., Dec. 1932.
- Brown, E. Evan. BIBLIOGRAPHY OF MARKETING PUBLICATIONS FOR THE 11 SOUTHEASTERN STATES. S.C. Agr. Expt. Sta. A.E. 119, 83 pp., Apr. 1956.
- Cummings, Orpha. MILK MARKETING: A SELECTED LIST OF REFERENCES. Giannini Found. Agr. Econ., Mar. 1936.
- Day, Emily L., Katherine Jacobs, and Margaret T. Olcott. BIBLIOGRAPHY OF THE MARKETING OF AGRICULTURAL PRODUCTS. U.S. Dept. Agr. Misc. Cir. 35, 56 pp., 1925.
- Dominick, Bennett A., Jr. RESEARCH IN RETAIL MERCHANDISING OF FARM PRODUCTS-- APPRAISAL OF METHODS AND ANNOTATED BIBLIOGRAPHY. U.S. Dept. Agr. Mktg. Res. Rpt. 416, 46 pp., July 1960.
- Gooch, Donald W., Robert W. Harmon, and Oliver M. Shipley. MARKETING OF DAIRY PRODUCTS, 1936-1940. U.S. Dept. Agr. Lib. List. 43, 75 pp., June 1948.
- Hardy, Catherine E. LIST OF PUBLICATIONS. U.S. Dept. Agr. Farmer Co-op. Serv. Inf. 4, 109 pp., July 1962.
- Harrison, Margaret. THE DAIRY INDUSTRY IN THE UNITED STATES, 1932-SEPTEMBER 1934. U.S. Dept. Agr. Bur. Agr. Econ., 1934.
- Kislitzin, Elizabeth H. BIBLIOGRAPHY OF RESEARCH RELATING TO AGRICULTURAL MARKETING IN THE WESTERN STATES, SUPPLEMENT 1950-1963. Univ. Calif. Giannini Found. Agr. Econ. Inf. Ser. 64-5, 73 pp., Sept. 1964.
- Larson, Nellie G. and C. P. Schumaier. TRANSPORTATION OF AGRICULTURAL COMMODITIES IN THE UNITED STATES. A BIBLIOGRAPHY OF SELECTED REFERENCES, 1949-1959. U.S. Dept. Agr. Misc. Pub. 863, 126 pp., June 1961.
- Manning, Travis W. BIBLIOGRAPHY ON ECONOMICS OF THE DAIRY INDUSTRY, 1920-1949. Oklahoma A. & M. College (Now Okla. State Univ. Agr. and Appl. Sci.) 302 pp., 1949.
- McMillan, Wendell. A BIBLIOGRAPHY OF DISSERTATIONS AND THESES ON COOPERATIVES. U.S. Dept. Agr. Farmer Co-op. Serv. Gen. Rpt. 42, 50 pp., Mar. 1958.
- Rinkcas, Mary A. and C. W. Loomis. LIST OF AVAILABLE PROCESSED PUBLICATIONS. Cornell Univ. A. E. Ext. 382, 27 pp., July 1965.
- Williams, Sheldon W. DAIRY MARKETING PUBLICATIONS OF THE STATES AND FEDERAL AGENCIES ASSOCIATED WITH THE NORTH CENTRAL COMMITTEE ON DAIRY MARKETING RESEARCH, 1950-1961. 62 pp., 1962.

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July 1966

GENERAL, HISTORY, TRENDS

- Alvord, H. E. DAIRY DEVELOPMENT IN THE UNITED STATES. U.S. Dept. Agr. Yearbook, 1899: 381-403.
History of the dairy industry from Colonial times; establishment of the factory system (cheese and butter).
- Anderson, K. E. and C. J. Miller. THE FLUID MILK INDUSTRY IN NEBRASKA. Nebr. Agr. Expt. Sta. Agr. Econ. Prog. Rpt. 3, 13 pp., 1951.
Milk production, collection, distribution, delivery, demand, processing, sanitation, paper-bottled.
- Baumer, E. F., et al. CHANGING MARKETING CONDITIONS: IMPLICATIONS FOR OHIO DAIRY MARKETING COOPERATIVES. Ohio Agr. Expt. Sta. A. E. 363, 92 pp., Apr. 1964.
Analysis of market factors affecting members of dairy cooperatives: population, number of producers, production, changes in cooperatives, changes in Federal orders, number of handlers; definition of milk markets.
- Bendixin, H. A. and E. F. Dummeier. PRODUCTION, DEMAND, AND PRICE TRENDS FOR DAIRY PRODUCTS IN THE UNITED STATES AND WASHINGTON PREVIOUS TO 1944. Wash. Agr. Expt. Sta. Bul. 442, 74 pp., 1944.
Supplies, consumption, and prices of dairy products; principal emphasis on the effects of the war; opportunities for profitable employment.
- Bowring, J. R. MILK PRICING PROBLEMS IN NEW HAMPSHIRE. N. H. Agr. Ext. Serv. Agr. Econ. Mimeo. 146, 12 pp., May 1960.
Overview of milk production and marketing in New Hampshire, including number of dealers of various types and wholesale and retail sales.
- Brown, A. A. and J. E. Donley. PRODUCT-COSTS OF MILK TO DEALERS IN THE SPRING-FIELD AREA, 1935. Mass. Agr. Expt. Sta. Bul. 365, 28 pp., July 1939.
Conditions in various Massachusetts secondary areas, not conducive to market stability, are uneven distribution of fluid outlets among dealers, rigidities in producer-distributor relationships, and lack of relationships between prices for milk disposed of as fluid or surplus.
- Chubbuck, Levi. THE DAIRY INDUSTRY IN MISSOURI AND KANSAS. U.S. Dept. Agr. Bur. Anim. Ind. Bul. 18, 23 pp., 1897.
Farm methods; creameries; cheese factories; milk supply; inspection; list of creameries, cheese factories, and dairy companies.
- Collins, Warren E., et al. TRENDS IN THE PRODUCTION AND DISPOSITION OF MILK AND THE IMPORTANCE OF DAIRYING IN THE SOUTH, 1924-50. South. Co-op. Ser. Bul. 19, 26 pp., Dec. 1951.
Summarizes data from secondary sources; compares statistics for the South with the United States.
- Corty, Floyd L., et al. THE POSITION OF DAIRYING IN THE SOUTH. South. Co-op. Ser. Bul. 46, 46 pp., Sept. 1956.
- Cowden, T. K. and E. G. Fouse. THE SUPPLY AND UTILIZATION OF MILK IN PENNSYLVANIA. Pa. Agr. Expt. Sta. Bul. 327, 111 pp., 1936.
Number, location, and importance of the various types of dealers; supply of milk handled by different types of dealers; country milk plants; seasonal variations in the supply and utilization of milk and cream by dealers; farmers' organizations; sanitary control; and interstate shipments of milk and cream.

- Crawford, G. L. AN ECONOMIC STUDY OF THE DAIRY INDUSTRY IN TEXAS. Tex. Agr. Expt. Sta. Bul. 358, 35 pp., 1927.
Purposes of this study were to determine Texas -produced market milk, butter, and ice cream for own consumption; whether production can be profitably increased; analyzes marketing methods for dairy products.
- Dow, G. F. RECEIPTS, UTILIZATION, AND PRICES OF MILK AND CREAM IN MAINE MILK CONTROL AREAS. Maine Agr. Expt. Sta. Bul. 399: Mar. 1940, 71-183.
Shows developments in milk price regulation and analyzes milk distributors' records from May 1935 to December 1937. Describes trends in use, seasonal variation in receipts and use, prices paid producers, distributor's spread, and effect of price changes on consumption.
- Dow, G. F. AN ECONOMIC STUDY OF THE PRODUCTION AND UTILIZATION OF MILK IN MAINE. Maine Agr. Expt. Sta. Bul. 367: 285-416, July 1933.
Dairy herds; sales to larger dealers, 1928; location of larger dealers; plant utilization; out-of-state shipments; total consumption in Maine 1928.
- Dow, G. F. PRODUCTION OF FARM BUTTER IN MAINE AND POSSIBILITIES OF A SHIFT TO FLUID MILK. Maine Agr. Expt. Sta. Misc. Pub. 583, 14 pp., Jan. 1944.
Survey of 500 dairymen, July-August 1943. Volume and trend of butter; size of herd and butter production; reasons for producing butter instead of fluid milk; butter prices received; cost of preparing and marketing butter; returns from butter and fluid milk.
- Eastern Market Research Service. MILK MARKETING BY DISTRIBUTORS WITH PLANTS IN WEST VIRGINIA. Rpt. of the W. Va. Governor's Milk Comn. 77 pp., Feb. 1957.
Survey of 58 fluid milk plants in West Virginia, 1955-56. Receipts and shipments; utilization; prices to producers; retail and wholesale prices.
- Eckert, Alfred R. ECONOMIC FACTORS OF DAIRY CONSUMPTION AND PRODUCTION IN NEBRASKA. Univ. Nebr. M.S. thesis, Jan. 1954.
- Erdman, Henry E. THE MARKETING OF WHOLE MILK. 333 pp., 1921. The McMillan Co., New York.
Distribution; prices.
- Erwin, C. C. ECONOMIC POSITION OF THE DAIRY INDUSTRY IN MISSOURI. Mo. Agr. Expt. Sta. Res. Bul. 520, 60 pp., June 1953.
Interarea aspects and utilization of Missouri milk production.
- Farris, Paul L. DAIRYING IN INDIANA--TRENDS AND FACTS. Purdue Univ. Agr. Expt. Sta., Res. Bul. No. 665, 32 pp., June 1958.
Production characteristics; farm and herd size characteristics; prices and price ratios; utilization; number and type of dairy plants, 1924-56.
- Feder, Ernest and Sheldon W. Williams. DAIRY MARKETING IN THE NORTHERN GREAT PLAINS--ITS PATTERNS AND PROSPECTS. North Cent. Region. Pub. 47, S. Dak. Agr. Expt. Sta. Bul. 438, 59 pp., May 1954.
Analysis of differences in dairy marketing between this area (North Dakota, South Dakota, Nebraska, and Kansas) and other U.S. areas; variations in dairying within the area, and appraisal of the future of the area industry.
- Fourt, L. A. and G. A. Kristjanson. NORTH DAKOTA'S DAIRY MARKETING PROBLEMS IN HISTORICAL PERSPECTIVE. N. Dak. Agr. Expt. Sta. Bul. 393, 29 pp., June 1954.
History of dairy industry of North Dakota; changing economic relations; present status, based on a sample survey of creameries.
- Givan, William and Stanton Parry. CHARACTERISTICS, EXPANSION PLANS, AND PROJECTIONS FOR THE TENNESSEE GRADE A MILK INDUSTRY. Tenn. Agr. Expt. Sta. Bul. 382, 31 pp., Sept. 1964.
Operational methods and plans of producers, 1963; projections of production and consumption through 1970.

Graf, Truman and Hugh L. Cook. REPORT OF THE SPECIAL JOINT COMMITTEE ON DAIRY PRICE SPREADS TO THE 1955 LEGISLATURE. Assembled at the Direction of the Committee by the Staff of the Legislative Council, State Capitol, Madison, Wisconsin, pp. 2072-2142, June 1955.

Margins, prices, and costs for fluid milk, cheese, and butter; why margins behave as they do; monopolistic, illegal, or unfair trade practices.

Hammond, Jerome. WISCONSIN'S COMPETITIVE POSITION IN THE DAIRY INDUSTRY. Univ. Wis., M.S. thesis, 1960.

Hammond, Jerome W. and Martin K. Christiansen. MARKETING MINNESOTA'S DAIRY PRODUCTS--CHARACTERISTICS, PROBLEMS, AND NEEDS. Minn. Agr. Expt. Sta. Misc. Rpt. 63, 67 pp., 1965.

Description and preliminary appraisal of economic, technical, and institutional factors that influence the marketing of Minnesota milk and milk products.

Hay, J. H. INVESTIGATION OF THE PRODUCTION, DISTRIBUTION AND PRICES OF MILK. Minn. Dept. Agr., Bul. 2, 14 pp., 1920.

Statistics on production of milk, butterfat, and manufactured dairy products in the State, cost estimates of producing market milk, and cost data on distributing milk in Minneapolis, St. Paul, Duluth, and other cities.

Hibbard, B. H. and H. E. Erdman. MARKETING WISCONSIN MILK. Wis. Agr. Expt. Sta. Bul. 285, 71 pp., 1917.

Prices; grades; marketing practices and outlets of farmers; costs of distribution; marketing costs and margins; condenseries as outlets.

Hoglund, A. William. WISCONSIN DAIRY FARMERS ON STRIKE. Agr. Hist. 35(1): 24-34, Jan. 1961.

A historian's account of 1933 milk strike in Wisconsin.

Hurt, Verner G., A. D. Seale, Jr., and Phillip R. H. Hardy. A DESCRIPTIVE ANALYSIS OF THE GRADE A MILK INDUSTRY IN MISSISSIPPI. Miss. Agr. Expt. Sta. Bul. 619, 16 pp., April 1961.

Location of production and milk assembly points; production, utilization and sales of grade A milk, 1956-57.

Husmann, Werner. AN ECONOMIC STUDY OF THE DAIRY INDUSTRY IN SOUTH CAROLINA. S.C. Agr. Expt. Sta. Bul. 386, 26 pp., June 1950.

Milk market regulations; milksheds; methods of distribution; bottling plants; milk supplies; prices and pricing schemes; consumption.

Jeffrey, A. D. THE PRODUCTION-CONSUMPTION BALANCE OF MILK IN THE NORTHEAST REGION. Cornell Univ. Agr. Expt. Sta. A.E. 1055, Northeast Reg. Pub. 29, 97 pp. June 1957.

Production and use of milk in the Northeastern States, 1947-54; quantities produced on farms and disposal by farmers in each State of the region, plant receipts and uses of milk, and prices paid by dealers.

Jenkins, L. P. and W. W. Moffett, Jr. SUPPLY AND UTILIZATION OF MILK IN SELECTED MISSISSIPPI MARKETS, 1950 and 1951. Miss. Agr. Expt. Sta. Tech. Bul. 39, 65 pp., Sept. 1953.

Receipts and use of fluid grade milk in 9 market areas; per capita milk consumption.

Kirtley, M. B. and C. C. Erwin. MARKETING DAIRY PRODUCTS IN SOUTHWEST MISSOURI. Mo. Agr. Expt. Sta. Bul. 567, 36 pp., Feb. 1952.

Characteristics of the area; supply and demand relationships at the farm; production and sale of manufactured dairy products. Chiefly a manufacturing area, although increasing quantities of fluid milk for outside markets.

King, C. L. THE PRICE OF MILK. The John C. Winston Co., Philadelphia. 336 pp., 1920.

The relation of manufactured milk products to the price of fluid milk, the use of formulas to determine the cost of production, and the policies of dairymen's organizations in relation to price. Cost of distribution, relation of sanitary requirements to price, and the possibility of making milk distribution a municipal function.

- King, Clyde L., Chairman. REPORT OF THE GOVERNORS' TRI-STATE MILK COMMISSION. Pa. Dept. Agr. Bul. No. 287, 70 pp. 1917.
Production and distribution costs; railroad assembly; prices; surplus milk supply; inspection and grading.
- Koller, E. F. and O. B. Jesness. TRENDS IN THE MINNESOTA DAIRY INDUSTRY. Minn. Agr. Expt. Sta. Bul. 346, 40 pp., Jan. 1940.
Farm production and disposition; creamery industry; cheese and concentrated milk industries; ice cream; fluid milk markets.
- Ladd, George W. DISTRIBUTED LAG INVENTORY ANALYSES. Iowa Agr. and Home Econ. Expt. Sta. Res. Bul. 515: 831-856, Apr. 1963.
Measurement of determinants of short-term inventory behavior for butter, cheese, and other products, using distributed lag models.
- Lampard, Eric E. THE RISE OF THE DAIRY INDUSTRY IN WISCONSIN: A STUDY IN AGRICULTURAL CHANGE, 1820-1920. Wis. State Hist. Soc. 466 pp., 1963.
- Lee, James D. DAIRY PRODUCTION AND MARKETING IN THE NORTHEAST. Northeast. Dairy Conf. 57 pp., Aug. 1950.
Trends in production, consumption, and milk price relationships.
- Maxton, J. L. MANUFACTURING AND MARKETING DAIRY PRODUCTS IN VIRGINIA. Va. Agr. Expt. Sta. Bul. 280, 45 pp., 1931.
"This study was made to determine how dairy products are being made and sold in Virginia, and to analyze the factors which influence the efficiency of their assembling, making, and marketing. The principal factors considered were the density of the milk-cow population, methods and costs of assembling, making and marketing, influence of volume, quality of products, prices paid farmers, and prices received from wholesalers by manufacturers for different dairy products ..." p. 5.
- Miles, J. F. FACTS ABOUT DAIRYING IN SOUTH CAROLINA. S.C. Agr. Expt. Sta. Cir. 83, 35 pp., 1952.
Income, farm production, disposition and price; cattle numbers; manufactured milk products.
- Miller, Clarence J. CHANGES IN THE DAIRY INDUSTRY IN THE NORTHERN PLAINS STATES--A STATISTICAL SUMMARY. Nebr. Agr. Expt. Sta. Agr. Econ. Rpt. 15, 77 pp., Dec. 1959.
Statistical data on farms, production, processing, prices, and income.
- Miller, Clarence J. and Sheldon W. Williams. DAIRY MARKETING CONDITIONS AND PRACTICES IN THE NORTHERN PLAINS STATES. Nebr. Agr. Expt. Sta. Bul. 457, 35 pp., May 1960.
Surveys of farmers in 1953-54. Characteristics of the dairy enterprise; cream marketing channels and practices; cream prices; marketing whole milk.
- Miller, Clarence J. and Sheldon W. Williams. POTENTIAL ADJUSTMENTS IN DAIRY MARKETING IN THE NORTHERN PLAINS STATES. Nebr. Agr. Expt. Sta. Bul. 450, 36 pp., July 1959.
Analyzes the dairy situation in the Northern Plains, farmers' attitudes toward change, and the future of the dairy industry in this area.
- Monrad, John H. THE DAIRY INDUSTRY OF NEBRASKA, SOUTH DAKOTA, AND NORTH DAKOTA. U.S. Dept. Agr. Bur. Anim. Ind. Bul. No. 15, 21 pp., 1896.
Historical, farm dairying and creamery patrons; creameries; cheese factories.
- Motts, George N. MARKETING HANDBOOK FOR MICHIGAN DAIRY PRODUCTS. Mich. Agr. Expt. Sta. Spec. Bul. 430, 91 pp., Nov. 1960.
Production and marketing patterns; marketing agencies; producers' marketing organizations; market orders; grading and inspection; laws; market news; market promotion; preferences.
- Norman, R. V. DAIRY TRENDS IN MICHIGAN. Mich. Dept. of Agr., 44 pp., June 1955.
Statistical compilation: milk production, dairy products production, consumption, prices, Detroit fluid milk prices (farm and retail), 1902-54.

- North Central Regional Technical Committee for Dairy Marketing Research. HANDBOOK OF DAIRY STATISTICS. Ill. Agr. Expt. Sta. 262 pp., 1953.
Detailed economic statistics for the United States, specified States, and markets, including number of producers, total deliveries, average daily deliveries, population, average daily sales of whole milk, cream and miscellaneous drinks, average annual income per person, dealers' selling prices, average prices paid producers, butterfat differentials, and average butterfat tests in selected fluid milk markets. Also, includes cow numbers, production per cow, and total annual milk production and indices of costs of foods in specified markets and the United States.
- O'Connel, Paul. LOOKING INTO THE DAIRY INDUSTRY IN COLORADO. Colo. Agr. Expt. Sta. Gen. Ser. 810, 10 pp., Sept. 1964.
Survey of 28 of the 95 dairy plants in Colorado, 1962. Milk procurement, processing facilities and personnel, distribution, and cost analysis.
- Parker, H. N. CITY MILK SUPPLY. N.Y. McGraw-Hill, 493 pp., 1917.
- Parvin, D. W. DEVELOPMENT OF THE DAIRY INDUSTRY IN MISSISSIPPI. Miss. Agr. Expt. Sta., Bul. 422, 52 pp., July 1945.
Status of dairy farming in Mississippi, the historical development of dairy manufacturing plants, butterfat purchased from producers, butterfat and solids-not-fat manufactured, volumes of different dairy products manufactured, etc. The development in different areas of the State, the seasonal variation in milk and butterfat purchases, the relation of seasonal production to plant capacity and efficiency of operation of plants, milk transportation, the prices paid producers for milk and butterfat, and the seasonal variation are described.
- Penny, N. M. and J. C. Elrod. SUPPLY, UTILIZATION, AND PRICE OF MILK IN GEORGIA, 1949. Ga. Agr. Expt. Sta. Mimeo Ser. 36, 70 pp., Sept. 1951.
Location and kind of plants; milk supply; utilization, intermarket shipments; production of manufactured products; price plans; producer-distributors.
- Pirtle, T. R. HISTORY OF THE DAIRY INDUSTRY. Chicago, Mojonnier Bros Co., 645 pp., 1926.
Organizations, markets, and marketing etc., are discussed for each country.
- Quackenbush, G. G. MILK UTILIZATION TRENDS IN MICHIGAN. Mich. Spec. Bul. 372, 39 pp., June 1951.
Trends in production, farm disposition, utilization, for State and districts. Shift from sale of farm-separated cream to whole milk, and from retailing to wholesaling by farmers. Plants shifted from butter to cheese and whole milk.
- Rust, H. A. and C. W. Pierce. RECEIPTS OF MILK AND CREAM AT THE PHILADELPHIA MARKET, 1939-40. U.S. Dept. Agr. and Penn. State Col., coop. 13 pp., Apr. 1942.
Survey of milk and cream receipts to check coverage of market news reports.
- Schoenveld, W. A. SOME ECONOMIC ASPECTS OF THE MARKETING OF MILK AND CREAM IN NEW ENGLAND. U.S. Dept. Agr. Cir. 16, 74 pp., 1927.
The production of, the markets for, and the movement of milk and cream are described. Shipping plants, country milk stations, retail prices, producer prices, milk-price policies, and different plans for producer control of production and prices are discussed. Also discussed are unit costs of operation for milk plants, the influence of price on consumption and on production relative to feed costs. Appendixes include suggested plans and equipment for country milk stations.
- Schutz, Willard D. MARKETING GRADE A MILK. MOVEMENT, UTILIZATION AND PRICING IN SIX WESTERN STATES AND ALASKA. Western Reg. Pub., Wyoming Agr. Expt. Sta. Bul. 342, 23 pp., June 1956.
Movements of milk between States, methods of delivery of milk to plants, basis of price determination and prices paid, type of containers, and utilization of Grade A milk in Colorado, Wyoming, Utah, Idaho, Oregon, Washington, and Alaska in 1953.
- Spencer, Leland. A HALF CENTURY OF SIGNIFICANT DEVELOPMENTS IN THE DISTRIBUTION AND PRICING OF MARKET MILK. Cornell Univ. Agr. Expt. Sta. Bul. A.E. 1030, 16 pp., Sept. 1956.
Sales and consumption; technological developments; marketing organization and methods; pricing; public control.

- Stelly, Randall. CHANGES IN THE TEXAS DAIRY INDUSTRY. Tex. Agr. Expt. Sta. MP-614, 34 pp., Nov. 1962.
Changes in farm production, processing, distribution, and consumption patterns.
- Stelly, Randall and Kenneth McKinney. CHANGES IN MILK PRODUCTION AND MARKETING IN TEXAS. Tex. Agr. Expt. Sta. Bul. 930, 14 pp., Apr. 1959.
Production characteristics; herd size and farm characteristics; disposition of milk by farmers; value and prices; use of milk in manufacturing.
- Thompson, F. L. and W. H. E. Reid. DEVELOPING NEW MARKETS FOR MISSOURI BUTTER-FAT. Mo. Agr. Expt. Sta. Bul. 267, 32 pp., 1929.
The advantages and disadvantages of different market outlets for butterfat are discussed. The conditions under which each market outlet is most likely to succeed, and the conditions actually existing in Missouri are shown.
- U.S. Department of Agriculture. CHANGES IN THE DAIRY INDUSTRY, 1920-50. A Statement submitted July 21, 1950, by the Bur. Agr. Econ. before a Subcommittee of the Senate Com. on Agr. and Forestry, 81st Cong. 2nd Sess. Reprinted from UTILIZATION OF FARM CROPS, MILK AND DAIRY PRODUCTS, Part 4, Appendix A, pp. 1963-2077.
Changes in farm production, disposition, and income from milk; changes in market structure; consumption; margins; prices; interregional movement; industry practices; role of cooperatives; Government programs.
- U.S. Tariff Commission. MILK AND CREAM--COSTS OF PRODUCTION. Preliminary Statement of Information Obtained in the Pending Investigation. . . , 97 pp., Jan. 1928.
Development of the dairy industry; imports; prices; costs of production in the United States and Canada; creamery plant costs, North Central, Philadelphia, New York, Boston, Canada; milk bottling plant costs, New York, Boston, Canada; transportation rates and costs; methods of establishing prices, Boston, New York, Philadelphia.
- Voorhies, E. C. DAIRY PRODUCTS. Calif. Agr. Expt. Sta. Bul. 514, 188 pp., 1931.
The distribution of dairy cows and purebred dairy cattle; trends in number of cattle; dairy feed conditions in California; productivity per cow; utilization of milk; production, consumption, prices, and purchasing power, and storage and holdings of dairy products; cost factors in milk production; domestic, foreign, and international trade in dairy products; and world, U.S., and California situations in the industry are discussed.
- Voorhies, E. C. ECONOMIC ASPECTS OF THE DAIRY INDUSTRY. Calif. Agr. Expt. Sta. Bul. 437, 192 pp., 1927.
Development of the industry and its distribution and importance in the United States and California; the production, manufacture, distribution, storage, and consumption of dairy products; the prices and purchasing power of and the domestic and foreign trade in dairy products; the production, consumption, and price of margarine, the cost factors in milk production; bovine tuberculosis; and other phases of the industry.
- Wiekson, E. J. DAIRYING IN CALIFORNIA. U.S. Bur. of Animal Ind. Bul. No. 14, 31 pp., 1896.
Historical; dairy farms and practices; creameries; assembly; cheese; eastern shipments of butter.
- Williams, S. W. SUPPLIES AND USE OF MILK IN ALABAMA. Ala. Agr. Expt. Sta. Bul. 282, 86 pp., June 1952.
Number and location of plants; sources of supplies; fluid milk sales and consumption; manufacturing milk and its use.
- Wilson, Lowell E. SUPPLY AND UTILIZATION OF GRADE A MILK IN ALABAMA--1954 THROUGH 1962. Ala. Agr. Expt. Sta. Agr. Econ. Ser. 2, 62 pp., June 1963.
Compilation of statistical and related material dealing with the marketing of Grade A milk in Alabama; prices; utilization; income; production; producers.
- Wilson, L., J. H. Blackstone, and V. L. Harness. PRODUCER MARKETING PROBLEMS IN ALABAMA'S FLUID MILK INDUSTRY. Ala. Agr. Expt. Sta. Bul. 331, 43 pp., May 1961.
Survey of 1,001 producers in Alabama. Production; utilization; Alabama Milk Control Board; producer problems and attitudes; purchase and sale of base, entrance of new producers, freedom to change distributors.

Manufactured Products, Industries

- Babb, E. M. TRENDS IN THE INDIANA MANUFACTURED DAIRY PRODUCTS INDUSTRY. Purdue Univ. Agr. Expt. Sta. Mimeo EC-236, 18 pp., Dec. 1961.
Trends in production, utilization, and numbers of plants.
- Babcock, S. M. and H. L. Russell. THE CHEESE INDUSTRY: ITS DEVELOPMENT AND POSSIBILITIES IN WISCONSIN. Wis. Agr. Expt. Sta. Bul. 60, 24 pp., May 1897.
Production; exports; natural and social factors influencing development of cheese industry; historical development of cheese industry in Wisconsin.
- Bond, M. C. THE MARKETING OF MILK THROUGH ICE CREAM. Cornell Univ. Agr. Expt. Sta. Bul. 546, 88 pp., 1932.
This study deals with milk products used in ice cream plants outside New York City, and with the daily ice cream sales in Buffalo, N.Y. Per capita consumption of ice cream, prices received by farmers for milk equivalent, cost of milk products per gallon of ice cream, seasonal variations in sales, etc., are discussed.
- Buechel, Frederick A. and Elmer H. Johnson. MANUFACTURE OF DAIRY PRODUCTS IN TEXAS. Univ. Tex. Bur. of Bus. Res. 95 pp., 1938.
Trend in production; differences in the trend of production of butter, cheese, evaporated milk, and ice cream; seasonal variation in production; percentage produced in the national total; consumption and farm cash income from dairy products.
- Clarke, D. A., Jr., C. E. McAllister and D. B. Agnew. CLASS III MILK IN THE NEW YORK MILKSHED. II. AN ECONOMIC DESCRIPTION OF THE MANUFACTURED DAIRY PRODUCTS INDUSTRY. U.S. Dept. Agr. Mktg. Res. Rpt. 396, 28 pp., Apr. 1960.
Describes operations of milk manufacturing plants in the New York-New Jersey milkshed. Nearly 40 percent of milk receipts during 1958 were used for purposes other than fluid milk or cream. Disposing of these Class III supplies is difficult because flow of milk varies throughout the year. For the market as a whole, 2.5 times more milk is available for manufacture in May than in November.
- Cobb, Fields W., Jr. and D. A. Clarke, Jr. CLASS III MILK IN THE NEW YORK MILKSHED. I. MANUFACTURING OPERATIONS. U.S. Dept. Agr. Mktg. Res. Rpt. 379, 36 pp., Jan. 1960.
A summary description of the manufactured dairy products industry in this area, including types and location of products manufactured, interregional plant shipments of milk for manufacturing purposes and of manufactured dairy products, and regional production patterns for both pool plants and nonpool plants.
- Cook, Hugh L. and Truman Graf. SOME DATA EXPLAINING RELOCATION OF THE WISCONSIN EVAPORATED MILK INDUSTRY. Wis. Agr. Expt. Sta. 38 pp., Jan. 1955.
Tables and charts on many aspects of evaporated milk industry.
- Cook, Hugh L. and George H. Day. THE DRY MILK INDUSTRY. AN AID IN THE UTILIZATION OF THE FOOD CONSTITUENTS OF MILK. Amer. Dry Milk Inst. Inc., U.S. Bur. Agr. Econ. and Prod. and Mktg. Admin. coop., 169 pp., Sept. 1947.
Influence of wartime conditions and programs upon milk utilization; methods of processing dry milk; supply-price relationships for dry milk; distribution channels and utilization of dry milks; opportunities for increasing consumption of dry milk; world dry milk production and trade; prewar Government policies.
- Forker, Olan D. ECONOMIC ADJUSTMENTS FOR CALIFORNIA'S MANUFACTURED-DAIRY-PRODUCTS INDUSTRY. Calif. Agr. Expt. Sta. Bul. 816, 62 pp., Aug. 1965.
The industry in California projected to 1975; plant operations and plant costs; analysis of variable costs and possible short-run relocations for 6 cooperative plants, 1960.
- Gilbert, B. D. THE CHEESE INDUSTRY OF THE STATE OF NEW YORK. U.S. Dept. Agr. Bur. Anim. Indus. Bul. 15, 54 pp., 1896.
History of cheese production in New York State, New England, and Pennsylvania; dairy boards of trade in New York; cheese factories; future of international cheese trade; how cheese is made.
- Gipson, Millard. SOME ECONOMIC ASPECTS OF THE EVAPORATED MILK INDUSTRY--A COMPENDIUM. M.S. thesis, Univ. Ky., 1952.

Goodman, Richard J. THE CHARACTERISTICS OF THE NORTH DAKOTA DAIRY PROCESSING INDUSTRY. M.S. thesis, N. Dak. State Col., May 1958.

Haynes, Lawrence. AN ANALYSIS OF THE ICE CREAM INDUSTRY AS AN OUTLET FOR DAIRY PRODUCTS. Ph. D. thesis, Univ. Wis., 1956.

Herrmann, L. F., D. B. Agnew, and D. A. Clarke, Jr. CLASS III MILK IN THE NEW YORK MILKSHED. V. PROCESSORS' DECISIONS ON UTILIZATION. U.S. Dept. Agr. Mktg. Res. Rpt. 462, 28 pp., March 1961.

Deals with the extent to which changes in output of the major products of Class III milk were associated with change in margins for these products in the 5 or 10 years ending with 1957. Gives results of interviews with officials of many firms that handled Class III milk.

Hibbard, B. H. and Asher Hobson. MARKETS AND PRICES OF WISCONSIN CHEESES. Wis. Agr. Expt. Sta. Bul. 251, 56 pp., 1915.

Location of manufacture and distribution, organization, prices, costs and margins, and marketing channels.

Hunziker, Otto F. THE BUTTER INDUSTRY. Published by the author, LaGrange, Ill., 671 pp., 1920.

History and development of butter industry; creamery organizations; buying milk and cream; production methods.

Koller, E. Fred. THE MINNESOTA DRY MILK INDUSTRY. Minn. Agr. Expt. Sta. Bul. 372, 28 pp., Dec. 1943.

Production; number, location, type, and capacity of plants; milk supplies; cost of operation; market outlets and prices received.

Manning, Travis W., and Ralph E. Nelson. PROCUREMENT POLICIES AND PRACTICES OF DAIRY MANUFACTURING PLANTS IN EASTERN SOUTH DAKOTA. PART II. MANAGERIAL DECISION MAKING. S. Dak. Agr. Expt. Sta. Bul. 498, Econ. Res. Serv. coop., 51 pp.

Second in a two-part series, this report concludes that decision making could be improved through (1) lessened emphasis on competitive strategy where it conflicts with marketing efficiency, (2) use of more reliable information, (3) improved management training, and (4) better understanding of dairy marketing problems and procedures by directors, members, and patrons of the 11 producer-integrated butter manufacturing plants studied.

Mathis, A. G. THE PROBABLE IMPACT OF MILK CONCENTRATES ON THE FLUID MILK MARKET. U.S. Dept. Agr. Mktg. Res. Rpt. 208, 24 pp., Feb. 1958.

Concentrated milk will probably not displace much fresh fluid milk. Acceptance of new concentrated milk products will depend largely on the price advantage consumers can obtain to offset real or fancied inconveniences. Price, costs, consumer acceptance, and different forms of concentrated milk are studied.

McBride, Glynn and W. H. Blanchard. CHANGES IN MICHIGAN'S MANUFACTURING MILK INDUSTRY. Mich. Agr. Expt. Sta. Spec. Bul. 427, 30 pp., Oct. 1959.

Surveys of manufacturing plants, 1955 and 1957. Number, type, location, and size of plants; number of products produced.

Odell, E. A. SWISS CHEESE INDUSTRY. Monroe, Wis., 88 pp., 1936.

Origin and development of the industry in Green County, Wis.

Oderkirk, A. D. DRY BUTTERMILK IN IOWA. Iowa Agr. Expt. Sta. Proj. 957, Mimeo 1, 64 pp., 1946.

History of buttermilk drying; methods; location of production; Iowa plants; costs; uses; outlets; prices.

Packard, Ross L., C. D. Caparoon, and Arthur D. Richardson. WISCONSIN AMERICAN CHEESE STYLES, SUPPLIES, STORAGE. Wis. State Dept. Agr. Spec. Bul. 66, 30 pp., Dec. 1956.

American cheese production and marketing by styles.

Richardson, Arthur D. WISCONSIN BUTTER--PRODUCTION, MARKETING, DISPOSITION.

Wis. State Dept. Agr. Spec. Bul. 73, 33 pp., Oct. 1958.

Butter supply trends in Wisconsin.

- Riddel, F. T. and J. T. Horner. THE MARKETING OF MICHIGAN MILK THROUGH CREAMERIES, CREAM STATION, CONDENSERIES, AND CHEESE FACTORIES. Mich. Agr. Expt. Sta. Spec. Bul. 189, 36 pp., Feb. 1929.
Data for 1924-25 from 192 plants of different sizes and kinds; amount of butterfat received; sources, cost of hauling for different distances; and average prices paid to farmers for whole milk by condensereries, cheese factories, and the Detroit fluid milk market. The methods and costs of marketing milk for different purposes are described. The status of the Michigan dairy industry, price trends of butter in New York City, imports and exports, 1909-26, of dairy products and the effects of cold storage on butter prices are discussed.
- Silcox, W. B. and H. H. Bakken. THE FOREIGN TYPE CHEESE INDUSTRY IN WISCONSIN. Wis. Agr. Expt. Sta. Res. Bul. 103, U.S. Bur. Agr. Econ., coop., 36 pp., 1930.
The operation, 1925-27, of 225 factories manufacturing Drum Swiss, Black Swiss, Munster, and Limburger cheeses. The general practices in the industry and marketing are described. The value of whey cream, factors affecting type of cheese manufacture, yield of cheese, manufacturing costs, prices paid patrons for milk, and problems of the industry are discussed.
- Sprague, Gordon W. A COMPARISON OF STATISTICAL TIME SERIES FOR BUTTER PRODUCTION AND MARKET RECEIPTS. Jour. Farm Econ. 16: 138-142, 1934.
- Strobel, D. R., W. G. Bryan, and C. J. Babcock. BUTTER OIL: A REVIEW OF LITERATURE. I. FOOD PRODUCT OF THE UNITED STATES. II. GHEE--FOOD PRODUCT OF THE MIDDLE EAST. U.S. Dept. Agr., Agr. Mktg. Serv., 22 pp., Mar. 1954.
This report reviews research on manufacture, use, storage life, and related aspects of butter oil. Reports regarding the manufacture, taste, nutritive value, and storage life of ghee are also reviewed.
- Sutermeister, E. and F. L. Browne. CASEIN AND ITS INDUSTRIAL APPLICATIONS. Ed. 2, 433 pp., 1939. Reinhold, N.Y.
Storage of casein; production, imports, and consumption, 1916-37; production by States, 1920-37.
- Tinley, J. M., F. H. Abott, O. M. Reed, and J. B. Schneider. CREAMERY OPERATING EFFICIENCY IN CALIFORNIA. III. RELATION OF CREAMERY CAPACITY TO SUPPLY OF MILKFAT IN HUMBOLDT COUNTY. Calif. Agr. Expt. Sta. Mimeo Rpt. 44, 75 pp., 1936.
This report deals mainly with the problems of external or environmental plant efficiency--the extent to which the combined capacity of all the plants in a particular area is coordinated with the supply of raw materials available in that area or with the actual or potential demand for the products of those plants.
- U.S. Dept. Agr. MILK AND MILK PRODUCTS USED IN THE MANUFACTURE OF MILK CHOCOLATE, COCOA, AND CHOCOLATE COATINGS. Bur. Agr. Econ., 1 p., 1936.
Amount of dairy products used during 1935 by the cocoa and chocolate products industry as reported by 59 firms. Comparative figures for 1934 and 1935 are given on the basis of reports from 37 firms.

MARKET STRUCTURE AND COMPETITION

- Alexander, William H. MARKET STRUCTURE AND COMPETITIVE BEHAVIOR IN THE FLUID MILK DISTRIBUTION INDUSTRY. Ph. D. thesis, Univ. Ill., 255 pp., 1961.
Historical changes in market structure; market as a unit of inquiry; effect of consumer price-fixing upon market performance; mergers and concentration; relationship of marketing margins and concentration.
- Alexander, W. H. and D. C. Williams. GROWTH PATTERNS AND SURVIVAL TENDENCIES OF FIRMS IN THE LOUISIANA DAIRY INDUSTRY. La. Agr. Expt. Sta. Bul. 593, 32 pp., Mar. 1965.
Patterns of growth and scale of operation of dairy processing and producing firms. Projections are made of the number and size distribution of such firms in the future, using the Markov chain analysis.
- Bartlett, R. W. ANALYSIS OF HOUSE REPORT NO. 2231 ON SMALL BUSINESS PROBLEMS IN THE DAIRY INDUSTRY. Ill. Agr. Expt. Sta. Res. Rpt. AERR-46, 7 pp., Sept. 1961.
Sales of dairy and other items by 5 large dairy companies, 1940, 1950, and 1960: concentration ratios in the dairy industry.

- Benning, Leonard and Robert L. Beck. TRADE PRACTICES IN SOUTH DAKOTA'S DAIRY INDUSTRY. IMPACT OF STRUCTURAL CHANGE. REGULATION. S. Dak. Agr. Ext. Serv. Ext. Cir. 644, 23 pp.
Changes in market structure; impact on processors, producers, consumers. Regulation of trade practices: history, unfair trade practices reported, economic implications.
- Bobst, B. W. and M. V. Waananen. RECENT CHANGES IN WASHINGTON'S DAIRY MARKET STRUCTURE. Wash. Agr. Expt. Sta. Cir. 447, 23 pp., Feb. 1965.
Changes in dairy production and processing; processing plants: number, size, location, legal organization; size, employment; changes in per capita consumption; Government activities affecting market structure.
- Brown, Ernest E. AN APPRAISAL OF AND RECOMMENDATIONS FOR INCREASING THE DEGREE OF COMPETITION IN FLORIDA'S DAIRY INDUSTRY. Ph. D. thesis, Univ. Fla., 1956.
- Burnett, Claron and Robert L. Clodius. PROCUREMENT POLICIES AND PRACTICES OF A SELECTED GROUP OF DAIRY PROCESSING FIRMS. PART 3. FARMER KNOWLEDGE AND EVALUATION OF PRICE AND NONPRICE FACTORS. Wis. Agr. Expt. Sta. Res. Bul. 211, U.S. Dept. Agr. Agr. Mktg. Serv., coop., 38 pp., May 1959.
Evaluation by dairy farmers in northwestern Wisconsin of milk procurement policies and practices used by dairy processing firms in the area. Few of the 543 dairy farmers interviewed were well enough informed about price factors to be certain that they obtained the greatest total cash return for their milk.
- Clodius, R. L., D. F. Fienup, and R. L. Kristjanson. PROCUREMENT POLICIES AND PRACTICES OF A SELECTED GROUP OF DAIRY PROCESSING FIRMS. PART 1. SOME ASPECTS OF MARKET STRUCTURE, COMPETITIVE BEHAVIOR, AND MARKET RESULTS. Univ. Wis. Res. Bul. 193, U.S. Dept. Agr. Agr. Mktg. Serv., coop., 49 pp., Jan. 1956.
Study in northwestern Wisconsin analyzing the characteristics of dairy firms and of their producer-patrons; the market environment; procurement policies and market results (price and other).
- Clodius, R. L., D. F. Fienup, and R. L. Kristjanson. PROCUREMENT POLICIES AND PRACTICES OF A SELECTED GROUP OF DAIRY PROCESSING FIRMS. PART 2. MANAGERIAL ASPECTS OF PRICE AND NONPRICE COMPETITIVE BEHAVIOR AMONG NINE DAIRY PROCESSING FIRMS. Univ. Wis. Res. Bul. 199, U.S. Dept. Agr. Agr. Mktg. Serv., coop., 56 pp. Feb. 1957.
A study of 9 plants in northwestern Wisconsin, covering methods of management decision-making on prices; the role of price, implicit price factors, and nonprice factors in procurement; role of fieldmen and haulers in procurement.
- Cook, H. L. CONSEQUENCES OF STRUCTURAL CHANGE IN THE ICE CREAM INDUSTRY. Wis. Agr. Expt. Sta. Res. Bul. 236, 88 pp., June 1962.
Changes in consumption patterns and outlets; changes in the market structure of ice cream manufacturing and of buyers; competitive behavior.
- Courtney, Richard H. STRUCTURAL CHANGE AND ECONOMIC BEHAVIOR OF OHIO DAIRY PRODUCERS. M.S. thesis, Ohio State Univ., 84 pp., 1964.
- Dubov, Irving. THE EVAPORATED MILK INDUSTRY IN THE WESTERN REGION. Ph. D. thesis, Univ. Calif., 1955.
- Eickhoff, W. D. and D. I. Padberg. CONSOLIDATION OF MILK PROCESSING PLANTS AND ITS EFFECT UPON MARKET CONCENTRATION. Jour. Farm Econ. 45(5): 1370-75, Dec. 1963.
Changes in size of plants and firms in Ohio and changes in concentration.
- Eickhoff, William D. MARKET STRUCTURE AND PERFORMANCE RELATIONSHIPS IN THE OHIO FLUID MILK INDUSTRY. Ph.D. thesis, Ohio State Univ., 1963.
- Forker, Olan D. THE COMPETITIVE POSITION OF CALIFORNIA'S SMALL DAIRY PLANT OPERATIONS. Calif. Dairy Ind. Conf. Proc. pp. 143-159, Jan. 28-30, 1963.
- French, C. E., et al. INDIANA INDEPENDENT FLUID MILK COMPANIES. Purdue Univ. Agr. Expt. Sta. Res. Prog. Rpt. 115, 7 pp., Aug. 1964.
Survey of 37 independent fluid milk companies in 1963; company organization, financial operations, product distribution.

- Froker, R. K., A. W. Colebank, and A. C. Hoffman. LARGE-SCALE ORGANIZATION IN THE DAIRY INDUSTRY. U.S. Dept. Agr. and Wis. Agr. Expt. Sta., coop., 68 pp., July 1939.
Gives data on the growth of large-scale dairy concerns, financial tendencies of the leading dairy companies, dairy organization and plant ownership in Wisconsin, and mass distribution of dairy products. Also discusses sources of supply and sales outlets of the companies and the importance of patent control in the industry.
- George, Mammootil V. THE CAUSES OF DAIRY MERGERS AND THEIR IMPACT ON THE STRUCTURE OF THE DAIRY INDUSTRY. Ph.D. thesis, Univ. Wis., 1961.
- Goodman, Richard J. ORGANIZATION, STRUCTURE AND COMPETITIVE BEHAVIOR OF THE TWIN CITIES MILK MARKET--PRODUCER TO DISTRIBUTOR LEVEL. Ph.D. thesis, Univ. Minn., 1962.
- Greenhalgh, Richard. DIFFERENTIATION OF FLUID MILK IN THE LINCOLN MARKET. M.S. thesis, Univ. Nebr., 1964.
- Groves, Francis W. SOME ASPECTS OF COMPETITION AND SOME COMPARISONS AMONG A SELECTED GROUP OF WISCONSIN DAIRY FARMERS. M.S. thesis, Univ. Wis., 1958.
- Gruebele, James W. and E. Fred Koller. MARKET ORGANIZATION AND COMPETITION IN THE CREAMERY INDUSTRY IN FREEBORN AND STEELE COUNTIES, MINNESOTA. Univ. Minn. Dept. of Agr. Econ. Rpt. 528, 38 pp., Dec. 1964.
Market organization; buyers, sellers, procurement areas; competitive practices and policies in milk procurement.
- Hallberg, Milton. BARGAINING POWER OF DAIRY FARMERS. Ph.D. thesis, Iowa State Univ., 1964.
- Hammond, Jerome W. and Hugh L. Cook. WISCONSIN DAIRY FIRM MERGERS: EXTENT, CAUSES, AND RESULTS. Wis. Agr. Expt. Sta. Res. Bul. 249, 49 pp., June 1964.
Effects of mergers on other structural characteristics; numbers and turnover, seller concentration, and integration. Analysis of financial performance of firms that grew by merger as compared with similar firms that did not.
- Hammond, Jerome W. and Rex W. Cox. STRUCTURAL CHANGES IN THE NORTH DAKOTA DAIRY INDUSTRY. N. Dak. Agr. Expt. Sta. Bul. No. 454, 35 pp., June 1965.
Milk production and utilization; innovation; structural changes; plant numbers, concentration; entry of cheese factories, exit of cream stations; future.
- Hedlund, Glenn W., et al. MARKET STRUCTURE, COMPETITION AND REGULATION IN THE DISTRIBUTION OF FLUID MILK. Prepared by a Committee on Milk Marketing appointed by Governor Nelson A. Rockefeller. 72 pp., Apr. 1964.
- Hinton, Troy W. OPTIMUM NUMBER, LOCATION, AND SIZE OF FLUID MILK PROCESSING PLANTS NEEDED TO MINIMIZE MARKETING COSTS IN A 39-COUNTY GEOGRAPHIC AREA. Ph.D. thesis, Univ. Ky., 1964.
- Hoffman, A. C. LARGE-SCALE ORGANIZATION IN THE FOOD INDUSTRIES. U.S. Temporary Natl. Econ. Com. Monog. 35, 174 pp., 1940.
In Chapter 4, Large-Scale Organization in the Dairy Industry, information is given on sales, proportion of products handled, extent of activities of leading dairy companies and producer cooperatives.
- Howe, F. C. FINAL REPORT ON THE MILK AND DAIRY INDUSTRY DIRECTED TO THE TEMPORARY NATIONAL ECONOMIC COMMITTEE. U.S. Dept. Agr., 47 pp., 1940.
Testimony on the milk industry brought to light various abuses. Remedial suggestions, in addition to antitrust proceedings, are offered. Suggestions include establishing a Federal milk authority having large administrative power over the industry, with authority to fix prices to producers; adopting a milk control code by the District of Columbia which would serve as a model; and drafting a milk code by the U.S. Public Health Service in cooperation with the USDA to correct many abuses which have been written into the codes of many towns and cities. These abuses are responsible for the milk monopoly, as the necessity for the purification of fluid milk has divested the farmer of an open market for his product, which now must be sold to 2 major and 4 minor processing corporations.

- Jarrett, William A. and Charles E. French. CHANGES IN OWNERSHIP OF INDIANA FLUID MILK PLANTS, 1946-1955. Purdue Univ. Agr. Expt. Sta. Res. Bul. 745, 20 pp., May 1962.
Study of 177 changes in ownership of Indiana fluid milk operations, 1946-1955; description of businesses changing hands; future of small fluid businesses.
- Juere, Linley E. and Anita McMillan. MICHIGAN DAIRY PLANTS. CHANGES IN SIZE, NUMBERS AND PRODUCTS PRODUCED, 1950 and 1963. Mich. Agr. Expt. Sta. Agr. Econ. Rpt. 4, 18 pp., Mar. 1965.
Changes in size distribution of plants producing fluid milk and dairy products.
- Kelley, F. L. POLICIES FOR MARKETING SURPLUS MILK. I. STRUCTURE AND ORGANIZATION OF SURPLUS MILK MARKETS IN WICHITA AND SOUTHWEST KANSAS. Kans. Agr. Expt. Sta. Agr. Econ. Rpt. 98, 54 pp., Oct. 1961.
Production characteristics of milksheds; sales characteristics of markets, including number and location of handlers; historical development of surplus milk handling, including cooperatives, mergers and consolidations of handlers, 1956-60.
- Kepner, Karl W. PRODUCT DIFFERENTIATION IN THE FLUID MILK INDUSTRY. Ph. D. thesis, Ohio State Univ., 1964.
- Manchester, Alden C. NATURE OF COMPETITION IN FLUID MILK MARKETS...MARKET ORGANIZATION AND CONCENTRATION. U.S. Dept. Agr. Agr. Econ. Rpt. 67, 76 pp., Feb. 1965.
Market structure, 1962: number and type of handlers, market shares; changes in number and type of handlers, market shares; growth rates; entry and exit.
- Manchester, Alden C. and Leah Sitzman. MARKET SHARES IN FLUID MILK MARKETS. U.S. Dept. Agr. Econ. Res. Serv., 73 pp., rev. Apr. 1964.
Data from 69 Federal order markets on number of handlers and the share of the market of the four largest handlers, by market, 1950-62.
- Moore, J. R. and R. L. Clodius. MARKET STRUCTURE AND COMPETITION IN THE DAIRY INDUSTRY. Wis. Agr. Expt. Sta. Res. Bul. 233, 48 pp., Mar. 1962.
Changes in the number, size, and output of the units of production, processing, and distribution since World War II; changes in large-scale organization and effect of dairy mergers; market structure and competition of milk distributors in local markets; competition among retailers in distributing dairy products.
- Morris, Milton E., Claron Burnett, and Robert L. Clodius. PROCUREMENT POLICIES AND PRACTICES OF A SELECTED GROUP OF DAIRY PROCESSING FIRMS. PART 4. THE EFFECTS OF AN EXPERIMENTAL MILK PRICE REPORTING SERVICE. Wis. Agr. Expt. Sta. Res. Bul. 252, 31 pp., Aug. 1964.
Study of the effects of an experimental service reporting the paying prices of each buyer in an area in Wisconsin. Recipients of report were better informed but no more responsive to price than other farmers.
- Mueller, Willard F. THE ROLE OF MERGERS IN THE GROWTH OF AGRICULTURAL COOPERATIVES. Calif. Agr. Expt. Sta. Bul. 777, Feb. 1961.
- Nelson, Ralph E. and Travis W. Manning. PROCUREMENT POLICIES AND PRACTICES OF DAIRY MANUFACTURING PLANTS IN EASTERN SOUTH DAKOTA. PART 1. MARKET STRUCTURE AND BEHAVIOR. S. Dak. Agr. Expt. Sta. Bul. 497, 52 pp., Sept. 1961.
Analysis of the structure, conduct, and performance of the milk manufacturing market.
- Nicholls, W. H. POST-WAR DEVELOPMENTS IN THE MARKETING OF BUTTER. Iowa Agr. Expt. Sta. Res. Bul. 250: 321-384, June 1939.
Important trends in butter marketing were the rapidly increasing total volume of butter available, with production on farms ever smaller; improvement of quality and consumers' preferences therefor; increasing amount of butter sold in packages; tendency toward grading at production point rather than at the terminal market; and the trend toward an increased number of large operators and more direct marketing channels. More direct marketing raises the question of the relative economies of specialized independent agencies and integrated organizations.

- Nicholls, W; H. POST-WAR DEVELOPMENTS IN THE MARKETING OF CHEESE. Iowa Agr. Expt. Sta. Res. Bul. 261, 148 pp., June 1939.
The postwar increase in direct marketing of cheese was caused by the development of organizations of size, financial strength, and standardization comparable with those in other industries. Postwar concentration was largely due to monopolistic elements, especially patents. The concentration on processed cheese and packaging was hastened and enhanced by these legal monopolies.
- Padberg, Daniel I. and D. A. Clarke, Jr. STRUCTURAL CHANGES IN THE CALIFORNIA FLUID MILK INDUSTRY. THEIR EFFECTS ON COMPETITION AND MARKET PERFORMANCE. Calif. Agr. Expt. Sta. Bul. 802, 56 pp., June 1964.
Investigates the postwar changes in the structure of California's fluid milk industry, particularly changes in the number and size distribution of buyers and sellers. It explores the effects of these changes on the economic performance of the industry, especially on competition.
- Parry, S. P. and D. G. Greiner. CHANGES IN THE STRUCTURE OF THE TENNESSEE DAIRY INDUSTRY. Tenn. Agr. Expt. Sta. Bul. 348, 37 pp., Aug. 1962.
Changes at farm level; number and size of plants and products processed; changes in consumption and distribution methods.
- Peterson, Willis L. and E. Fred Koller. MARKET ORGANIZATION AND COMPETITION IN THE CREAMERY INDUSTRY IN WRIGHT COUNTY, MINNESOTA. Minn. Agr. Expt. Sta. Dept. of Agr. Econ. Rpt. 525, 42 pp., June 1963.
Description of the buyers and the sellers (farmers); procurement areas; procurement practices and policies; price and nonprice competition.
- Reichert, Charlotte G. MARKET ORGANIZATION, PROMOTIONAL ACTIVITIES, AND PRACTICES OF FLUID MILK PLANTS IN THE WESTERN REGION. Oreg. Agr. Expt. Sta. Tech. Bul. 59, Western Reg. Pub., U.S. Econ. Res. Serv., coop., Mar. 1962.
Survey of 478 plants in 11 Western States in 1957-58. Industry organization, structure, outlets, marketing practices, advertising, and promotion programs.
- Spencer, Leland. FACILITIES FOR MILK DISTRIBUTION IN NEW YORK CITY. Farm Econ. Cornell Univ. No. 88: 2135-8, June 1934.
Number of dealers by type, October 1933: 39 pasteurizing plants, 1,834 sales branches, 10 railroad platforms, 26 city dairies. Four dealers with more than 100 routes apiece sold 1,638,246 quarts of milk and 60,407 quarts of cream (totals: 2,437,795 milk; 129,041 cream). Book value of property. Vehicles.
- Spencer, Leland. MILK DISTRIBUTION IN THE LARGER CITIES OF THE UNITED STATES. Farm Econ. Cornell Univ. No. 74: 1706-1708. Feb. 1932.
Survey of health officials of 79 of the 93 largest cities. Number of distributors; market share of 3 largest firms; change in number of distributors in last 5 years; chainstore price differentials; per capita consumption.
- U.S. Department of Agriculture. NUMBER AND PRODUCTION OF WHOLESALE ICE CREAM PLANTS, BY SIZE GROUPS, 1947 AND 1954. U.S. Agr. Mktg. Serv., 4 pp., Feb. 1957.
Production by plant size groups and regions, 1947 and 1954.
- U.S. Federal Trade Commission. REPORT...ON AGRICULTURAL INCOME INQUIRY. PART 1. PRINCIPAL FARM PRODUCTS. U.S. Fed. Trade Com. 1134 pp., 1937.
- U.S. Federal Trade Commission. REPORT OF THE FEDERAL TRADE COMMISSION ON MILK AND MILK PRODUCTS, 1914-1918. U.S. Fed. Trade Com., 234 pp., June 6, 1921.
Governors' Tri-State milk Commission (Pa., Md., Del.) report on Philadelphia market (1917). In 1915, 6 firms handled 43.4 percent of the total supply of 191 million quarts received in Philadelphia market.
- U.S. Federal Trade Commission. REPORT...ON THE SALE AND DISTRIBUTION OF MILK AND MILK PRODUCTS, CHICAGO SALES AREA. Letter transmitting an interim report...with respect to the sale and distribution of milk products. 74th Cong., 2nd Sess., House Doc. 451, 103 pp., 1936.
Milk distribution; prices of milk and cheese; activities of distributors and farmers' cooperatives.

- U.S. Federal Trade Commission. REPORT...ON THE SALE AND DISTRIBUTION OF MILK AND MILK PRODUCTS, TWIN CITY SALES AREA. Letter from the Chairman...transmitting an interim report...with respect to the sale and distribution of milk and milk products in pursuance of Cong. Res. 32, 73rd Cong., 2nd Sess., adopted June 15, 1934. 74th Cong., 2nd Sess., House Doc. 506, 71 pp., 1936.
Deals with milk distributors, health regulations, the Twin City Milk Producers Association, and milk prices in the area.
- U.S. Federal Trade Commission. REPORT...ON THE SALE AND DISTRIBUTION OF MILK AND MILK PRODUCTS. Letter transmitting an interim report. 74th Cong., 2nd Sess., H. Doc. 387, 125 pp., 1936.
Discusses the determination of prices to milk producers, investments, costs, and net profits of milk distributors, effects of different methods of allocating expense on delivery costs of products, and margins and costs per unit.
- U.S. Federal Trade Commission. SUMMARY REPORT ON CONDITIONS WITH RESPECT TO THE SALE AND DISTRIBUTION OF MILK AND DAIRY PRODUCTS. [In response to Con. Res. 32, 73rd Cong., 2nd Sess., approved June 15, 1934.] 75th Cong., 1st Sess., H. Doc. 94, 1937, 37 pp.
Deals in part with price practices, health regulations and inspection rules, milk settlements, gross spreads or margins per quart, and unit delivery costs and their allocation.
- U.S. Federal Trade Commission. REPORT...ON THE SALE AND DISTRIBUTION OF MILK AND MILK PRODUCTS, N.Y. MILK SALES AREA. Letter...transmitting a report...with respect to the sale and distribution of milk and milk products in the New York sales area and the operations of nationwide processors and distributors of milk and milk products with headquarters in New York City. 75th Cong., 1st Sess., H. Doc. 95, 1937, 138 pp.
Reviews milk regulations and shows duplication of farm inspection.
- U.S. Federal Trade Commission. REPORT...ON THE DISTRIBUTION AND SALE OF MILK AND MILK PRODUCTS, BOSTON, BALTIMORE, CINCINNATI, ST. LOUIS. Letter transmitting the 4th report...entitled "Report on Federal Trade Commission on milk-market regulation and practices of distributions in relation to margins, costs, and profits of distributors, in Boston, Baltimore, Cincinnati, and St. Louis." 74th Cong., 2nd Sess., H. Doc. 501, 1936, 243 pp.
Describes markets, cooperative associations, and regulatory agencies.
- U.S. Temporary National Economic Committee. INVESTIGATION OF THE CONCENTRATION OF ECONOMIC POWER. Hearings before the Temporary National Economic Committee, Congress of the United States, 76th Cong., 1st Sess., Pt. 7, Milk Industry. Poultry Indus., Mar. 9, 10, and 11 and May 1, 2, and 3, 1939.
- Vatter, Harold G. SMALL ENTERPRISE AND OLIGOPOLY. A STUDY OF THE BUTTER, FLOUR, AUTOMOBILE AND GLASS CONTAINER INDUSTRIES. Oreg. State Monog. Studies in Econ. No. 4, 116 pp., Aug. 1955.
An attempt to develop a partial theory of small business. It should be integrated with oligopoly theory. Uses almost entirely prewar data.
- Williams, D. C. and W. H. Alexander. A STOCHASTIC ANALYSIS OF SIZE DISTRIBUTION OF FIRMS IN FLUID MILK MARKETS IN LOUISIANA. La. Agr. Expt. Sta. Bul. 578, 64 pp., Dec. 1963.
Analysis by Markov process of handlers and producers.
- Williams, Sheldon W. THE CHANGING CHARACTER OF THE FLUID MILK PROCESSING INDUSTRY IN ILLINOIS. Ill. Agr. Econ. 5(1): 32-39, January 1965.
Changes in number and size of plants in Chicago and the rest of Illinois, 1950-1964; projection of structure by Markov processes.

Incidental Data on Structure

- Amott, A. L. THE MILK SUPPLY OF CHICAGO. Papers on bacteriology and Allied subjects by former students of Harry Luman Russell. Univ. Wis. Studies in Sci. No. 2, pp. 170-181., June 1921.
Expansion of the milkshed since 1907; 98 percent pasteurized; 2 percent certified; all milk for retail trade has been bottled since 1891; largest dealers have most milk bottled in the country and shipped into the city by rail; 305 pasteurizing plants in the city; milk trains carry nothing but milk in bottles or 8 or 10-quart cans; 3,286 delivery wagons; 70 establishments buy bottled milk and deliver it; 205 bottled milk establishments; 2 wholesale only establishments; 5 deal in bulk milk only; 21 wholesale bulk establishments; prices; price changes and sales.

- Baker, Burton, A. and Rudolph K. Froker. THE EVAPORATED MILK INDUSTRY UNDER FEDERAL MARKETING AGREEMENTS. Wis. Agr. Expt. Sta. Res. Bul. 156, 91 pp., Sept. 1945.
The industry: market structure, size of plants, channels of distribution, economic and legal basis for regulation; producer prices under regulation, regulation of manufacturers' selling prices and trade practices; administration.
- Bakken, Henry H. AMERICAN CHEESE FACTORIES IN WISCONSIN. Wis. Agr. Expt. Sta. Res. Bul. 100, 30 pp., Aug. 1930.
Size distribution, 1925-27.
- Ballinger, R. A. and R. M. Grigsby. MARKETING FLUID MILK IN BATON ROUGE, LOUISIANA. La. Agr. Expt. Sta. Mimeo. Cir. 7, Nov. 1939, 39 pp.
Milk supply, consumption, price mechanism, quality; number of distributors and producer-distributors, 1929-38. In 1938, 33 firms distributed milk; 20 small producer-distributors (19.1 percent of milk), 8 large producer-distributors and 2 plant-distributors (80.9 percent); including 2 largest, 40-45 percent.
- Bowring, J. R. and J. C. Holmes. MILK MARKETING IN SMALL TOWNS. N. H. Agr. Expt. Sta. Agr. Econ. Res. Mimeo 6, 13 pp., July 1949.
Study in 6 small towns in New Hampshire covering milk supply, number and size of dealers and producer-dealers, and changes. Size distribution of milk licenses in New Hampshire in 1947.
- Clement, Clarence E. and Gustav O. Warber. THE MARKET MILK BUSINESS OF DETROIT, MICHIGAN, IN 1915. U.S. Dept. Agr. Bul. 639, February 15, 28 pp., 1918.
Number and size distribution of dealers. Costs.
- Clough, L. L. UTILIZATION OF MILK BY DEALERS SELLING MILK IN NEW YORK STATE. Farm Econ. Cornell Univ. No. 87: 2106-8, Jan. 1935.
Number of dealers buying from producers: May 1933, 1,097; May 1934, 950. Number of producer-dealers: May 1933, 2,012; May 1934, 1,893.
- Cook, Hugh L. and Truman Graf. SOME DATA EXPLAINING RELOCATION OF THE WISCONSIN EVAPORATED MILK INDUSTRY. Wis. Agr. Expt. Sta. 38 pp., Jan. 1955.
Tables and charts on many aspects of evaporated milk industry.
- Cowden, T. K. DISTRIBUTION AND CONSUMPTION OF MILK IN READING. Pa. Agr. Expt. Sta. Tech. Paper 614, 14 pp., 1933.
The source of milk supply, number of dealers, forms in which milk was used, per capita consumption, units of sale, daily and seasonal variations in sales, percentages of fluid milk sold wholesale and retail, and the effects of beer sales on sales of milk by dealers and restaurants.
- Cowden, T. K. and F. F. Lininger. THE CONSUMPTION OF MILK IN ALLEGHENY COUNTY, PENNSYLVANIA. Pa. Agr. Expt. Sta. Tech. Paper 569, 12 pp., 1932.
This is the first of a series dealing with consumption of milk in different localities of Pennsylvania. Survey made in September 1932 on the per capita consumption of and total use of milk, methods of sale of fluid milk and cream, number of dealers and their milk handling capacity, and the relative amounts of milk handled by organized and unorganized dealers.
- Cowden, T. K. and C. G. Gifford. THE DISTRIBUTION AND CONSUMPTION OF MILK IN ALLEGHENY COUNTY, PENNSYLVANIA. Pa. Agr. Expt. Sta. Tech. Paper 664, 16 pp., 1934.
Study to determine the changes that had taken place from the previous study (Tech. Paper 569) to August 1933.
- Cowden, T. K. and E. G. Fouse. THE SUPPLY AND UTILIZATION OF MILK IN PENNSYLVANIA. Pa. Agr. Expt. Sta. Bul. 327, 111 pp., Apr. 1936.
Number, location, and volume of various types of dealers, 1934: country plants; seasonality of supply; utilization; wholesale sales of fluid milk; farmer organizations and volume controlled; sanitary control; interstate shipments.
- Eastern Market Research Service. MILK MARKETING BY DISTRIBUTORS WITH PLANTS IN WEST VIRGINIA. Report of the W. Va. Governor's Milk Comm., 77 pp., Feb. 1957.
Survey of 58 fluid milk plants in W. Va. (all but 1 small plant in the State), 1955-56. Receipts and shipments; utilization; prices to producers; retail and wholesale prices; other practices.

Farr, Robert. THE DISTRIBUTION OF MILK BY PRODUCER-DEALERS IN CONNECTICUT MARKETS, 1937. Digest of thesis entitled "An Economic Description and Analysis of the Distribution of Milk by Producers in Connecticut Markets," for Conn. Agr., No. 73, Dec. 1938.

Farris, Paul L. DAIRYING IN INDIANA. TRENDS AND FACTS. Purdue Agr. Expt. Sta. Res. Bul. 665, 32 pp., June 1958.

Production, farm and herd size, prices and price ratios, utilization, number of dairy plants, by type, 1924-56.

Fletcher, L. B. and C. O. McCorkle, Jr. GROWTH AND ADJUSTMENT OF THE LOS ANGELES MILKSHED. A STUDY IN THE ECONOMICS OF LOCATION. Calif. Agr. Expt. Sta. Bul. 787, 58 pp., June 1962.

Structural characteristics of the Los Angeles milk market; costs and location adjustments; producer prices, procurement practices, and location adjustments; supply adjustments, past, present and future.

U.S. Federal Trade Commission. FOOD INVESTIGATION. REPORT OF THE U.S. FEDERAL TRADE COMMISSION ON THE MEAT-PACKING INDUSTRY. Summary and Part I, June 24, 574 pp., 1919.

Branch house and car route sales, 1916, p. 145. Sales of poultry and dairy products. THROUGH BRANCH HOUSES by interstate slaughterers, 1916 (p. 233).

	Butter	Cheese
	1,000 lb.	lb.
Big Five.....	90,445	78,768
Swift interests	38,758	28,692
Armour interests	28,884	28,966
Morris interests	7,462	7,612
Wilson & Co., Inc	7,555	6,515
Cudahy Packing Co	7,787	6,982
All other.....	3,894	5,138

This is only sales through branch houses. Other sales including commission sales and direct sales to wholesalers. Swift's sales in 1916 were about 50 million pounds of butter. (There is more detail in Part IV, apparently not in USDA Library.)

Forest, Herbert L., J. R. Hanson and W. P. Sadler. ECONOMIC BRIEF WITH RESPECT TO THE PROPOSED MARKETING AGREEMENT AND PROPOSED ORDER FOR THE LOUISVILLE, KENTUCKY, MARKETING AREA. U.S. Dept. Agr., Agr. Adjust. Admin. Ser. on Mktg. Agreements and Order No. 13, 106 pp., June 1937.

Freemyer, Glenn W. HISTORY AND ANALYSIS OF MILK SUPPLY PROBLEMS IN THE ST. LOUIS MARKET. U.S. Dept. Agr. Prod. and Mktg. Admin., 155 pp., Oct. 1950.

History of the St. Louis milk supply and cooperatives; the supply area and production; sanitary regulation; milk prices in relation to other prices; Federal regulation; price plans; pooling; decline in number of handlers.

Friar, E. J. and A. R. Schubert. MILK SUPPLIES OF MICHIGAN CITIES. Mich. Dept. Agr. Bul. 33, 16 pp., 1924.

Standards; ordinances; grades; inspection. For each of 201 cities: number of distributors and wagons, percentage of milk pasteurized, and milk consumption.

Garbarino, A. J. and C. H. Brown. SEASONALITY OF SUPPLY AND UTILIZATION OF MILK IN TENNESSEE, 1949. Tenn. Agr. Expt. Sta. Mono. 264, 41 pp., Feb. 1951.

Seasonality of supply and utilization: total pattern, whole milk and cream, type of plant, by areas.

Graf, Truman F. and L. C. Thomsen. DAIRY MARKETING IN SOUTHEASTERN WISCONSIN. Wis. Agr. Expt. Sta. Agr. Econ. 25, 29 pp., Dec. 1957.

Milk supply; number, volume, seasonality and utilization in dairy plants; milk prices; plant analysis; reorganization costs.

Greene, R. E. L. and H. W. Warburton. AN ECONOMIC EVALUATION OF FLUID MILK SUPPLY MOVEMENT AND UTILIZATION IN FLORIDA. Fla. Agr. Expt. Sta. Agr. Econ. Ser. 63-1, 119 pp., Sept. 1962.

Market structure; wholesale-retail sales; milk supply, movement, utilization production-consumption balance and potential demand for fluid milk.

- Gresham, Mary and Joseph W. Bloch. LABOR ASPECTS OF THE CHICAGO MILK INDUSTRY. U.S. Bur. of Labor Stat. Bul. 715, 53 pp., 1942.
In 1941, 144 dealers; 1915, 1260; 1918, 603 (2 dealers had 40 percent of business); June 1935, 131 (2 largest nearly 50 percent of business); competitive practices; growth of the vendor system; antitrust suit in Chicago; milk prices; first store differentials January 1934; half-gallon and gallon containers introduced on home delivery, January 1940; costs; increase in importance of store distribution; paper containers introduced October 1940; types of trade served by vendors and distributors; labor problems; incomes of vendors and drivers.
- Hanman, Gray E. and Stephen F. Whitted. MISSOURI DAIRY MARKETS. PART I. NORTHEAST. Mo. Agr. Expt. Sta. Res. Bul. 674A, 39 pp., July 1958.
One of four similar studies covering the entire State.
- Harbison, Thomas B. MILK AND ITS DISTRIBUTION IN PHILADELPHIA. Philadelphia Chamber of Com. Educ. Pam. 8, 12 pp., 1917.
130 pasteurizing plants--112 from 750 to 5,000 quarts per day; 18 from 7,500 to 50,000 quarts per day. 5,428 milk dealers--311 milk dealers, 73 milk dealers driving into Philadelphia, 232 producers supplying milk in Philadelphia; 4,812 grocery stores, hotel and restaurants.
- Hardin, Clifford M. THE SUPPLY AND UTILIZATION OF MILK IN INDIANA. Purdue Univ. Agr. Expt. Sta. Bul. 462, U.S. Dept. Agr., coop., 47 pp., Aug. 1941.
During 1939, about 3 billion pounds of milk (4-percent milk equivalent) was delivered to Indiana plants as whole milk (57 percent) or cream (42 percent) or was sold from farms as butter (1 percent). Nearly one-half of the milk and cream received by Indiana plants in 1939 was used to manufacture butter. Cheese plants in Indiana average about 4 times as large as those in Wisconsin. Thirteen regional and national organizations which operated in Indiana in 1939, handling about 1/2 of the combined milk and cream receipts. Five organizations operated an average of 7.4 plants per firm, and handled one-third of the total receipts.
- Harris, E. S. and J. R. Hanson. STATEMENT CONCERNING THE DUBUQUE, IOWA, MARKET AND THE PROPOSED AMENDED PROVISIONS OF THE TENTATIVELY APPROVED MARKETING AGREEMENT, AS AMENDED, AND OF ORDER NO. 12, AS AMENDED, USDA, AAA. U.S. Dept. Agr. Div of Mktg. and Mktg. Agreements, Dairy Sect., 103 pp., March 1, 1939.
Number of handlers and producer handlers, by months, 1935-1938:
- | | <u>Handlers</u> | <u>Producer-dealers</u> |
|-----------|-----------------|-------------------------|
| Jan. 1935 | 11 | 34 |
| Dec. 1935 | 9 | 30 |
| Jan. 1936 | 9 | 29 |
| Jan. 1937 | 8 | 30 |
| Jan. 1938 | 8 | 24 |
| Dec. 1938 | 9 | 20 |
- Harris, E. S., C. W. Smith, and P. L. Miller. STATEMENT CONCERNING THE QUAD CITIES MILK MARKET AND THE PROPOSED MARKETING AGREEMENT AND ORDER. U.S. Dept. Agr. Div. of Mktg. and Mktg. Agreements, Dairy Sect., 115 pp., July 1939.
Size distribution of handlers, 1935-37.
- Howe, C. B. THE MILK SUPPLY OF THE NEW JERSEY METROPOLITAN MARKET (INCLUDING SOME COMMENTS CONCERNING SALES IN THE NORTH SHORE AND RURAL MARKETS). N. J. Agr. Expt. Sta. Bul. 515, U.S. Bur. Agr. Econ. and Dairymen's League Co-op. Assoc., Inc., coop., 24 pp., 1930.
Volume of sales by type of product, county, State of origin, type of dealer, and means of transportation; State of origin and volume of sales by type of dealer; volume of business in the North Shore market; production of milk in each of 13 counties; and per capita consumption of different grades of milk, cream, and ice cream in 3 markets.
- Husmann, Werner. AN ECONOMIC STUDY OF THE DAIRY INDUSTRY IN SOUTH CAROLINA. S. C. Agr. Expt. Sta. Bul. 386, 26 pp., June 1950.
Milk market regulations; milksheds; methods of distribution; bottling plants; milk supplies; prices and pricing schemes; consumption.
- Johnson, Stewart. THE ALBANY-TROY-SCHENECTADY MILK MARKET. Cornell Univ. Agr. Expt. Sta. A. E. 461, October 1943, 14 pp.
Number of producers; milk receipts; seasonality of receipts; utilization; producer and consumer prices; size distribution of dealers by type, 1942.

- Jones, C. M. THE MILK SUPPLY OF MINNEAPOLIS. Minn. State Dairy and Food Comm. Bul. No. 53, 12 pp., 1914.
Historical development; list of 12 milk companies in business in 1912-13 and their volume; transportation costs; supply areas; retail prices; per capita consumption was .784 pints per person per day.
- Kern, E. E., Jr. A STUDY OF THE SUPPLY AND UTILIZATION OF MILK IN MISSISSIPPI. Miss. Agr. Expt. Sta. Tech. Bul. 35, 34 pp., Feb. 1953.
Survey of all 67 fluid milk plants in State, 1949. Dairying; fluid plants; sales; producer-distributors; manufacturing plants.
- Koller, E. Fred. THE MINNESOTA DRY MILK INDUSTRY. Minn. Agr. Expt. Sta. Bul. 372, 28 pp., Dec. 1943.
Production; number, location and type of plants; plant capacity; milk supplies; cost of operation; market outlets and prices received.
- McCallister, Charles E. VERMONT'S MILK DEALERS. Vt. Agr. Expt. Sta. Bul. 594, 19 pp., June 1956.
Survey of 69 out of 163 milk dealers in Vermont, 1954. Changes in number of dealers, sales and sales characteristics; prices paid for milk; shortbuying of milk; utilization.
- McFall, R. J. SURVEY OF THE NEW ENGLAND DAIRY MARKET. New England Res. Council, 442 pp., Aug. 1924.
Boston dealers: 700 in 1884; 205 in 1914; 131 in 1923.
- Meenen, H. J. SUPPLY AND UTILIZATION OF MILK SOLD IN ARKANSAS. Ark. Expt. Sta. Bul. 524, 61 pp., June 1952.
Number and location of plants, 1949; seasonality of supply and utilization; intramarket and intermarket movement; prices to producers.
- Miles, J. F. THE SUPPLY AND UTILIZATION OF MILK IN THE THREE PRINCIPAL SOUTH CAROLINA MILK MARKETS--CHARLESTON, COLUMBIA, GREENVILLE. S. C. Expt. Sta. Bul. 394, 47 pp., June 1951.
Number of handlers and subdealers.
- Nageotte, Guy J., et al. LOOKING INTO THE FLUID MILK AND ICE CREAM INDUSTRY IN VIRGINIA. Va. Dept. of Agr. and Va. Agr. Ext. Serv., Va. Joint Agr. Pub. 3, 51 pp., June 1960.
Survey of Grade-A dairy plants serving Virginia, 91 in Virginia, 15 in nearby areas. Procurement, storage, processing, distribution, promotion.
- Penny, N. M. and J. C. Elrod. SUPPLY, UTILIZATION, AND PRICE OF MILK IN GEORGIA 1949. Ga. Expt. Sta. Mimeo. Ser. 36, 70 pp., Sept. 1951.
Location and kind of plants; milk supply; utilization; intermarket shipments; production of manufactured products; price plans; producer-distributors.
- Pritchard, Norris T. THE INDIANAPOLIS MILK MARKET. Purdue Agr. Expt. Sta. Bul. 554, 44 pp., Aug. 1950.
Eighteen Indianapolis fluid milk distributors in 1949 sold 183,926,306 pounds (4-percent milk-equivalent basis) of fluid milk and cream. Nearly 72 percent of sales were by 6 largest firms, over 50 percent by 3 largest firms, and about 99 percent in metropolitan district.
- Roberts, John B. and C. C. Erwin. KENTUCKY'S BOTTLED MILK INDUSTRY. Ky. Agr. Expt. Sta. Bul. 625, 30 pp., June 1955.
Size distribution of bottling plants, 1952. Plants and sales by type of business organization, 1952; wholesale-retail; paper-glass.
- Ross, H. A. CHANGING METHODS IN MILK TRANSPORTATION. Farm Econ. Cornell Univ., No. 39: pp. 549-551, 1926.
Methods of transporting milk used by Chicago dealers, 1926; size distribution of dealers; rail and truck rates.
- Scanlan, John J. AN ECONOMIC STUDY OF THE TRANSPORTATION OF MILK IN THE PHILADELPHIA MILKSHED IN RELATION TO THE OPERATIONS OF THE INTER-STATE MILK PRODUCERS' ASSOCIATION, INC. U.S. Farm Credit Admin. Bul. 13, 151 pp., Apr. 1937.
Railroad and truck facilities; growth and decline of receiving stations; local hauling, and hauling from receiving stations to Philadelphia, including charges and costs; cooperative and direct hauling; reorganization of milk assembly.

- Scholl, C. A. and W. O. Hedrick. THE LANSING FOOD SURVEY. Mich. Agr. Expt. Sta. Tech. Bul. 107, 152 pp., Nov. 1930.
Marketing machinery for milk and dairy products; in 1927, 5 distributors and 5 producer-distributors supplied Lansing. Two largest distributors are a national firm and a cooperative stock organization with 77 percent of milk distributed. Sources of butter and ice cream.
- Schoenfeld, William A. SOME ECONOMIC ASPECTS OF THE MARKETING OF MILK AND CREAM IN NEW ENGLAND. U.S. Dept. Agr. Cir. 16, 73 pp., Oct. 1927.
Assembly and movement of milk to market; freight rates; pooling and pricing plans; retail prices and margins Boston. Up to 1921, no store differential. In 1922, one chain offered milk at 10 cents per quart, 3 1/2 cents under the delivered prices. Other chains responded by adding milk to their lines at similar prices. Home delivery prices came down. Store differential averaged 3.4 cents, 1922; 1923-26, 2.3-2.8 cents (annual averages) Jan.-June 1927, 2 cents; June 1927, 12 percent of retail milk volume through stores at 2 cents differential.
- Smith, C. W., P. L. Miller, and H. L. Forest. ECONOMIC STATEMENT CONCERNING THE PROVIDENCE, RHODE ISLAND, MILK MARKET, AND THE PROPOSED MARKETING AGREEMENT AND ORDER FOR THAT MARKET. U.S. Dept. Agr., Agr. Adjust. Admin. Div. of Mktg. and Mktg. Agreements, Dairy Sect., 115 pp. November 1939.
Size distribution of handlers and producer-distributors, April 1934.
- Spencer, Leland. PROBLEMS IN THE LOCATION OF COUNTRY MILK PLANTS. Jour. Farm Econ. 11:313-329, 1929.
In 1927, there were 1,330 milk plants in New York State, 550 shipping to New York City, 70 shipping to other cities, 75 condenseries and powder plants, 35 feeder plants, 350 cheese and butter factories, and 250 local retail plants. Study of 730 plants shipping fluid milk and cream (including some of the manufacturing plants). Plant costs, freight rates, hauling costs, eliminating nonessential plants, obstacles.
- Spencer, Leland. COSTS OF DISTRIBUTING MILK IN NEW JERSEY. N. J. Dept. Agr., 98 pp., May 1943.
Based on studies by accounting firms. Operating costs of milk dealers and processors: costs of selling delivering milk by subdealers; milk distribution by retail food stores: number of firms licensed to handle milk in 1942.
- Spencer, Leland and Stewart Johnson. MILK PRICES AND PRICE CEILINGS IN POUGHKEEPSIE, NEW YORK, AND COMPETING MARKETS. Cornell Univ. Agr. Expt. Sta., A.E. 469, 21 pp., Jan. 1944.
Number of distributors, 1940; milk supply, utilization, movement, sources, competitive prices, retail prices and price relationships, ceiling prices, and margins.
- Spencer, Leland, H. R. Kling, and I. R. Bierly. THE DISTRIBUTION OF MILK BY SUB-DEALERS IN NEW YORK CITY. Cornell Univ. Agr. Expt. Sta. A.E. 358, 13 pp., 1941.
- Story, Robert P. COST OF MILK DISTRIBUTION IN LOCAL VERMONT MARKETS. Vt. Agr. Expt. Sta. Bul. 545, 36 pp., Nov. 1948.
Size distribution of milk dealers in 1946; sales, costs, and profits of 61 dealers, 1945-46; costs by functions and size of business.
- Tennant, J. L. THE PROVIDENCE MILK MARKET. R. I. Agr. Expt. Sta. Bul. 301, 54 pp., Dec. 1947.
Size distribution of dealers, 1937-1945.
- Tetro, Robert C. and P. L. Miller. STATEMENT CONCERNING THE WASHINGTON MILK MARKET AND A PROPOSED MARKETING AGREEMENT AND ORDER. U.S. Dept. Agr. Div. of Mktg and Mktg. Agreements, Dairy Sect., 94 pp., Nov. 1939.
Store differential over home delivery first appeared in July 1919, continuing through 1937-39 at 3 cents. There are 11 handlers in the proposed marketing area (D.C., close-in Maryland suburbs). Only 1 country plant in Frederick. In District of Columbia marketing area, Sept.-Dec. 1936, there were 6 handlers in Sept.; 5, Oct-Dec., with Class I sales of 14.9 million pounds in Oct., 13.1 Nov., 12.9 in Dec.
- Tinley, J. M. AN ANALYSIS OF THE FRESNO MILK MARKET. Calif. Agr. Expt. Sta. Bul. 559, 59 pp., 1933.
Consumption, sanitary requirements, production, and buying prices of market milk: the system of distribution, the number and capacity of distributing plants, distributors' margins, expenditures and incomes, methods and costs of delivery, retail store margins, and the problems in distribution.

U.S. Department of Agriculture. STATEMENT OF FACTS AND INFORMATION CONCERNING THE PHILADELPHIA MILK MARKET. Series on Mktg. Agreements and Orders. Dairy Section, Agr. Adj. Admin., Paper No. 18, 101 pp., Mar. 1938.

Class utilization of milk by 4 largest handlers, by months, 1935-37. Penn. MCB, 1936: in Philadelphia milk marketing area, 29 milk dealers, 19 producer-distributors, 28 peddlers, and 9 milk manufacturing concerns (mostly ice cream). Supply conditions, country stations, transportation, prices.

U.S. Department of Agriculture. COMPILATION OF STATISTICAL MATERIAL COVERING ORDER NO. 27 AND THE NEW YORK METROPOLITAN MILK MARKETING AREA. U.S. Dept. Agr. Surplus Mktg. Admin., Dairy Div., May 1941, 75 tables.

Volume of milk utilized in each class by 4 largest handlers (National Dairies subsidiaries, Borden Co. subsidiaries, Dairymen's League, and Queensboro Farm Products, Inc.), by months and by class of milk, 1940-March 1941. 1940, 56.9 percent of Class I sales by 4 largest.

U.S. Department of Agriculture. MILK MARKETING IN MASSACHUSETTS SECONDARY MARKETS. PART I.--SPRINGFIELD, November 1945, 29 pp. PART II.--WORCESTER, November 1945, 29 pp. PART III.--LOWELL-LAWRENCE, January 1946, 26 pp. PART IV.--FALL RIVER, February 1946, 26 pp. PART V.--NEW BEDFORD, January 1946, 26 pp. PART VI.--MARKET SUMMARY, March 1946, 44 pp. U.S. Prod. and Mktg. Admin. in coop. with Bur. Agr. Econ., New England Res. Council on Mktg. and Food Supply, and Mass. Agr. Expt. Sta. Number, types and size of producers and handlers; seasonality of production; sales of Class I milk; per capita milk consumption; balance of receipts and disposition; prices and subsidy rates.

U.S. Federal Trade Commission. REPORT...ON THE SALE AND DISTRIBUTION OF MILK PRODUCTS. CONNECTICUT AND PHILADELPHIA MILKSHEDS. 74th Cong., 1st Sess., House Doc. 152, 901 pp., 1935.

June 1934, Hartford (city only): total sales 1,619,493 quarts. Bryant and Chapeman and R. G. Miller (sub. of National Dairies) sold 646,836 quarts, 39.9 percent of total. Sixty-six producer-distributors, 31 merchant dealers, 45 subdealers. Total 142. New Haven, National Dairies 30.5 percent of total (excluding suburbs) Connecticut, National Dairies 14.7 percent of total.

U.S. Federal Trade Commission. INDUSTRIAL CORPORATION REPORTS. MILK AND MILK PRODUCTS CORPORATIONS. 18 pp. Dec. 21, 1942.

1940 data for 129 corporations, including both manufactured and fluid products. All tables combined for fluid and manufactured products, except 1 which shows by cities for a number of major markets, aggregate total investment, aggregate sales, profits. (This for 144 firms of divisions of large firms.)

U.S. Federal Trade Commission. MILK DISTRIBUTION, PRICES AND SPREADS. Corp. (Rpt. 45, 1943.

1940 data broken down by fluid and manufacturing firms. Margins and prices in individual cities by size of container for retail.

Waite, Warren C. DISTRIBUTION OF MILK IN THE TWIN CITIES. THE MARKETING OF FARM PRODUCTS. STUDIES IN THE ORGANIZATION OF THE TWIN CITIES MARKET. In H. B. Price, ed., pp. 320-345., 1927, Univ. of Minn. Press.

Until 1894, almost all milk from producer-dealers. First company incorporated in 1894. Twin Cities Milk Producers Association supplies about 75 percent of milk; operation and payment methods of association. Size distribution of distributors in each city, costs of one distributor; public regulations.

Weld, I. C. THE DAIRY INDUSTRY IN NEW HAMPSHIRE. N.H. Agr. Expt. Sta. Bul. 120, 71-80 pp., Sept. 1905.

History; number and location of plants by type; transportation to Boston.

Welden, William C. and T. G. Stitts. COOPERATIVE MILK MARKETING IN LOUISVILLE. Farm Credit Admin. Bul. 32, 88 pp., Apr. 1939.

Thirty pasteurizing dealers and 50-60 producer-distributors. Producer-distributors 2.5 percent of milk. Largest dealer 30 percent of fluid milk business of city; 6 largest dealers 65 percent of fluid milk business of city; 70 percent wholesale.

- West, George A. and Leland Spencer. SALES OF MILK AND CREAM IN ROCHESTER, NEW YORK. Farm Econ. Cornell Univ., No. 81, p. 1960, June 1933.
In November 1932, there were 126 milk dealers holding permits and 123 in November 1931. Distribution of milk: retail 73.2 percent; stores 16.2 percent; restaurants, 10.6 percent (4.0 percent in bottles; 6.6 percent bulk). Cream: 29.3 percent retail, 13.4 percent stores, 57.3 percent restaurants.
- West, George A. and Leland Spencer. THE SUPPLY AND SALES OF MILK AND CREAM IN ROCHESTER, NEW YORK, 1930-1936. Cornell Univ. Farm Econ. 101: 2480-2484, May 1937.
Includes number of farms under Rochester inspection, the average daily supply of milk and cream, the average daily sales of dealers selling, and quantity of special milk products sold in November of each year. The number of dealers selling each grade of milk and cream, and the daily consumption of milk and cream per capita are given also.
- Whitaker, George M. THE MILK SUPPLY OF BOSTON AND OTHER NEW ENGLAND CITIES. U.S. Dept. Agr. Bur. of Anim. Indus. Bul. 20, 37 pp., 1898.
Description of milk marketing practices in 1897 and their development; 7 "contractors" (wholesalers) handled about three-fourths of the milk; the remainder was bought from near-by producers by peddlers; contractors used a classified pricing system, negotiated with the Milk Producers Union; milk was sold by peddlers in 2-quart tin cans delivered to homes.
- Wilcox, Emery C., Orville E. Krause, and Lawrence Brereton. UTILIZATION OF WISCONSIN MILK. Wis. State Dept. Agr. Crop Rptg. Serv. Spec. Bul. 3, 113 pp., June 1950.
Trends in Wisconsin dairying; utilization of milk by counties; number of plants of each type and production by counties, 1885-1949.
- Williams, Sheldon W. SUPPLIES AND USE OF MILK IN ALABAMA. Ala. Expt. Sta. Bul. 282, 86 pp., June 1952.
Number and location of plants; source of supplies; fluid milk sales and consumption; manufacturing milk and its use.

Local Fluid Milk Markets

- Alexander, W. H. MILK MARKETING IN THE NORTH LOUISIANA UPLAND COTTON AREA. La. Agr. Expt. Sta. and U.S. Bur. Agr. Econ., coop., Bul. 443, 28 pp., Aug. 1949.
Supply, prices; utilization, consumption, number of distributors, and producer-distributors, by market, 1946.
- App, Frank and Wright Hoffman. THE MARKETING OF MILK IN PHILADELPHIA. U.S. Dept. Agr. Bur. Agr. Econ., 73 pp., Apr. 1924.
Marketing, public supervision, demand, supply, price, basic surplus pricing plan.
- Babb, E. M. THE PRODUCTION CONSUMPTION BALANCE AND THEORETICAL SUPPLY AREAS FOR FLUID MILK IN VIRGINIA. M.S. thesis, Va. Poly. Inst., 1954.
- Baker, J. M. SUPPLY AND TRANSPORTATION OF MILK IN MONROE AREA, LOUISIANA. La. Agr. Expt. Sta. Mimeo. Cir. 35, 10 pp., Oct. 1943.
Supply; delivery efficiency; assembly. In 1943, 19 producer-distributors and 2 distributors (Cooperative Dairies and Clover Leaf Dairy) supplied Monroe.
- Balderston, R. W. MARKETING FLUID MILK IN PHILADELPHIA--AN EXPERIENCE IN SALES COOPERATION. Amer. Acad. Polit. and Soc. Sci. The Annals. CXVII: 231-242, Jan. 1925.
Discussion of many aspects, especially pricing and distribution.
- Ballinger, R. A. and R. M. Grigsby. MARKETING FLUID MILK IN BATON ROUGE, LOUISIANA. La. Agr. Expt. Sta. Mimeo. Cir. 7, 39 pp., Nov. 1939.
Milk supply, consumption, price mechanism, quality, and number of distributors and producer-distributors, 1929-38. In 1938, 33 firms distributing milk: 20 small producer-distributors (19.1 percent of milk), 8 large producer-distributors and 2 plant-distributors (80.9 percent); 2 largest, 40-45 percent.
- Bartle, H. R. W. ST. LOUIS MILK PROBLEMS WITH SUGGESTED SOLUTIONS. Ill. Agr. Expt. Sta., Bul. 412, 1935, pp. 89-184.
Milk consumption; causes of low milk consumption; how sales might be increased; why prices to producers declined from 1929 to 1933; the basic-surplus price plan; distributors' gross handling margins; milk market organizations: aims and accomplishments; present policies under the Federal milk license.
- Beck, Robert L. and Stephen F. Whitted. MISSOURI DAIRY MARKETS. PART III. SOUTHWEST. Mo. Agr. Expt. Sta. Res. Bul. 674C, 84 pp., Nov. 1950.
Milk supply; markets; existing plants: location, capacity, age, ownership.

- Bennetch, P. B. THE MARKET MILK BUSINESS IN NEW JERSEY. SOME OF ITS ECONOMIC ASPECTS. N.J. Dept. Agr. Bul. 25, 32 pp., 1920.
Discussion of prices, the cost of cattle feeds, and the problems of distribution. In the Oranges, compulsory pasteurization effected unexpected economies in distribution by forcing several small dealers to combine.
- Blanford, C. J. THE MILK SUPPLY FOR THE NEW YORK MARKET. Cornell Ext. Bul. 396, 23 pp., Oct. 1938.
The supply and utilization at dairy plants tributary to the N.Y. metropolitan market are described, with some indication of the total amount of milk produced for this market and the seasonal variation and differences in its production and utilization. An inventory of the facilities for handling milk in the New York milkshed is presented.
- Booth, Henry J., Chairman. REPORT OF COMMITTEE APPOINTED TO INVESTIGATE THE MILK PROBLEM OF COLUMBUS, AND, IN THAT CONNECTION, TO CONSIDER THE REQUEST FOR THE APPOINTMENT OF A COMMISSION TO DETERMINE THE BUYING AND SELLING PRICE OF MILK IN THE COLUMBUS MARKET. Columbus (Ohio) Chamber of Commerce, 35 pp., 1919.
Prices, producer and retail, Columbus and other cities, January and July 1919 (from the Milk Trade Journal); standards; inspection; pasteurization.
- Brown, A. A. and M. Booth. PRODUCTION AND PRICES OF MILK IN THE SPRINGFIELD-HOLYOKE-CHICOPEE MILKSHED IN 1935. Mass. Agr. Expt. Sta. Bul. 389, 32 pp., Feb. 1942.
The first part describes the milkshed; the second analyzes and discusses producers' farm prices. The effect of base ratings under different situations, the findings in the three studies, and pricing f.o.b. farm rather than f.o.b. city are discussed.
- Butz, Dale E. and Richard T. Hartwig. MILK MARKETING IN IRON AND DICKINSON COUNTIES OF MICHIGAN. Mich. Agr. Ext. Serv. Agr. Econ. 624, 15 pp., Aug. 1955.
Seasonality and size of producers; dairy plants; trucking; future markets; milk quality.
- Copeland, R. S., et al. REPORT OF THE FAIR PRICE MILK COMMITTEE OF THE CITY OF NEW YORK. N.Y. State Legis. Doc. No. 29, 1920, pp. 5-64.
Committee recommendations: Collective handling from farms to receiving stations, better location of country stations, a zoning system for retail delivery, increased sales through grocery stores, restriction of use of milk produced within a 150- or 200-mile radius to increase supply for fluid purposes.
- Cowden, T. K. DISTRIBUTION AND CONSUMPTION OF MILK IN READING, PENNSYLVANIA. Pa. Agr. Expt. Sta. Tech. Paper 614, 14 pp., 1933.
The source of milk supply, number of dealers, forms in which milk was used, per capita consumption, units of sale, daily and seasonal variation in sales, percentages of fluid milk sold wholesale and retail, and the effects of beer sales on sales of milk by dealers and restaurants are discussed.
- Cowden, T. K. DISTRIBUTION AND CONSUMPTION OF MILK IN WILLIAMSPORT, PENNSYLVANIA. Pa. Agr. Expt. Sta., Tech. Paper 615, 1933.
Source of supply, number of dealers, per capita consumption, units of sale, wholesale-retail.
- Cowden, T. K. and C. G. Gifford. THE DISTRIBUTION AND CONSUMPTION OF MILK IN ALLEGHENY COUNTY, PENNSYLVANIA. Pa. Agr. Expt. Sta. Tech. Paper 664, 16 pp., 1934.
- Cowden, T. K. and F. F. Lininger. CONSUMPTION OF MILK IN ALLEGHENY COUNTY, PENNSYLVANIA. Pa. State Col. Tech. Paper 569, 12 pp., Nov. 1932.
This is the first of a series dealing with the factors affecting the consumption of milk in different localities of Pennsylvania. A survey was made in September 1932 on the per capita consumption of and total use of milk, methods of sale of fluid milk and cream, number of dealers and their milk handling capacity, and the relative amounts of milk handled by organized and unorganized dealers.
- Cunningham, L. C. and S. M. Johnson. THE SYRACUSE MILK MARKETING AREA. Cornell Univ. Agr. Expt. Sta. A.E. 372, 11 pp., 1941.
Prices received by producers, retail prices of fluid milk and evaporated milk, make-up of price spread on quart bottles, number of dealers, utilization of milk, and seasonal variation of receipts. The figures are for Syracuse and other selected markets in the New York State, with comparisons.

- DeLoach, D. B. and R. A. Steiner. THE PORTLAND METROPOLITAN MILK MARKET. *Oreg. Agr. Expt. Sta. Bul.* 388, 36 pp., 1941.
Population, consumer buying habits, milk and cream consumption, marketing channels, the milkshed, the production trends, the production costs - land values, investment in buildings and equipment, size of herds, butterfat production per cow, labor costs, etc., and the trade problems - quotas, pooling, equalization, marketing costs, cream prices, etc.
- Doane, C. F. THE MILK SUPPLY OF TWENTY-NINE SOUTHERN CITIES. *U.S. Dept. Agr. Bur. Anim. Indus. Bul.* 70, 40 pp., 1905.
Consumption; how milk is handled; inspection; prices.
- Donley, J. E. TOWARDS A PERFECT MILK MARKET. *Mass. Agr. Expt. Sta. Bul.* 366, 28 pp., Nov. 1939.
Discusses economic aspects of marketing fluid milk in Worcester, Mass., with specific reference to supply and sale relationships, including prices. An equilibrium of supply and demand has been attained in this area. Transportation might be more efficiently organized.
- Durrett, J. J. and C. L. Isley, Jr. A STUDY OF MEMPHIS MILK SUPPLY. *Memphis Dept. of Health*, 86 pp., 1925.
History of development of milk control (sanitary) in Memphis; milk ordinances; sources of Memphis' milk supply; per capita consumption; prices; cooperative associations; 10 pasteurizing plants (6 outside city); 182 producer-distributors; producers.
- Efferson, J. Norman. AN ANALYSIS OF THE DAIRY SITUATION IN THE NEW ORLEANS MILK MARKETING AREA IN 1947. *La. Agr. Expt. Sta. Mimeo. Cir.* 76, 27 pp., Nov. 1947.
Production costs; prices; outlook; pricing under Federal-State order.
- Erwin, C. C. SUPPLY AND UTILIZATION OF MILK IN THE ST. LOUIS AND KANSAS CITY FLUID MARKETS. *Mo. Agr. Expt. Sta. Res. Bul.* 506, 35 pp., Aug. 1952.
Market areas; supply areas; production trends; utilization; prospective trends; number of handlers.
- Erwin, C. C. and John B. Roberts. ECONOMIC SURVEY OF MILK MARKETING IN THE PURCHASE REGION OF KENTUCKY. *Ky. Agr. Expt. Sta. Bul.* 631, 41 pp., June 1955.
General characteristics of the fluid industry in the Purchase Region (the Paducah market); survey of milk production conditions; producer reactions toward market conditions; producers' attitudes toward seasonal pricing.
- Fielding, J. G. A STUDY OF THE MILK AND CREAM SUPPLY OF GREATER PROVIDENCE, 1929-1931. *R. I. Agr. Expt. Sta. Bul.* 237, 40 pp., Aug. 1932.
Tables and charts show the annual and monthly receipts (1) of milk and cream by States of origin; (2) of grade A milk, total, raw, and pasteurized; (3) of grade A milk from Massachusetts and Rhode Island; and (4) the monthly and annual sales and surplus grade A milk.
- Fletcher, L. B. and C. O. McCorkle, Jr. GROWTH AND ADJUSTMENT OF THE LOS ANGELES MILKSHED--A STUDY IN THE ECONOMICS OF LOCATION. *Calif. Agr. Expt. Sta. Bul.* 787, 88 pp., June 1962.
Structural characteristics of the Los Angeles milk market; costs and location adjustments; producer prices, procurement practices, and location adjustments; supply adjustments, past, present and future.
- Fletcher, L. B. and C. O. McCorkle, Jr. FACTORS INFLUENCING FIRM AND REGIONAL ADJUSTMENTS IN THE LOS ANGELES MILKSHED. *Jour. Farm Econ.* XLIV (2): 373-380, May 1962.
Relationship of market structure and performance to firm and regional production adjustments; comparison of observed with optimal regional adjustments based on least-cost organization of the supply area; and implications for future production adjustments.
- Freemyer, Glenn W. HISTORY AND ANALYSIS OF MILK SUPPLY PROBLEMS IN THE ST. LOUIS MARKET. *U.S. Dept. Agr. Prod. and Mktg. Admin.*, 155 pp., 1950.
History of the milk supply and cooperatives; the supply area and production characteristics; sanitary regulation; prices of milk in relation to other prices; Federal regulation; price plans; pooling; decline in number of handlers.

- Friar, E. J. and A. R. Schubert. MILK SUPPLIES OF MICHIGAN CITIES. Mich. Dept. of Agr. Bul. 33, 16 pp., 1924.
For each of 201 cities: Standards, ordinances, grades, and inspection number of distributors, number of wagons, percentage of milk pasteurized, and milk consumption.
- Garbarino, A. J. MARKETING OF FLUID MILK IN MISSISSIPPI. M.S. thesis, Miss. State Col., 1951.
- Garbarino, A. J. and C. H. Brown. SEASONALITY OF SUPPLY AND UTILIZATION OF MILK IN TENNESSEE, 1949. Tenn. Agr. Expt., Mono. 264, 41 pp. Feb. 1951.
Seasonality of supply and utilization: total pattern, whole milk and cream, by type of plant, by areas.
- Graf, Truman F. DAIRY MARKETING IN NORTH CENTRAL WISCONSIN. Wis. Agr. Expt. 29 pp., June 1959.
Taylor, Wood, Marathon, and Clark counties. General supply, price, and marketing conditions; implications of changes; marketing practices survey of all cheese factories and creameries; possible adjustments in market organization.
- Graf, Truman F. AN ECONOMIC ANALYSIS OF THE DAIRY MARKETING COOPERATIVES IN WEST CENTRAL WISCONSIN. Univ. of Wis., 13 pp., Oct. 1960.
Economic feasibility of consolidating dairy operations in 4 counties.
- Graf, Truman and Karl Shoemaker. CONSIDERATION FOR DAIRY REORGANIZATION IN THE MARSHFIELD AREA. Wis. Agr. Expt. Sta. Agr. Econ. 14, 18 pp., Nov. 1954.
Study of feasibility of marketing the milk from a 3-county area through a cooperative plant utilizing both grade A and grade B milk.
- Graf, Truman and L. C. Thomsen. DAIRY MARKETING IN SOUTHWESTERN WISCONSIN. Wis. Agr. Expt. Sta. Agr. Econ. 25, 29 pp. Dec. 1957.
Supply, price, and marketing conditions; marketing practices of creameries and cheese plants; possible reorganization.
- Graf, Truman F., Harlow W. Halvorson, and Robert H. Miller. THE USE OF FEDERAL MILK MARKETING ORDERS IN SOUTHERN WISCONSIN. Wis. Agr. Expt. Sta. Agr. Econ. 29, 36 pp., June 1959.
Milk production patterns and their evolution; processing and distribution; decrease in plant numbers; pricing milk under Federal orders; area Federal milk order considerations.
- Greene, R. E. L. and H. W. Warburton. AN ECONOMIC EVALUATION OF FLUID MILK SUPPLY MOVEMENT AND UTILIZATION IN FLORIDA. Fla. Agr. Expt. Sta. Agr. Econ. Ser. 63-1, 119 pp., Sept. 1962.
Market structure; wholesale-retail sales; milk supply, movement, utilization and production-consumption balance; potential demand for fluid milk.
- Grigsby, R. M. and R. A. Ballinger. THE NEW ORLEANS MARKET FOR FLUID MILK. La. Agr. Expt. Sta. Bul. 339, 22 pp., 1942.
Conditions in the milkshed, supplies from shippers and from producer-distributors, the price plan used in the market, shippers' and producer-distributors' prices for milk, and distribution within the city. Class I and II prices are fixed by the market administrator, while Class III prices are based on a butter formula. There was a rapid increase in the total amount of milk received in New Orleans during 1940 and 1941, however, there was little increase in Class I use. The trend of Class I prices was up, but this was mostly offset by the milk entering Classes II and III, resulting in about the same average prices as before. The authors concluded that higher Class I prices result in higher consumer prices and lower consumption.
- Hanman, Gary E. and Stephen F. Whitted. MISSOURI DAIRY MARKETS, PART I. NORTHEAST. Mo. Agr. Expt. Sta. Res. Bul. 674A, 39 pp., July 1958.
- Hardin, Clifford M. THE SUPPLY AND UTILIZATION OF MILK IN INDIANA. Purdue Univ. Agr. Expt. Sta. Bul. 462, U.S. Dept. Agr. coop., 47 pp., 1941.
During 1939, about 3 billion pounds of milk (4 percent milk equivalent) was delivered to Indiana plants as whole milk (57 percent) or cream (42 percent) or was sold from farms as butter (1 percent). Nearly one-half of the milk and cream received by Indiana plants in 1939 was used to manufacture butter. Cheese plants in Indiana average about four times as large

as those in Wisconsin. There were 13 regional and national organizations which operated in Indiana in 1939, handling about one-half of the combined milk and cream receipts for the State. Five organizations operated an average of 7.4 plants per firm, and handled one-third of the total receipts.

Hardin, Clifford M. AN ECONOMIC ANALYSIS OF FLUID MILK MARKETS IN INDIANA. Purdue Univ. Agr. Expt. Sta. Bul. 463, 55 pp., Aug. 1941.

Organization of the industry; extent of control; prices; supplies; consumption.

Hardin, C. M. and T. K. Cowden. ECONOMIC FACTS PERTAINING TO THE FLUID MILK MARKET IN DIFFERENT INDIANA CITIES. Purdue Univ. Agr. Expt. Sta., Mimeo. Rpts. 1-25, 1942. 1. Indianapolis, 34 pp., 2. Fort Wayne, 30 pp., 3. Kokomo, 31 pp., 6. South Bend, 32 pp., 7. Evansville, 32 pp., 8. Richmond, 28 pp., 11. Elkhart, 28 pp., 12. Terre Haute, 31 pp., 13. Marion, 30 pp., 14. Logansport, 28 pp., 15. Huntington, 15 pp., 16. Peru, 15 pp., 18. Columbus, 14 pp., 19. Brazil, 14 pp., 20. Wabash, 14 pp., 21. Hartford City, 13 pp., 22. Warsaw, 13 pp., 23. Greencastle, 15 pp., 24. Greensburg, 13 pp., 25. La Porte, 13 pp.

These reports deal with an economic analysis of milk marketing, with Bul. 463, above. The supply and utilization of milk and cream in the areas surrounding the fluid markets, the receipts and utilization of milk, prices, sales, and seasonal variations in receipts, utilization, and prices are discussed for the individual cities.

Harriott, John F. THE MARKETING OF FLUID MILK IN IOWA. Iowa State Col. M.S. thesis, 1923.

Hartley, M. MARKETING NEVADA MILK. Nev. Agr. Expt. Sta. Bul. 192, 32 pp., Dec. 1955. Survey of 16 milk distributors and about 300 producers. Production; seasonality; distributors; quotas; prices; bulk handling; hauling costs; packaging; channels; advertising; production and utilization by areas.

Horner, J. T. THE DETROIT MILK MARKET. Mich. Agr. Expt. Sta. Spec. Bul. 170, 61 pp., Mar. 1928.

Origin, transportation, and distribution of the Detroit milk supply; the Michigan Milk Producers' Association and the Detroit plan of production control are described. Milk sales and surplus in Detroit; percentages of purchases at the Detroit market, butterfat stations, condenseries, and cheese factories; percentage of fluid milk receipts; variations in sales by days of the week; monthly variations; and per capita consumption of fluid milk by children and by families, with and without children, in different income groups.

Howe, C. B. THE MILK SUPPLY OF THE NEW JERSEY METROPOLITAN MARKET (INCLUDING SOME COMMENTS CONCERNING SALES IN THE NORTH SHORE AND RURAL MARKETS). N.J. Agr. Expt. Sta. Bul. 515, U.S. Dept. Agr., coop., 24 pp., 1930.

Volume of sales by type of product, county, State of origin, type of dealer, and means of transportation; State of origin and volume of sales by type of dealer in the rural market; volume of business in the North Shore market; production of milk in 13 counties; and per capita consumption of different grades of milk, cream, and ice cream in 3 markets.

Jeffrey, A. D. PLANT RECEIPTS AND USES OF MILK IN FOUR LEADING MARKETS OF THE NORTHEASTERN STATES. Cornell Univ. Agr. Expt. Sta. A.E. 1091, 101 pp., Apr. 1958.

Detailed information on the plant receipts and disposition of milk in 1954. Organization of these 4 markets is given and a description of the principal marketing institutions and conditions was prepared for each market.

Jennings, I. G. A STUDY OF THE NEW YORK CITY MILK PROBLEM. N.Y., Nat. Civic Fed., 1919, (Ph. D. thesis, Columbia Univ.) 58 pp.

Inefficiencies in production and distribution; inefficiencies in regulation; the case for a State regulatory commission; the case for public ownership.

Johnson, Stewart. THE ALBANY-TROY-SCHENECTADY MILK MARKET. Cornell Univ. Agr. Expt. Sta. A.E. 461, 14 pp., Oct. 1943.

Number of producers; milk receipts; seasonality of receipts; utilization; producer and consumer prices; size distribution of dealers by type, 1942.

Johnson, Stewart. THE ROCHESTER MILK MARKETING AREA. Cornell Univ., Agr., Expt. Sta. A.E. 446, 24 pp., July 1943.

Milk production; seasonality; prices to producers; hauling rates; utilization; retail prices; price spreads; outlets, November 1942 (68 percent home delivered, 1 percent retail at plant, 16 percent out of stores, 15 percent restaurants, hospitals, and schools).

- Johnson, S. M. and L. C. Cunningham. THE SYRACUSE MILK MARKETING AREA. Cornell Univ. Agr. Expt. Sta. A.E. 473, 17 pp., Feb. 1944.
Milk production in the area; seasonality of supply; hauling rates from farms to city plants; fluid milk consumption; prices paid farmers, retail prices, marketing spreads.
- Jones, C. M. THE MILK SUPPLY OF MINNEAPOLIS. Minn. State Dairy and Food Commissioner Bul. 53, 12 pp., 1914.
Historical development of Minneapolis milk business; list of 12 milk companies in business in Minneapolis in 1912-13 and volume of business; transportation costs; supply areas; retail prices; per capita consumption .784 pints per person per day.
- Kern, E. E., Jr. A STUDY OF THE SUPPLY AND UTILIZATION OF MILK IN MISSISSIPPI. Miss. Agr. Expt. Sta. Tech. Bul. 35, 34 pp., Feb. 1953.
Survey of all 67 fluid milk plants in State, 1949. Dairying in Mississippi; fluid plants; sales; producer-distributors; manufacturing plants.
- Kogan, Norman, George K. Brinegar, and Stewart Johnson. THE MILK PRODUCTION-CONSUMPTION BALANCE AND USE OF RESERVE SUPPLIES IN THE CONNECTICUT MARKET, 1954. Storrs (Conn.) Agr. Expt. Sta., Bul. 324, June 1955, 22 pp.
Purchases when short and disposals when long, by size of dealer.
- Kristjanson, G. A. ECONOMIC HISTORY OF NORTH DAKOTA'S DAIRY MARKETING INSTITUTIONS. N. Dak. State Col., M.S. thesis, June 1953.
- Luebke, B. H., C. C. Mantle, and W. S. Rowan. FARM SUPPLY ASPECTS OF KNOXVILLE MILK MARKET. Tenn. Agr. Expt. Sta. Mono. 161, 40 pp., Sept. 1943.
Characteristics of the dairy industry; the disposal of whole milk, farm butter, and cream; and the balance between supply and demand.
- MacLeod, Alan. THE MILKSHEDS OF NEW HAMPSHIRE; A STUDY OF THEIR CHARACTERISTICS AND RELATIONSHIPS. N. H. Agr. Expt. Sta. Bul. 295, 11 pp., Apr. 1937.
Gives the location of producers and their markets; estimates of sales by type of distributors for the markets operating under the State Milk Control Board; and the relationship of local and out-of-State markets.
- MacLeod, Alan, et al. SOME RECENT DEVELOPMENTS IN THE CONNECTICUT MILK MARKETS. I. MILK PRODUCTION AND CONSUMPTION TRENDS. II. THE 1943 EMERGENCY MILK PURCHASE PROGRAM. Storrs (Conn.) Agr. Expt. Sta. New England Res. Council on Mktg. and Food Supply, Conn. Milk Admin., and U.S. Dept. Agr. Bur of Agr. Econ., coop., Bul. 254, 40 pp., Mar. 1945.
Consumption and production trends, 1938-1944; extent of milkshed in wartime; operation of the emergency milk program by Connecticut dealers in November and December 1943; and the extent to which objectives were accomplished.
- Maxton, J. L. and C. C. Taylor. MARKETING FLUID MILK IN FOUR VIRGINIA CITIES. Va. Bul. 275, 42 pp., Dec. 1930.
Newport News, Petersburg, Lynchburg, and Bristol, 1929-30. Supply, channels, demand, quality, ordinances, distribution costs, prices, producer-distributors.
- McBride, C. G. THE DEVELOPMENT OF MARKET MILK AREAS IN NORTHEASTERN OHIO. Ohio Agr. Expt. Sta. Bul. 469, 43 pp., 1930.
This study was made of the 33 northeastern counties of Ohio to trace the economic influences that have shaped the development of market milk. The type of farming and character of milk production, population growth, and increase in milk demands, farm milk sales, cheese factory and milk plant sales and the per capita consumption of milk and cream are discussed. Sources of supply and methods of handling milk in four towns and cities of different sizes ranging from 3,000 to 1,000,000 in population were studied over a period of years.
- McBride, C. G. MARKET MILK SITUATION IN YOUNGSTOWN, ASHTABULA, WARREN, AND STEUBENVILLE, OHIO, IN 1930. Ohio Agr. Expt. Sta. Dept. of Rural Econ. and Rural Sociol. Mimeo. Bul. 39, 1931.
The relation of the supplies of each city to the operations of the sales company are analyzed. The regulations of the boards of health and the methods of paying producers and their effects upon the seasonal variation of farm sales are discussed. A combination of the basic-surplus plan and pooling was used by the sales company.

McBride, C. G. STATE AND FEDERAL MILK MARKETING ORDERS IN CINCINNATI AND TOLEDO, OHIO. Ohio Agr. Expt. Sta. Res. Bul. 678, 49 pp., Oct. 1948.

"Cincinnati and Toledo were chosen as typical city markets in Ohio for this study of milk marketing under economic regulation...A brief background is given to cover the period preceding the enactment of the Burk Act (of Ohio) in 1933. The significant features of operation under the Burk Act are then discussed, followed by a description of the interim period between the Burk Act and the Federal orders. The last and most extensive phase of the study deals with operation of the markets under Federal orders from 1938 to 1947, inclusive. The emphasis throughout the study has been upon economic and legal aspects of market control rather than upon the technical details..."

McBride, C. G. and R. W. Sherman. PRODUCER MILK DELIVERIES AND DEALER SALES IN THE CINCINNATI AND DAYTON MILK MARKETS IN 1940 AND 1941. Ohio Agr. Expt. Sta., Supplement to Bul. 131, Part IV, March 1942, 29 pp.

Based on study of all farms with three or more dairy cattle. The changes in market outlets, 1903-1940, the status of manufacturing outlets, transportation facilities, sanitary controls by health boards, cooperative marketing, and types of farming are discussed.

McBride, C. G. and R. W. Sherman. FACTORS AFFECTING MILK SUPPLY IN AKRON, CANTON, DAYTON, AND PORTSMOUTH, OHIO. Ohio Agr. Expt. Sta. Bul. 652, 38 pp., 1944.

Changes among producers shipping into four markets regularly, 1939-43 for Akron and Dayton, 1938-43 for Canton, and 1934-43 for Portsmouth. The changes in population, demand for and shipment of milk, number of cows, withdrawals and additions of shippers, etc., are discussed for each market.

McFall, Robert J. THE NEW ENGLAND DAIRY MARKET. A PRELIMINARY REPORT. U.S. Dept. Agr. Bur. of Agr. Econ., New England Res. Council on Mktg. and Food Supply, coop., 59 pp., July 1925.

Demand and supply; production; movement to market; marketing agencies; bargaining associations; price systems; price comparisons.

McFall, Robert J. THE MILK SUPPLY OF MASSACHUSETTS. Mass. Agr. Expt. Sta. Bul. 236, p. 123-135, May 1927.

Quantity of milk and cream used in Massachusetts annually, the sources of supply, the percentage of different feeds used in producing milk, and the net thermal equivalent of each hundredweight of all grains in the New England States, and the feed units, home-grown and shipped in, used per hundredweight of milk produced in the several States. Consumption and sources of supply in Springfield and the surrounding area which city retail distributors serve.

McPherson, W. K. and Robert F. Luckey, Jr. SOME TRENDS AND CHARACTERISTICS OF THE DAIRY INDUSTRY IN FLORIDA. Fla. Agr. Expt. Sta. Bul. 539, 32 pp., Mar. 1954.

Production from 1940; utilization; supply areas; milk marketing and production problems in Glades and Hendry counties.

Mead, Elwood. PROGRESS REPORT ON THE PRODUCTION AND DISTRIBUTION OF MILK. Calif. Agr. Expt. Sta. Cir. 175, 16 pp., Oct. 1917.

Description of marketing methods in several California markets. Costs of production and distribution; consumer prices; wasteful distribution practices.

Meenen, H. J. SUPPLY AND UTILIZATION OF MILK SOLD IN ARKANSAS. Ark. Agr. Expt. Sta. Bul. 524, 61 pp., June 1952.

Number and location of plants, 1949; seasonality of supply and utilization intra- and inter-market movement; prices to producers.

Metzger, Homer B. SUPPLY AND DISPOSITION OF MILK IN LOCAL MAINE MARKETS. Maine Agr. Expt. Sta. Bul. 564, 35 pp., Oct. 1957.

Monthly receipts and disposition of 30 fluid milk plants, 1954.

Miles, J. F. THE SUPPLY AND UTILIZATION OF MILK IN THE THREE PRINCIPAL SOUTH CAROLINA MILK MARKETS--CHARLESTON, COLUMBIA, GREENVILLE. S. C. Agr. Expt. Sta. Bul. 394, 47 pp., June 1951.

Number of handlers and sub-dealers; supply and seasonal variation; consumption; methods of distribution.

- Miles, J. F. THE SUPPLY AND DISTRIBUTION OF MILK BY DISTRIBUTORS AND PRODUCER-DISTRIBUTORS IN SOUTH CAROLINA. S.C. Agr. Expt. Sta. Bul. 504, 20 pp., Dec. 1962.
Milk supplies and distribution by market areas; home delivery.
- Mortenson, W. P. AN ECONOMIC STUDY OF THE MILWAUKEE MILK MARKET. Wis. Agr. Expt. Sta. Res. Bul. 113, 56 pp., 1932.
The market conditions, transportation problems, surplus and emergency milk, seasonal variation in production, the relation of production to temperature, the variation in consumption, cooperation among producers, and the health department regulations and activities are discussed. The Milwaukee price plan is a combination. Milk is divided into two classes according to use: The price of milk used for fluid is bargained upon, while the price of milk used for manufacturing is based on a butter-cheese-skim milk formula. All milk in excess of 145 percent of the individual producers' basic quota goes at the manufacturing milk price. An individual handler type pool is used.
- Nageotte, Guy J., et al. LOOKING INTO THE FLUID MILK AND ICE CREAM INDUSTRY IN VIRGINIA. Va. Dept. of Agr. and Va. Agr. Ext. Serv., Va. Joint Agr. Pub. 3, 51 pp., June 1960.
Survey of Grade A dairy plants serving Virginia, 91 in Virginia, 15 in nearby areas. Procurement, storage, processing, distribution, promotion.
- North, Charles E., Chairman. REPORT OF THE MAYOR'S COMMITTEE ON MILK, CITY OF NEW YORK. 85 pp. December 1917.
Prices; margins; consumption; cost of distribution; market prices and price fixing; economies in production and distribution.
- Norton, L. J. and Leland Spencer. A PRELIMINARY SURVEY OF MILK MARKETING IN NEW YORK. Cornell Univ. Agr. Expt. Sta. Bul. 445, 55 pp., 1925.
Deals with the milk-shipping area, the supply of market milk, the processing of market milk, the process of marketing fluid milk, and cooperative organization in the New York territory.
- Pritchard, Norris T. THE INDIANAPOLIS MILK MARKET. Purdue Univ. Agr. Expt. Sta. Bul. 554, 44 pp., Aug. 1950.
Demand; supply; seasonality of production; market structure.
- Quintus, P. E. AN ECONOMIC ANALYSIS OF THE TWIN CITY MARKET. Univ. of Minn., Ph. D. thesis, 1934.
- Reed, Alex and R. W. Bartlett. PRODUCTION AND UTILIZATION OF MILK IN 16 SOUTHERN ILLINOIS COUNTIES. HISTORICAL DEVELOPMENTS AND FUTURE POSSIBILITIES. Ill. Agr. Expt. Sta. Bul. 596, 24 pp., Dec. 1955.
Physical and economic characteristics of the area; milk production, consumption, utilization.
- Ross, H. A. THE MARKETING OF MILK IN THE CHICAGO DAIRY DISTRICT. Ill. Agr. Expt. Sta. Bul. 269, pp. 461-540., June 1925.
Production, consumption, problem of surplus milk, course of milk prices. Retail prices on routes, milk and cream, 1902-1923. Prices paid by dealers at country plants, 1907-1924.
- Ross, H. A. THE SUPPLY SIDE OF THE NEW YORK MILK MARKET. Cornell Univ. Agr. Expt. Sta. Bul. 527, 151 pp., Sept. 1931.
Detailed analysis is made of the quality of milk received, seasonal production, seasonal surplus, geographic production, production by freight zones, and production along various railroads. Using 1927 data and also data from 15,217 approved grade A and grade B farms for the period 1922-28, analysis is made of the seasonal variations in the fat content of milk sold to the different types of plants and of that produced by summer, winter, and intermediate dairies. Using data for the years 1922-30 from 250 milk plants receiving delivery from approximately 15,000 farms and data for 1908-30 from 45 plants receiving approved grades A and B milk, production, both total and seasonal, is analyzed.
- Rowe, Gordon A. CHANGES IN MILK UTILIZATION, PORTLAND MILKSHED, 1940-50. Oreg. Agr. Expt. Sta. Cir. of Inform. 512, 12 pp., June 1952.
Describes the changes in milk utilization in the Portland milkshed caused by the rapid population increase during 1940-50. The growth of population exceeded expansion in milk production, resulting in the sale of a greater proportion of milk for fluid milk and ice cream. This required extension of milksheds, changes in the pattern of farm marketing, and adjustments in the location of manufacturing facilities.

- Scanlan, John J. AN ECONOMIC STUDY OF THE TRANSPORTATION OF MILK IN THE PHILADELPHIA MILKSHED IN RELATION TO THE OPERATIONS OF THE INTER-STATE MILK PRODUCERS' ASSOCIATION, INC. U.S. Farm Credit Admin. Bul. 13, 151 pp., Apr. 1937.
Railroad and truck facilities; growth and decline of receiving stations; local hauling, including charges and costs; hauling from receiving stations to Philadelphia, including charges and costs; direct hauling; reorganization of milk assembly; cooperative milk hauling.
- Scholl, C. A. and W. O. Hedrick. THE LANSING FOOD SURVEY. Mich. Agr. Expt. Sta. Tech. Bul. 107, 152 pp., Nov. 1930.
Marketing machinery for milk and dairy products. In 1927, 5 distributors and 5 producer-distributors supplied Lansing. Two largest distributors are a national firm and a cooperative stock organization with 77 percent of milk distributed. Sources of butter and ice cream.
- Schoenfeld, William A. SOME ECONOMIC ASPECTS OF THE MARKETING OF MILK AND CREAM IN NEW ENGLAND. U.S. Dept. Agr. Cir. 16, 73 pp., Oct. 1927.
Assembly and movement of milk to market; freight rates. Pooling and pricing plans. Retail prices and margins: Boston, up to 1921, no store differential. In 1922, one chain offered milk at 10 cents per quart, $3\frac{1}{2}$ cents under the delivered price. Other chains responded by adding milk to their lines at similar prices. Home delivery prices came down. Store Differential: averaged 3.4 cents 1922; 1923-26 2.3-2.8 cents (annual averages) January-June 1927, 2 cents. June 1927: 12 percent of retail milk volume through stores at 2 cents differential.
- Sherman, R. W. and C. G. McBride. A MARKET ANALYSIS OF FARM SALE OF MILK TO DEALERS IN FOUR OHIO CITIES. Ohio Agr. Expt. Sta. Bul. 498, 37 pp., Feb. 1932.
Economic factors affecting market milk which may be dealt with through analysis of producer sales by months. Included are 303 producers in Cincinnati and 511 to 802 producers in Canton for 1925-29, 708 to 908 producers in Dayton for 1926-29, and 400 producers in Columbus for 1927-29. The first phase of the study was made to determine the significance of butterfat content as a market factor, and the second phase to ascertain average daily farm sales by months.
- Spencer, Leland. AN ECONOMIC SURVEY OF THE LOS ANGELES MILK MARKET. Calif. Agr. Expt. Sta. Bul. 513, 106 pp., 1931.
Consumption of milk and cream, grades and sanitary control, supply and utilization of milk, cream, and skim milk, sources of milk fat in ice cream, distribution; prices, and margins. transportation of milk and cream, dairymen's organizations and the Cooperative Dairy Products Association.
- Stelly, Randall and Kenneth McKinney. TRENDS IN THE SALE OF MILK IN NORTH TEXAS. Tex. Agr. Expt. Sta. MP-287, 12 pp., July 1958.
Trends in sales of various Class I products and in containers, 1951-57; seasonal variation; wholesale-retail sales.
- Stelly, Randall and Kenneth McKinney. UTILIZATION OF MILK IN SAN ANTONIO AND CENTRAL WEST TEXAS. Tex. Agr. Expt. Sta. MP-388, 13 pp., Nov. 1959.
Trend and seasonal patterns in sales of various fluid products, containers. 1952-58.
- Stelly, R. and Sitton, B. SUPPLY AND UTILIZATION OF BUTTERFAT AND SOLIDS-NOT-FAT IN AUSTIN-WACO, CORPUS CHRISTI AND SAN ANTONIO MILK MARKETING AREAS. Tex. Agr. Expt. Sta. MP-554, 11 pp., Jan. 1962.
Butterfat and solids-not-fat delivered by producers, 1952-59; utilization of various Class I products; trends in Class I solids-not-fat supply and utilization; pricing formulas.
- Tedford, J. R. and F. R. Taylor. FLUID MILK UTILIZATION AND DISPOSITION, RHODE ISLAND, 1950-51. R.I. Agr. Expt. Sta. Bul. 318, 41 pp., Mar. 1954.
- Tennant, J. L. NEWPORT CITY MILK MARKET. R.I. Agr. Expt. Sta. Bul. 292, 35 pp., May 1944.
Demand; milk receipts; sales by classes; prices; health regulations.
- Tennant, J. L. THE PROVIDENCE MILK MARKET. R.I. Agr. Expt. Sta. Bul. 301, 54 pp., Dec. 1947.
Market area; supply sources and receipts; sales of Class I and surplus milk; canned milk; milk assembly; payments to producers; production costs and supply; margins to dealers for milk and cream.

- Tetro, Robert C., J. R. Hanson, and P. L. Miller. STATEMENT CONCERNING THE LOUISVILLE MILK MARKET AND A PROPOSED MARKETING AGREEMENT AND ORDER. U.S. Dept. Agr. Div. of Mktg. and Mktg. Agreements, Dairy Sect. 147 pp., Jan. 1940. Prices and margins, 1922-1939. Organization of market; classification; price levels; supply conditions; utilization of milk, June 1934-39.
- Thomsen, F. L. MARKETING MILK IN SIX CITIES OF KANSAS. Kansas Agr. Expt. Sta. Bul. 230, 32 pp., 1923. Milk supply of these cities usually produced on nearby farms. Quality of the market milk tested, the demand, the marketing processes, and the cost. More adequate inspection and grading were deemed necessary, and it was held that more efficient methods of delivery, as through producer or distributor cooperatives, should be developed.
- Tinley, J. M. AN ANALYSIS OF THE FRESNO MILK MARKET. Calif. Agr. Expt. Sta. Bul. 559, 59 pp., 1933. Consumption, sanitary requirements, production, and buying prices of market milk; the system of distribution, the number and capacity of distributing plants, distributors' margins, expenditures and incomes, methods and costs of delivery, retail store margins, and the problems in distribution.
- Tinley, J. M. and M. N. Blank. AN ANALYSIS OF THE EAST BAY MILK MARKET. Calif. Agr. Expt. Sta. Bul. 534, 1932, 110 pp. Demand for market milk, quality of such milk, sanitary regulations, the supply area, buying prices and their relation to production, transportation to city plants, distribution of milk, distributors' margins, and the methods for establishing prices.
- Tipton, E. Linwood and Stephen F. Whitted. MISSOURI DAIRY MARKETS. PART II. SOUTHEAST. Mo. Agr. Expt. Sta. Res. Bul. 674B, July 1958, 39 pp. Potential milk supply; relation to the industry of the State, characteristics of the area milk supply; markets for finished products; existing plants--capacity and ownership.
- Ulrey, Orion. THE KALAMAZOO MILK MARKET. Mich. Agr. Expt. Sta. Spec. Bul. 300, 44 pp., 1939. The Kalamazoo milk market was relatively stable, compared with most other Michigan milk markets in 1927-38. Describes the facilities, institutions, and marketing practices in sections dealing with distributive channels and competition, and production and utilization of milk in the area; inspection of quality of milk; the Kalamazoo Milk Producers Cooperative--its organization, control, management, financing, operations, functions, and accomplishments; distributors; distribution for welfare and schools; the Federal marketing agreement and license; and milk prices and price plans.
- Ulrey, Orion. MARKETING OF MILK PRODUCTS IN LENAWEE COUNTY, MICHIGAN. Mich. Agr. Expt. Sta. Spec. Bul. 310, 42 pp., 1941. Describes County milk production and its trends; consumption on farm, in urban areas, and for manufactured products; utilization by dairy plants; marketing outlets for fluid milk and butterfat and for manufactured milk; delivery to dairy plants and the central market outlets; inspection of milk and cream by different cities; and the organization and functions of the Michigan Producers Dairy Company; local and interregional competition for milk; local hauling routes and rates; prices and quality of milk; and inspection.
- U.S. Department of Agriculture. MILK MARKETING IN MASSACHUSETTS SECONDARY MARKETS. PART I. SPRINGFIELD, 27 pp., Nov. 1945. WORCHESTER, 29 pp., Nov. 1945. PART III, LOWELL-LAWRENCE, 26 pp., Jan. 1946. PART IV, FALL RIVER, 26 pp., Feb. 1946. PART V, NEW BEDFORD, 26 pp., Jan. 1946. PART VI, FIVE MARKET SUMMARY, Mar. 1946. 44 pp. U.S. Prod. and Mktg. Admin., Bur. of Agr. Econ., New England Res. Council on Mktg. and Food Supply, and Mass. Agr. Expt. Sta., coop. Numbers, types, and sizes of producers and handlers; seasonality of production; sales of Class I milk per capita milk consumption; balance of receipts and disposition; prices and subsidy rates.
- U.S. Department of Agriculture. THE PHILADELPHIA MILK SUPPLY. Prod. and Mktg. Admin., 100 pp., July 1950. The circumstances surrounding unwillingness of a number of handlers in the Philadelphia market to handle surplus milk during the flush production months. Five factors contributing to this situation are analyzed. Supplies from plants qualifying as producer milk plants were inadequate during the fall from 1943-47 to meet fluid milk needs in Philadelphia.

- Vernon, J. J. and R. S. Kifer. THE MARKET FOR MILK IN RICHMOND, VIRGINIA. Va. Agr. Expt. Sta. Bul. 263, 15 pp., 1928.
Production of milk in the territory supplying Richmond and Richmond consumption. The increases from 1922 to 1926 in the different items investigated were population, number of milk producers, milk purchased by distributors, milk sold by distributors, surplus milk, and per capita consumption of whole milk.
- Waite, Warren C. DISTRIBUTION OF MILK IN THE TWIN CITIES. In H. B. Price, ed., THE MARKETING OF FARM PRODUCTS. STUDIES IN THE ORGANIZATION OF THE TWIN CITIES MARKET. pp. 320-345, 1927, Univ. of Minn. Press.
Until 1894, almost all milk came from producer-dealers. First company incorporated in 1894. Twin Cities Milk Producers Association supplies about 75 percent of milk; operation and payment methods of association. Size distribution of distributors in each city; costs of one distributor; public regulation.
- Walker, S. A. and M. V. Waananen. SUMMARY OF MILK MARKETING INFORMATION FOR EASTERN WASHINGTON AND NORTHERN IDAHO. Wash. Agr. Expt. Stas., Cir. 269, May 1955, 26 pp. Also, Supplement, SUMMARY OF MILK MARKETING INFORMATION FOR THREE DAIRY PLANTS IN OKANOGAN VALLEY.
Tabular data on milk production, utilization, and prices, Spokane market, 1950-55. Number of Spokane milk plants, 1950-55.
- Wallace, L. K. and P. L. Miller. STATEMENT CONCERNING THE CHICAGO MILK MARKET AND THE PROPOSED MARKETING AGREEMENT AND ORDER. U.S. Dept. Agr. Div. of Mktg. and Mktg. Agreements, Dairy Sect., 133 pp., July 1939.
Price structure and history, and supply and demand conditions. Most of the best data from H. Trelogan's Ph.D. thesis, Univ. Minn., 1938. An Economic Analysis of the Chicago Milk Market, which uses 1934-35 data under the license.
- Weld, I. C. THE DAIRY INDUSTRY IN NEW HAMPSHIRE. N.H. Agr. Expt. Sta. Bul. 120, pp. 71-80., Sept. 1905.
History; number and location of plants by type; transportation to Boston.
- West, George A. and Leland Spencer. THE SALES AND SUPPLY OF MILK AND CREAM IN ROCHESTER, 1933, Farm Econ. Cornell Univ., No. 86, pp. 2095-6, June 1934.
Volume sold by type of milk and cream; method of distribution; supply from farmers and country plants.
- West, George A. and Leland Spencer. THE SUPPLY AND SALES OF MILK AND CREAM IN ROCHESTER, N.Y., 1930-36. Cornell Univ. Farm Econ. 101: 2480-2484, May 1937.
Number of farms under Rochester's inspection, the average daily supply of milk and cream, the average daily sales of dealers selling and quantity of special milk products sold all in November of each year; number of dealers selling each grade of milk and cream, and the daily consumption of milk and cream per capita in Rochester.
- Whitaker, George M. THE MILK SUPPLY OF BOSTON, NEW YORK, AND PHILADELPHIA. U.S. Dept. Agr. Bur. of Anim. Indus. Bul. 81, 62 pp., 1905.
For each market, methods and practices from farm to consumer.
- Whitaker, George M. THE MILK SUPPLY OF CHICAGO AND WASHINGTON. U.S. Dept. Agr. Bur. of Anim. Indus. Bul. 138, 40 pp., 1911.
Amount and source of supply; transportation and freight; methods of handling milk; dealers', producers, and labor organizations; wholesale and retail prices; official inspection.

ASSEMBLY, PROCUREMENT

- Alexander, W. H. WARTIME PRODUCTION AND TRANSPORTATION OF MILK IN THE SHREVEPORT AREA OF LOUISIANA. La. Agr. Expt. Sta. Bul. 378, 22 pp., May 1944.
Data for the year ended April 1943 were secured by interviews with 155 dairy farmers. Analysis are made of the location and size of the dairy business, number and types of routes, condition and utilization of trucks, organization of routes, factors relating to sustaining the production-feed situation, prices and subsidies, butterfat tests, and dairy farmer organization. Recommendations are made for improving the practices, routes, etc.

Bartlett, R. W. TRANSPORTATION OF MILK IN THE ST. LOUIS MILKSHED. Jour. Farm Econ. 18: pp. 352-362, May 1936.

Scope of information obtained; recent changes in methods of transporting milk; present methods of hauling milk; equipment used for hauling milk; types of roads in hauling routes; hauling costs to farmers and distributors; and opportunity for savings and greater economic stability in transportation system - reducing mileage and increasing volume per load, increasing hauling efficiency through more even production of milk, and possible savings in transportation costs by delivering more milk to country plants.

Bartlett, R. W. and W. F. Caskey. MILK TRANSPORTATION PROBLEMS IN THE ST. LOUIS MILKSHED, WITH SUGGESTED SOLUTIONS. Ill. Agr. Expt. Sta. Bul. 430, pp. 423-470, 1937. Production of milk, types and length of hauling routes, costs of transportation, costs of operating milk trucks, etc. Ways of reducing hauling costs and other costs are discussed and recommendations made as to methods of solving some of the transportation problems of the milkshed.

Eautwell, Wallace K. COST FUNCTIONS FOR MILK ASSEMBLY. N.C. State Col. M.S. thesis.

Bressler, R. G. and D. O. Hammerberg. EFFICIENCY OF MILK MARKETING IN CONNECTICUT. 3. ECONOMIES OF THE ASSEMBLY OF MILK. Storrs (Conn.) Agr. Expt. Sta. Bul. 239, 53 pp., 1942.

The effects of such factors as length of route and size of truck and load on cost of operating milk collecting routes were determined. The conclusion was reached that the existing system of milk collection is not only inefficient but is exacting excessive profits from milk producers. With efficient organization, the payments for the assembly of milk could be reduced about one-third. This would mean an increase in the annual incomes of the wholesale milk producers of Connecticut of approximately \$250,000.

Bressler, R. G., Jr. TRANSPORTATION AND COUNTRY ASSEMBLY OF MILK. Cornell Univ. Farm Econ. 22: 220-224, Feb. 1940.

Three phases of country assembly of milk are considered: Farm collection and transportation to country plants, country plant operation, and plant to market transportation. The object of the analysis is to determine the most economical combination of these three elements, or to discover the optimum size of plant, of plant production area, and of transportation.

Brown, A. A. and J. E. Donley. MILK CARTAGE IN THE SOUTHWICK-AGAWAM AREA OF THE SPRINGFIELD MILKSHED. Mass. Agr. Expt. Sta. Bul. 363, 26 pp., May 1939.

Analyzes milk cartage rates in the area for 1935 and suggests a reorganization of rate structure based on distance from market and farm location.

Collins, M. A. REDUCING MILEAGE IN MILK ASSEMBLY IN THE STATE OF VERMONT. Vt. Agr. Expt. Sta., 19 pp., Feb. 1943.

Survey of milk assembly, 1942; methods of reducing mileage.

Cotton, W. P. MILK HAULING RATES AND PROBLEMS IN NORTH CAROLINA. N.C. Agr. Expt. Sta. A.E. Inf. Ser. 28, 62 pp., Dec. 1950.

Characteristics of 364 milk collection routes were studied, including methods and frequency of assembly, ownership, type, age, and size of trucks, types of roads traveled, length of routes, number of patrons and volume per patron, hauling rates charged, and interplant transportation charges. Conditions were appraised in terms of time required per hundred-weight, extent of route duplications, and of unnecessary hauling. Rates and charges were appraised in relation to returns.

Cowden, J. M. FARM-TO-PLANT MILK HAULING PRACTICES OF DAIRY COOPERATIVES. U.S. Farm Credit Admin. Bul. 69, 63 pp., May 1952.

Milk routes, haulers, mileage traveled by trucks per day, miles of route per patron, charges to patrons, methods of determining hauling rates, volume of milk hauled per mile, and various practices used by cooperatives to increase efficiency and reduce costs.

Dow, George F. AN ECONOMIC STUDY OF THE COLLECTION OF MILK AND CREAM IN MAINE. Maine Agr. Expt. Sta., Bul. 373, pp. 109-145, Aug. 1934.

Important changes in the collection of milk and cream in Maine, 1928-32, and an analysis of the factors that affected the cost of collection during 1930-31. The data for 1928 were based on records of 6,580 dairymen who delivered milk or cream to the larger dairy dealers in Maine. The information for 1930-31 was secured from 1,802 dairymen.

- Dow, George F. COSTS AND RETURNS IN OPERATING MILK AND CREAM COLLECTION ROUTES IN MAINE. Maine Agr. Expt. Sta. Bul. 374, Sept. pp. 147-190, 1934.
Survey of 90 collectors in Maine, including 44 which hauled only milk, 26 which hauled only cream, and 20 which hauled both. The cost of operating motortrucks, the relation to truck cost of miles traveled and size of truck, costs and returns of collection, comparison between milk and cream routes, volume collected per trip, frequency of collection, utilization of time required, and distance covered per trip, and condition of roads are discussed.
- Dow, George F. COUNTRY ASSEMBLY OF MILK IN MAINE FOR SHIPMENT TO BOSTON DEALERS. Maine Agr. Expt. Sta. Misc. Pub. 570, Jan. 1943.
Summary of information from earlier studies and unpublished data for 1939. For use in making assembly and movement of milk more efficient.
- Grigsby, R. M. and R. A. Ballinger. HAULING MILK TO RECEIVING STATIONS IN THE NEW ORLEANS MILKSHED, MARCH 1942. La. Agr. Expt. Sta. Mimeo Cir. 28, 17 pp., July 1942.
Description of the existing assembly system and recommendations for reorganization of routes.
- Hammerberg, D. O. and W. G. Sullivan. AN ECONOMIC ANALYSIS OF THE CHARGES FOR TRANSPORTING MILK TO CONNECTICUT MARKETS, A PRELIMINARY REPORT ON THE PROJECT "SUPPLY AND TRANSPORTATION OF MILK IN CONNECTICUT." Storrs (Conn.) Agr. Expt. Sta. 26 pp., 1937.
Based upon records on 237 routes supplying milk dealers in the important milk-consuming areas in Connecticut. Results show that rates charged by distributors were higher than those of independent truckers and that route revision was needed. Establishment of prices for milk at farms rather than at markets would not solve the rate problem. Control of transportation and transportation rates by associations of milk producers was suggested as a solution to the problems involved.
- Hammerberg, D. O. and W. G. Sullivan. EFFICIENCY OF MILK MARKETING IN CONNECTICUT. 2. THE TRANSPORTATION OF MILK. Storrs (Conn.) Agr. Expt. Sta. Bul. 238, 29 pp., 1942.
The organization of milk transportation involved many inefficiencies, charges for transportation services did not reflect costs of performing the services, and monopolies existed. There was a preponderance of small trucks, excessive truck capacity, and extensive overlapping and duplication of routes. Dealers' control of transportation, as purchasers of the milk, apparently leads not only to excessive costs and inefficiencies but to monopolistic profits. In 1936, dealer-haulers charged an average of 9 percent more than independent haulers on routes similar in distance and volume.
- Hand, P. E. and C. W. Pierce. COST STUDIES OF RECEIVING AND TRANSPORTING MARKET IN THE PHILADELPHIA AREA. Pa. Agr. Expt. Sta. A.E. and R.S. 6, 21 pp., Aug. 1956.
Cost in 1954-55 of handling milk at selected country receiving stations to the Philadelphia market, the cost of receiving bulk milk from country receiving stations at city plants, and the cost of receiving milk shipped directly from farmers to city plants. Breakdown of plant operation costs.
- Holmes, J. C., H. C. Woodworth and W. Bredo. THE COLEBROOK PLAN: FOUR YEARS LATER. N.H. Agr. Expt. Sta. Agr. Econ. Res. Monog. 1, 12 pp., Mar. 1947.
The plan reorganized milk assembly in 1943 to conserve fuel and trucking equipment. This study reviews developments of milk assembly in the Colebrook milkshed, 1942-46, including the year after the wartime controls were eliminated.
- Johnson, S. and W. F. Henry. FORMULAS FOR ADJUSTING MILK TRANSPORTATION RATES. Storrs (Conn.) Agr. Expt. Sta. Bul. 274, 34 pp., Mar. 1951.
Provides a basis for adjusting hauling rates after an initial schedule, with appropriate differences among producers, is decided upon. Sections are devoted to the relative importance of various cost items in hauling milk, the effect of volume of milk deliveries on hauling costs, and hauling rates resulting from use of a suggested formula.
- Johnson, S. and G. K. Brinegar. ECONOMIC ANALYSIS OF THE MILK-HAULING-RATE STRUCTURE FOR MEMBERS OF A PRODUCERS' COOPERATIVE. Storrs (Conn.) Agr. Expt. Sta. Bul. 353, 20 pp., June 1960.
Hauling rate structure based on distance, volume, plus a stop charge for daily pick-up and a Grade A and Golden Guernsey differential.
- Kahlor, Karl Myron. TRANSPORTATION OF MILK IN THE CLEVELAND AREA. Ohio State Univ. M.S. thesis, 1938.

Kutish, I. John. REGULATIONS ON WEIGHT OF MOTORTRUCKS. PROBLEMS ILLUSTRATED BY WISCONSIN'S EXPERIENCE IN HAULING FLUID DAIRY PRODUCTS. U.S. Dept. Agr., Mktg. Res. Rpt. 28, Wis. Agr. Expt. Sta. coop., 49 pp., Nov. 1952.
Weight restrictions on trucks and changes.

LaFerney, Preston E. COSTS OF ASSEMBLING FLUID GRADE MILK IN THE CENTRAL ARKANSAS MARKET. Univ. Ark., M.S. thesis, 1960.

Larson, Adlowe L. MILK TRANSPORTATION IN THE STILLWATER AREA. Okla. Agr. Expt. Sta. Bul. B-265, 8 pp., Mar. 1943.

323 cans of milk per day from 190 patrons were handled on 11 truck routes, on which trucks traveled 391 miles. 25 individuals hauled 97 cans from 29 patrons per day and 216 miles. A suggested route plan is presented; it provided for adding isolated haulers to present truck routes and the forming of 1 new truck route. It would increase the daily mileage of truck routes 37 miles, and eliminate the 216 miles traveled by individual haulers. The reduction of 179 miles of travel per day would result in yearly savings of 65,335 miles of travel and about \$7,600 for truck costs and labor.

Luebke, B. H. et al. COLLECTION OF MILK FROM FARMS, KNOXVILLE MILKSHED AREA. Tenn. Agr. Expt. Sta. Monog. 162, 40 pp., Dec. 1943.

This study progress toward an efficient collection system to find chances for further economies. The conditions affecting milk collection in the milkshed, collection methods, contracts and rates, hauling charges in relation to service rendered, equipment used, efficiency of collection methods, overlapping of routes, and the opportunities for reducing hauling costs and for savings to self-haulers are discussed.

Luebke, B. H. and C. C. Mantle. CHANGES IN MILK COLLECTION SITUATION, KNOXVILLE MILKSHED, 1943 TO 1944. Tenn. Agr. Expt. Sta., Monog. 174, August 1944, 25 pp.

MacLeod, Alan. TRANSPORTATION OF NEW HAMPSHIRE MILK. II. REORGANIZATION OF TRUCK COSTS. N.H. Agr. Expt. Sta. Bul. 325, 23 pp., June 1940.

3 stages of reorganization of existing truck routes in south central New Hampshire and potential reductions in costs.

MacLeod, Alan. A DETAILED ANALYSIS OF POSSIBLE ECONOMIES IN THE ASSEMBLY AND DISTRIBUTION OF MILK IN NEW ENGLAND. New England Res. Council and U.S. Dept. Agr. Bur. Agr. Econ., coop., with New England Agr. Expt. Sta., 36 pp., May 1944.

Summary in next entry.

MacLeod, Alan. POSSIBLE ECONOMIES IN THE ASSEMBLY AND DISTRIBUTION OF MILK IN NEW ENGLAND. New England Res. Council on Mktg. and Food Supply, coop., with Agr. Expt. Stas. of Maine, Mass., N.H., R.I., Storrs (Conn.), and Vt. and the U.S. Dept. Agr. Bur. of Agr. Econ. 16 pp. May 1944.

Reorganization of milk collection; reduction in numbers of country plants; reorganization of shipment from country plant to city plant; direct haul assembly; reduction in numbers of small bottling plants; reorganization of milk delivery.

MacLeod, Alan, W. E. Carpenter, and J. A. Hitchcock. POSSIBLE SAVINGS IN THE ASSEMBLY OF MILK. A STUDY OF COUNTRY HAULING IN NORTHERN VERMONT. U.S. Dept. Agr., coop. with New England Res. Council and Vt. Agr. Expt. Sta., 32 pp., Nov. 1942.

This report is based on a 1941 study of 6 country plants assembling milk in Orleans County, Vt. The operations of the plants assembling milk, opportunities for conserving equipment, labor, and supplies, reorganization of the assembly system, and methods of reducing assembling costs are discussed.

MacLeod, A. and M. L. Geraghty. THE TRANSPORTATION OF NEW HAMPSHIRE MILK. I. ANALYSIS OF TRUCKING CHARGES. N.H. Agr. Expt. Sta. Bul. 307, 32 pp., June 1938.

The transportation of milk to Lancaster, N.H., surrounded by a typical Boston supply area; and to Nashua, N.H., consuming practically all milk hauled to it, is described. Using data from 86 independent and two distributor routes in the Connecticut Valley and 45 independent and 19 distributor routes in the Merrimack-Coastal area of New Hampshire, comparisons are made of routes, according to region and type of operations. Trucking charges under perfect competition are discussed. The data are analyzed to determine how far average charges on similar routes approach equality, the extent to which charges paid by producers vary with distance from market and amount of milk collected, the relationship of rates to road conditions, services rendered, etc., and the difference in rates charged by independent and by distributor truckers.

MacLeod, Alan, J. L. Tennant and W. J. Corr, Jr. TRUCKING MILK TO PROVIDENCE, RHODE ISLAND. U.S. Dept. Agr., coop., with New England Res. Council and R.I. Agr. Expt. Sta. 31 pp., March 1942.

Discusses the problems affecting milk hauling and charges in the Providence milkshed as of May 1941. Number of truck routes, size of trucks, mileage traveled per day, charges, estimated cost of operations, etc. A reorganized system of truck routes is outlined, and estimates are made of the number and size of trucks needed, mileage that would be traveled, costs, etc.

Matzen, E. H. A SURVEY OF COUNTRY MILK COLLECTION ROUTES IN THE FORT WAYNE AREA OF INDIANA. Purdue Univ. Agr. Expt. Sta., Bul. 520, 30 pp., 1947.

Study of 400 milk routes in Fort Wayne area for April 1943. Efficiency of routes measured in three ways (1) returns per hour of labor, (2) returns per truck mile, (3) the "efficiency index," a method of adjusting for variation in distance between producers and in volume of milk per producer.

McBride, C. G. THE OHIO FARMER AND HIS MILK MARKETS. Ohio Agr. Expt. Sta. Bul. 614, 50 pp., 1940.

Experiences of farmers in marketing whole milk, with emphasis upon the behavior and problems of the individual producer. Data were surveys of 3 townships, farm account records, and dealer statements. Topics include finding and holding a market, milk statements, marketing plans, and the producers' stake in transportation.

McBride, C. G. and R. W. Sherman. FARM SALES OF OHIO MILK THROUGH DIFFERENT OUTLETS. Ohio State Univ. Dept. of Rural Econ. Mimeo 131, Pt. 1, 30 pp., 1940.

Covers the Columbus area and includes Delaware, Fairfield, Franklin, Licking, Madison, Pickaway, and Union Counties. Based on a survey of all farms with three or more cows. Creameries and milk products manufacturing plants in the area are shown and changes in market outlets 1903-1940 are discussed. Data for counties and townships show number of dairy farms and milk cattle, and percentage of each by market outlet, 1939.

McBride, C. G. and T. K. Cowden. SOURCES OF MARKET MILK AND BUTTERFAT IN OHIO. Ohio Agr. Expt. Sta. Bul. 523, 38 pp., 1938.

Reports the findings (1) in a survey of the sources of milk and butterfat purchased by milk distributors and manufacturers of dairy products in the major markets of Ohio in 1931, and (2) of an analysis of Federal census data relative to milk and cream production in the State. Number of farms, by counties, under inspection by the boards of health of Cleveland, Cincinnati, Columbus, Akron, Dayton, Springfield, Toledo, Canton, Massillon, and Alliance, Ohio, and Pittsburgh, Pennsylvania; ratio of population served by milk dealers to the number of farms under board of health inspection in the eight areas. Maps and tables show the location of the uninspected farms selling milk to manufacturing plants in northern Ohio, the Swiss cheese area of the State, and distribution of farms on the basis of methods of assembling of sour cream or butterfat, location of cream stations, and predominating type of market outlet.

Mebus, W. C. PROBLEMS IN THE TRANSPORTATION OF MILK FROM FARMS TO MILK PLANTS. Miss. Agr. Expt. Sta. Bul. 382, 36 pp., 1943.

Ownership, size, condition, and use of trucks; condition of tires; variations in the length of routes; amount of milk hauled; size of loads; frequency of trips and charges on milk routes; and the quantities of milk rejected for sediment and excess acidity. Suggestions for reorganization of milk routes and for cooperation by farmers, milk plants, truckers, and the government in improving conditions.

Phillips, C. D. COLLECTION OF MILK AND CREAM FROM FARMS IN KENTUCKY. Kv. Agr. Expt. Sta. Bul. 479, 30 pp., Aug. 1945.

Survey of 769 routes, 1943; route mileage; number of patrons; size of load; opportunities for savings.

Pierce, C. W. and Carl Shafer. COST STUDIES OF RECEIVING AND TRANSPORTING MARKET MILK IN THE PHILADELPHIA AREA: FARM TO PLANT HAULING CHARGES FOR DIRECT SHIPPED MILK. Pa. Agr. Expt. Sta. A.E. & R.S. 24, 14 pp., Jan. 1960.

Survey of 32 plants receiving direct-shipped milk in the under-45 mile zone, June 1958. Receipts by can and bulk; hauling rates and distance.

Pollard, A. J. TRANSPORTATION OF MILK AND CREAM TO BOSTON. Vt. Agr. Expt. Sta. Bul. 437, 42 pp., June 1938.

Discusses the relative importance of milk and cream; describes methods of transportation and their importance, and compares their rates and services; discusses the accuracy of the reports of receipts by the U.S. Bureau of Agricultural Economics.

- Pritchard, Norris T. and William H. Cope. MILK ASSEMBLY IN THE FORT WAYNE MILK-SHED. Purdue Univ. Agr. Expt. Sta. Bul. 559, 24 pp., Feb. 1951.
Milk assembly costs; factors affecting haulers' returns; developing hauling rates; changes in hauling practices to lower costs.
- Scanlan, John J. SURVEY OF THREE MARYLAND COOPERATIVE MILK TRUCKING ASSOCIATIONS. U.S. Farm Credit Admin. Misc. Rpt. 2, 22 pp., Jan. 1935.
Three cooperatives set up specifically to haul milk for members to distributors in Baltimore; operating practices; costs; earnings; hauling charges.
- Scanlan, John J. TRANSPORTATION OF MILK IN THE PHILADELPHIA MILKSHED. U.S. Farm Credit Admin. Bul. 13, 151 pp., 1937.
Facilities for milk transportation; growth and decline of receiving stations; local hauling, including effects on producers of receiving station closures, hauling agents, charges and income, cost of operating trucks, etc; hauling from receiving stations, including volume of shipments, methods of transportation, freight rates, costs, etc.; direct hauling, including area involved, charges, costs, etc.; reorganization of assembly; and cooperative hauling.
- Sherman, R. W. COUNTRY TRANSPORTATION OF MILK IN SELECTED AREAS OF OHIO, 1942. Ohio Agr. Expt. Sta. Dept. Rural Econ. Mimeo. Bul. 165, 26 pp., 1943.
Survey in summer and fall of 1942 of the transportation of milk from farms to dealers' platforms in Columbus, Cleveland, Canton, and Portsmouth, and Carroll County. Possible savings in number of trucks, mileage, etc., through rerouting, reducing plant stops, increased size of loads, etc.
- Spencer, Leland. AN ECONOMIC STUDY OF THE COLLECTION OF MILK AT COUNTRY PLANTS IN NEW YORK. Cornell Univ. Agr. Expt. Sta. Bul. 486, 47 pp., June 1929.
Hauling distances and the amounts of milk received by types of plants, methods of hauling, and types of vehicles used for different distances hauled; summaries of distances hauled, roads, loads, cost per trip and per hundredweight of milk, etc., for individual and commercial haulers.
- Trumbower, H. R. TRANSPORTATION OF MILK BY MOTOR TRUCK. U.S. Dept. Agr., Public Roads, 5 (5): 1-18, 1924.
A survey and investigation of transportation of milk by motortruck made in Baltimore, Philadelphia, Cincinnati, Detroit, Milwaukee, St. Paul, Minneapolis, and Indianapolis in 1923, intended to determine how often motortrucks are used in bringing milk into cities over the highways. The only motortrucks operated by farmer cooperatives were in the Baltimore area, where several organizations have succeeded.
- Whitted, Stephen F. and Floyd A. Lasley. MILK ASSEMBLY IN SOUTHWEST MISSOURI. Mo. Agr. Expt. Sta. Bul. 831, 27 pp., Jan. 1965.
Duplication of procurement areas; effects of hauling rate structures on assembly; effects of different types of hauling rates; seasonal variation effects assembly operations; economies of scale in assembling milk; reorganization of milk assembly systems.
- Wilcox, Emery C. TRANSPORTATION OF WISCONSIN MILK - FARM TO MARKET. Wis. State Dept. Agr. Bul. 308, 74 pp., July-Aug. 1951.
Wisconsin dairy farming; the public highway system; the hauling of Wisconsin's milk; hauling charges and costs; other dairy products moved by truck; based on surveys in 1950 and 1951.
- Woodworth, H. C. and J. C. Holmes. THE COLEBROOK PLAN FOR MILK TRANSPORTATION. N.H. Agr. Expt. Sta. Cir. 65, 19 pp., 1943.
The formation of the local transportation committee, procedures used by the committee, and the problems considered in the organization of the plan are described. The procedures for similar reorganizations are outlined. The proposed relocation of milk routes in the Colebrook milkshed recommended under the plan and approved by the U.S. Office of Defense Transportation is presented.

Bulk Tank Assembly

- Agnew, Donald B. HOW BULK ASSEMBLY CHANGES MILK MARKETING COSTS. U.S. Dept. Agr. Mktg. Res. Rpt. 190, 91 pp., July 1957.
Advantages and disadvantages of bulk assembly of milk; changes in customary tasks, changes in ownership and control of milk collection routes, and the accompanying changes in costs. Stresses the impact of bulk milk assembly on the structure of milk marketing and milk supply.

Baum, E. L. and D. E. Pauls. A COMPARATIVE ANALYSIS OF COSTS OF FARM COLLECTION OF MILK BY CAN AND TANK IN WESTERN WASHINGTON, 1952. Wash. Agr. Expt. Sta. Tech. Bul. 10, 37 pp., May 1953.

Costs were compared in terms of tank-truck operation, investment in cans or tanks, refrigeration, time and amount of labor used, density and length of routes, daily volume of milk per shipper, and distance between shippers.

Baumer, E. F. and Dale H. Carley. BULK MILK TANKS ON OHIO FARMS. Ohio Agr. Expt. Sta. Res. Bul. 776, 28 pp., July 1956.

Costs of bulk tanks; savings on hauling rates; planning bulk routes; hauler investment and costs; quality benefits and problems.

Beal, G. M. and C. R. Twining. BULK HANDLING OF MILK IN THE WASHINGTON, D.C., MILK-SHED. Md. Agr. Expt. Sta. Misc. Pub. 176, 36 pp., June 1953.

The experiences of producers, handlers, and tank-truck owners during the first year of the system. Information is given on hauling rates, laborers' attitudes, length and condition of farm lanes, type and capacity of truck used, and mileages.

Bowring, J. R. TANK-TRUCK ASSEMBLY OF MILK FOR NEW HAMPSHIRE. N.H. Agr. Expt. Sta. Bul. 410, 24 pp., March 1954.

Advantages and disadvantages are discussed. Concluded that the greatest economies will accrue to dealers. Competition between dealers for milk and handling appear to be a necessary incentive for the many small producers and truckers to buy the new equipment.

Bowring, J. R. and K. A. Taylor. TRANSITION TO THE BULK ASSEMBLY OF MILK IN NORTHERN NEW ENGLAND. N.H. Agr. Expt. Sta., Bul. 453, 60 pp., Oct. 1958. (Under contract with U.S. Dept. Agr., Agr. Mktg. Serv.)

Describes and discusses the transition of smaller dairy farms from can to tank assembly of milk. Reaction of producers, dealers, and truckers to the changeover both in prospect and in operation is provided to guide community farm leaders and extension personnel in the development of educational programs. Special emphasis is given to the potential savings in transportation and assembly costs.

Clarke, D. A., Jr. A COMPARATIVE ANALYSIS OF THE COSTS OF OPERATING MILK COLLECTION ROUTES BY CAN AND BY TANK IN CALIFORNIA. Univ. Calif. Giannini Foundation Agr. Econ. No. 91, 46 pp., 1947.

Discusses generally the costs involved, comparative costs, trends to be expected, etc., in the increasing use of farm storage tanks and transport tankers. Variations in cost, from differences in input, are presented.

Clarke, D. A., Jr. COST RELATIONSHIPS FOR MILK COLLECTION BY CAN AND BY TANK IN CALIFORNIA. Internat. Assoc. Milk Control Agencies, Annual Mktg. 16:134-139, 1952.

Summarizes the truck costs, container expense, and labor requirements for each method, indicates improved route operation, and shows how tank improvements could further reduce costs of milk distribution.

Cowden, J. M. FARM-TO-PLANT BULK AND CAN MILK HAULING COSTS. U.S. Dept. Agr. Farmer Co-op. Serv., Serv. Rpt. 18, 56 pp., Mar. 1956.

Costs of contract haulers for 2 midwestern cooperatives during the transition to bulk hauling.

Cowden, J. M. BULK MILK HANDLING IN 1955. U.S. Dept. Agr. Farmer Co-op. Serv., Gen. Rpt. 22, 38 pp., Apr. 1956.

The extent and nature of the adoption of bulk farm-to-plant transportation of milk by March 1955. Data show ownership of bulk trucks and can trucks (by dairy and contract haulers) by regions of the United States, trucks classified by type and capacity, rates for bulk and can hauling, size of plant, number of shippers, and route operating practices.

Cowden, J. M. COMPARING BULK AND CAN MILK HAULING COSTS. U.S. Dept. Agr. Farmer Co-op. Serv. Cir. 14, 13 pp., June 1956.

Reports cost comparisons between can and bulk milk hauling operations of 2 midwestern cooperatives. Estimates significance to producers of potential cuts in hauling costs.

Fallert, Richard F. and Stephen F. Whitted. IMPACT OF NEW MILK COLLECTION SYSTEM ON ST. LOUIS DAIRY FARMERS. Mo. Agr. Expt. Sta. Res. Bul. 719, 56 pp., Dec. 1959.

Effects of bulk tank collection on investments, costs, and operations of producers in St. Louis milkshed.

- French, Charles E., James R. Strain, and Curtis H. Braschler. MARKET PLANNING FOR FARM ASSEMBLY OF MILK. Purdue Univ. Agr. Expt. Sta. Res. Bul. 747, 20 pp., Aug. 1962. Purdue Univ. Agr. Expt. Sta. Res. Bul. 747, 20 pp., Aug. 1962. Case study of bulk milk handling in Evansville, Ind. Analysis of expected consequences to producers, haulers, and processors from adoption of bulk handling methods.
- Herrmann, Louis F. and D. B. Agnew. SHIPMENT OF MILK BY BULK TANK IN THE UNITED STATES. Proceedings of the XV Interna. Dairy Cong. pp. 2010-2015, 1959. Development of bulk collection; hygienic and economic aspects; trends.
- Hotis, R. P. TRANSPORTING AND HANDLING MILK IN TANKS. U.S. Dept. Agr. Tech. Bul. 243, 24 pp., 1931. Methods and advantages of handling milk delivered to the plant in tanks, the labor and time requirements of tank delivery. And the cost of handling milk in this way. Data on 300 tank trucks, 89 trailers, and 53 tank cars were collected in 1927-29, and observations were made on 82 tank trucks, 29 tank trailer and 28 tank cars.
- Ishee, Sidney and W. L. Barr. ECONOMICS OF BULK MILK HANDLING. Penn. Agr. Expt. Sta. Bul. 631, 33 pp., Mar. 1958. Costs to dairymen of changing to bulk milk handling and added returns.
- Ishee, S. and W. L. Barr. EFFECTS OF BULK MILK ASSEMBLY ON HAULING COSTS, FARM TO PLANT. Pa. Agr. Expt. Sta. Bul. 641, 21 pp., Dec. 1958. Data for daily can and tank pickup, and alternate-day tank pickup. For similar volumes of milk, alternate-day tank collection costs for truck operation and labor were less, but required the same equipment as daily tank collection. Costs were not greatly different on routes with small shipments per producer, with large numbers of shippers, or with considerable distance between shippers.
- Kelley, Paul L. COST FUNCTIONS FOR BULK MILK ASSEMBLY IN THE WICHITA MARKET. Kans. Agr. Expt. Sta. Tech. Bul. 96, 32 pp., May 1958. Cost coefficients were provided from survey and engineering data for a $2\frac{1}{2}$ ton truck carrying a 1,700 gallon stainless steel tank. In addition, route labor and unloading time functions were computed from a time and motion study. Operating costs included depreciation insurance, tires, gasoline, oil, lubrication, and transportation taxes.
- Kelley, Paul L. ROUTE ORGANIZATION AND BULK MILK ASSEMBLY COSTS IN THE WICHITA MARKET. Kans. Agr. Expt. Sta. Agr. Econ. 82, 22 pp., July 1958. Survey of 18 haulers operating 40 bulk milk routes in July 1956, to determine route characteristics and costs for bulk milk assembly.
- McBride, Glynn. AN ANALYSIS OF THE BULK MILK HAULING RATE STRUCTURE IN LOWER MICHIGAN. Mich. Agr. Expt. Sta. Agr. Econ. 941, 32 pp., Jan. 1964. Characteristics and costs of contract haulers in Lower Michigan, Nov.-Dec. 1963.
- McKinney, K. and R. Stelly. FARM-TO-PLANT HAULING AND RECEIVING BULK MILK. Tex. Agr. Expt. Sta. Misc. Pub. 377, 11 pp., Oct. 1959. Differences in assembling and receiving milk in bulk and cans in Texas. Differences in cost of equipment and investments, changes in routes and route control, relative densities of routes and hauling rates, variations in weight of milk between the farm and the plant and methods of measuring, and problems of converting to bulk assembly.
- Miller, A. H. BULK HANDLING OF WISCONSIN MILK, FARM-TO-PLANT. Wis. Agr. Expt. Sta. Res. Bul. 192, 72 pp., Feb. 1956. Advantages, disadvantages, and economics. Bulk handling can increase the cost on most Wisconsin farms, but larger producers can cut hauling costs by alternate-day hauling. Hauling rates.
- Moore, D. S., R. Stelly, and C. A. Parker. COSTS, SAVINGS AND FINANCING BULK TANKS ON TEXAS DAIRY FARMS. Tex. Agr. Expt. Sta. Bul. 904, 11 pp., May 1958. Costs of bulk tanks to farmers; methods of financing.
- Nelson, G. T. ECONOMIC ASPECTS OF FARM TANK HANDLING OF MILK IN OREGON. Oreg. Agr. Expt. Sta. Cir. of Inform. 520, 11 pp., Feb. 1953. Costs in can and bulk tank; size of herd and costs; sanitary regulations; planning.

- Padgett, J. H. MARKETING MILK BY THE BULK TANK METHOD. Ga. Agr. Expt. Sta. Cir. N.S. 5, 25 pp., June 1956.
Attitudes of producers and comparisons of costs: 1. status of bulk handling in Georgia; 2. capital required for converting to bulk handling; 3. comparative costs of handling milk in bulk and in cans; and 4. the size of operation that could economically be changed to bulk handling.
- Roof, James B. MILK RECEIVING COSTS DURING SHIFT FROM CAN TO BULK. U.S. Dept. Agr. Farmer Co-op. Serv. Gen. Rpt. 77, 27 pp., 1960.
Analyzed receiving costs of 10 milk-receiving plants in the Chicago milkshed. Compared these costs before, during, and after conversion to bulk methods, shows the costs of changing from can to bulk, and isolates the factors associated with these changes.
- Saufley, Zack. C. AN APPRAISAL OF BULK TANK HANDLING. Univ. of Ky. M.S. thesis, 1957.
- Shafer, Carl. ECONOMIC ANALYSIS OF BULK MILK ASSEMBLY AND IMPLICATIONS FOR LONG DISTANCE DIRECT SHIPPING WITHIN THE PHILADELPHIA MILKSHED. Pa. State Univ. Ph. D. thesis, 1962.
- Sinclair, Robert O. ECONOMIC EFFECT OF BULK MILK HANDLING IN VERMONT. Vt. Agr. Expt. Sta. Bul. 581, 34 pp., June 1955.
Advantages and disadvantages to the producer; costs and savings; survey of 18 farms on one route.
- Stocker, N. PROGRESS IN FARM-TO-PLANT BULK MILK HANDLING. U.S. Dept. Agr. Farmer Co-op. Serv. Cir. 8, 53 pp., Nov. 1954.
Extent, location, and variable patterns and trends in adopting the bulk handling system in all States other than California and Florida; ownership and operation of hauling facilities, type and capacity of tanker transports, tank collection schedules, and hauling rates and differentials.
- Timms, Daniel E., T. A. Evans, and Ronald Sluyter. ECONOMIC AND LEGAL PROBLEMS OF BULK MILK HAULING IN NEBRASKA. Nebr. Agr. Expt. Sta. Dept. Agr. Econ. Rpt. 31, 41 pp., Nov. 1963.
The bulk milk hauler and his economic and legal relationships with other agencies concerned with marketing bulk milk. Includes a survey of 12 haulers.
- Waananen, M. V. and R. W. Bartlett. IMPACT OF BULK HANDLING OF MILK. Wash. Agr. Expt. Sta. Bul. 607, 34 pp., Oct. 1959.
Analyzed costs of hauling milk in cans compared with bulk tanks, effect of bulk hauling on supply areas, on seasonality of milk production, and on the volumes of milk production per producer. An appendix shows transportation cost analyses for individual markets, including farm to city plant movement.
- Waananen, M. V. and J. B. Wyckoff. SUGGESTED METHODS OF ESTABLISHING FARM BULK MILK HAULING RATES. Wash. Agr. Expt. Sta. Bul. 603, 21 pp., Apr. 1959.
Changes in costs in shifting from cans to bulk and methods of establishing cost-based rates.

Country Plants, Receiving Stations

- Aplin, R. D. COUNTRY RELOAD PLANTS FOR BULK MILK--SPECIFICATIONS AND COSTS. Cornell Univ. Agr. Expt. Sta. A.E. Res. 1, 43 pp., July 1958.
Costs in four model plants of different sizes.
- Bartlett, R. W. and W. E. Gregg. MILK MARKETING IN PENNSYLVANIA. SHIPPING STATION OPERATIONS. AN ECONOMIC ANALYSIS OF PLANT OPERATION BASED ON A STUDY OF THE RECORD OF 52 SHIPPING STATIONS IN 1925. Pa. Agr. Expt. Sta. Bul. 219, 43 pp., 1928.
Analysis of the 1925 plant operations of 52 milk-shipping stations in the territory tributary to Pittsburgh, Philadelphia, and Scranton, Pa., and New York City. Labor requirements as influenced by volume of milk handled, method of shipment, and method of refrigeration; the distribution of labor and labor costs; space requirements, cost, and distribution, equipment requirements; power requirements; processing, receiving, office, cooling, and cleaning, and other costs.

- Blanford, C. J. and M. C. Bond. STATISTICS FROM A SURVEY OF COUNTRY MILK PLANTS IN THE NEW YORK MILKSHED, 1937. Cornell Univ. Agr. Expt. Serv. A.E. 213, 32 pp., May 1938. Number of plants, capacity, management, number of producers, milk receipts, size distribution of plants, seasonality of milk receipts, distance from market, utilization of milk, co-operatives, transportation methods for milk. Survey of 754 plants, manufacturing plants and receiving stations.
- Bressler, R. G., Jr. COUNTRY DAIRY PLANTS IN NORTHERN NEW ENGLAND. New England Res. Council on Mktg. and Food Supply, in coop. with Agr. Expt. Stas. of New England and U.S. Dept. Agr. 34 pp., 1942. Plant operations in 1937: location, size, type of operation. Trends since 1920: number and size of plants, utilization of milk, type of operations. Interplant shipments in 1937. Duplication of plant services.
- Bressler, R. G., Jr. ECONOMIES OF SCALE IN THE OPERATION OF COUNTRY MILK PLANTS WITH SPECIAL REFERENCE TO NEW ENGLAND. New England Res. Council, in coop. with New England Agr. Expt. Stas. and U.S. Dept. Agr., 92 pp., June 1942. Study of the relation of decreases in unit operating costs to increases in the scale of operations under the most efficient operating conditions.
- Camburn, O. M. MILK RECEIVING STATION OPERATION IN VERMONT. Vt. Agr. Expt. Sta. Bul. 303, 38 pp., 1929. Costs and efficiency of handling milk at 13 plants during a year. The plants were divided into three groups according to their annual receipts of milk as follows: Class A, less than 5,000,000 pounds; Class B, 5,000,000 pounds; and Class C, 10,000,000 pounds and over. For each class, average valuation of land, buildings, and equipment; cost, by items and distributed to operations; and the amount of labor required for different operations.
- Carter, R. M., K. P. Brundage, and Alec Bradfield. LABOR AND EQUIPMENT USE IN MILK RECEIVING PLANTS. Vt. Agr. Expt. Sta. Bul. 563, 71 pp., Sept. 1951. Study of 12 plants in northern New England, 1948. Problems; characteristics of plants; labor use; equipment used; model plant.
- Clement, C. E. COUNTRY MILK RECEIVING AND COOLING STATIONS. U.S. Dept. Agr. Cir. 432, 59 pp., June 1937. Compared use of country stations with direct shipment; described factors affecting the choice of location; discussed quantities of milk handled, seasonal variations, time consumed in transporting milk to city markets, relation of volume handled to investment, and factors affecting operating costs.
- McKay, A. W. and F. R. Mansen. LABOR EFFICIENCY AND EQUIPMENT UTILIZATION IN MARYLAND MILK RECEIVING PLANTS. Md. Agr. Expt. Sta. Misc. Pub. 270, 28 pp., June 1956. Study of 17 of the 19 milk receiving plants in Maryland. Variations in labor and equipment and factors affecting costs.
- Pierce, C. W. and Edward F. Johnston. COUNTRY PLANT DIFFERENTIALS IN THE PITTSBURGH MILKSHED. Pa. Agr. Expt. Sta. A.E. & R.S. 1, 20 pp., Jan. 1956. Costs of country plants, 1952-53; costs of transportation to city plants; appropriate price differentials for country plants.
- Spencer, Leland. PROBLEMS IN THE LOCATION OF COUNTRY MILK PLANTS. Jour. Farm Econ. 11:313-329, 1929. In 1927, there were 1,330 milk plants in New York State; 550 shipping to New York City, 70 shipping to other cities, 75 condensereries and powder plants, 35 feeder plants, 350 cheese and butter factories, and 250 local retail plants. Study of 730 plants shipping fluid milk and cream (including some of the manufacturing plants). Plant costs, freight rates, hauling costs, eliminating nonessential plants, obstacles.
- Tucker, C. K. THE COST OF HANDLING FLUID MILK AND CREAM IN COUNTRY PLANTS. Cornell Univ. Agr. Expt. Sta. Bul. 473, 119 pp., Jan. 1929. Cost of handling fluid milk and cream in country plants and the effects of various factors upon the efficiency of operation. It is based on operation costs, product volume, labor, and other information obtained from 38 plants selling raw milk, 18 plants selecting pasteurized milk, 15 plants selling pasteurized milk in bottles, and 10 plants selling cream, for fiscal years ending in 1925. Data are tabulated and discussed, showing for each type of plant the

elementary costs-land and buildings, equipment, management and labor, fuel, and miscellaneous costs; the different intermediate costs - steam generator, ice-making operation, water supply, and general cleaning; and the distribution of these costs to the various operations.

Cream Procurement

Bender, Lyle M. A STUDY OF PRODUCTION AND MARKETING OF BUTTERFAT AND BUTTER IN SOUTH DAKOTA. M.S. thesis, S. Dak. State Col., 1937.

Erwin, C. C. and D. N. Harrington. MARKETING CREAM IN MISSOURI THROUGH COOPERATIVE BUYING STATIONS. Mo. Agr. Expt. Sta. Res. Bul. 539, 35 pp., Dec. 1953.

Study of 50 cream buying stations in Missouri, 1951. Procurement of cream by cooperative buying stations; marketing practices affecting quality of cream; marketing margins and costs of handling cream.

Felberg, Ralph O. THE ECONOMIC FEASIBILITY OF WHOLE MILK PROCUREMENT BY CREAMERIES IN EASTERN SOUTH DAKOTA. M.S. thesis, S. Dak. State Col., 1957.

McBride, C. G. and R. W. Sherman. CREAM MARKETING IN SOUTHWESTERN OHIO. Ohio Agr. Expt. Sta. Bul. 546, 28 pp., 1935.

The production of commercial butterfat and farm butter in 1919-29 and the cream assembling systems are described. Location and market outlets of cream stations, number of patrons, supplementary lines of business and tenure of operators, and of the operation of cream-truck route including types of roads, mileage, farm pick-ups of cream, weight of loads, ton-miles of cream hauling, types of commercial status, age, floor space, present and probable mileage of trucks, other businesses of truckers, and gross receipts from and rates on routes.

Olson, James L. MARKETING CREAM IN PLASTIC BAGS. S. Dak. Agr. Expt. Sta. Agr. Econ. Pam. 75, 41 pp., Sept. 1956.

Case study of procurement of cream from farms in plastic bags, including quality and costs.

Quintus, P. E. and F. Robotka. BUTTERFAT PROCUREMENT BY CREAMERIES IN BUTLER COUNTY, IOWA. Iowa Agr. Expt. Sta. Res. Bul. 265, pp. 253-302, Dec. 1939.

Areas served by individual creameries have excessive overlapping, and many creameries have too small a volume of business to operate economically.

Quintus, Paul E. COOPERATIVE CREAMERY TRUCK ROUTES IN THE UNITED STATES. U.S. Farm Credit Admin. Misc. Rpt. 52, 28 pp., Apr. 1942.

Survey of 914 cooperative creameries, including 700 operating truck routes. Operating practices; hauling charges.

Riddell, F. T. and J. T. Horner. THE MARKETING OF MICHIGAN MILK THROUGH CREAMERIES, CREAM STATIONS, CONDENSERIES AND CHEESE FACTORIES. Mich. Agr. Expt. Sta. Spec. Bul. 189, 36 pp., Feb. 1929.

Assembly, by size of plant; costs; supplies; prices.

Thomsen, F. L. and W. H. E. Reid. FACTORS INVOLVED IN BUYING MISSOURI CREAM. Mo. Agr. Expt. Sta. Res. Bul. 137, 26 pp., 1930.

The production conditions, the present developments of market outlets, and the present system of marketing butterfat in Missouri are described. The advantages and disadvantages of different market outlets for butterfat are discussed. The conditions under which each market outlet is most likely to succeed and the conditions existing in Missouri are shown.

Wilson, Lowell W. CREAM MARKETING IN KENTUCKY. M.S. thesis, Univ. Kv. 136 pp., Sept. 1956.

Youngstrom, C. O. et al. EFFICIENCY OF CREAM STATIONS IN CREAM COLLECTION. Idaho Agr. Expt. Sta., Bul. 193, 35 pp., Sept. 1932.

This study is based chiefly on information obtained from 122 cream stations in 1930. Classifies stations by distance from creameries, number per town, frequency of shipments to creamery, weekly volume of butterfat received, number of patrons, and patrons' average weekly volume of butterfat. The system of paying operators, commission rates paid, and the returns to station operators are discussed. Cost of operating 37 stations in 1929, station shortage of butterfat, the butterfat test of cream delivered, and the frequency and size of deliveries are discussed.

PROCESSING PLANTS

Fluid Milk

- Babb, E. M., Jr. CHARACTERISTICS AND PRACTICES OF MARKET MILK PLANTS IN PENNSYLVANIA. Pa. Agr. Expt. Sta., Prog. Rpt. 185, 7 pp., Jan. 1958.
Survey of 60 plants in 1957: wage rates; costs; operating practices; receipts; utilization; products processed; containers; processing equipment.
- Babb, E. M., et al. INFORMATION FOR INDIANA FLUID MILK PLANTS--NEEDS, VALUE AND CURRENT STATUS. Purdue Univ. Agr. Expt. Sta. Res. Prog. Rpt. 154, 8 pp., Nov. 1964.
Information needed to manage a dairy business in terms of their relative potential contribution to profits; current status; information collected, resources devoted to information, methods of processing.
- Barry, Goodloe, Thomas D. Reinbold, and Mark R. Enger. EVALUATION OF NEW CONTAINERS FOR SCHOOL MILK. U.S. Dept. Agr. Mktg. Res. Rpt. 407, 46 pp., June 1960.
Case studies of tetra container and 5-gallon dispenser can. Packaging costs, prices, work methods, advantages and disadvantages of new containers, compared with 1/2 pint cartons.
- Baum, E. L., R. D. Riley, and E. E. Weeks. ECONOMIES OF SCALE IN THE OPERATION OF CAN AND TANK MILK RECEIVING ROOMS, WITH SPECIAL REFERENCE TO WESTERN WASHINGTON. Wash. Agr. Expt. Sta. Tech. Bul. 12, 70 pp., May 1954.
Fixed and variable operating costs, as well as effects of plant volume and scale are analyzed for technically balanced model and receiving rooms of various sizes, which receive Grade A milk in conventional 10-gallon cans and from farm tank pick-up trucks. Data for 1953 used for estimating costs.
- Blanchard, W. H., G. McBride, and A. L. Rippen. A COST ANALYSIS OF FLUID MILK PACKAGING OPERATIONS. Mich. Agr. Expt. Sta. Tech. Bul. 285, 44 pp., Mar. 1962.
Study of 12 fluid milk plants in Southern Michigan in 1958. Description of the packaging cost centers; total daily and unit costs.
- Bowring, James R. and Aaron W. Chadbourn, Jr. COSTS AND RETURNS FOR MILK PROCESSING AND DISTRIBUTION IN NEW HAMPSHIRE, 1957. N. H. Agr. Expt. Sta. Agr. Econ. Res. Mimeo. 19, 15 pp., Jan. 1958.
Survey of costs of 20 dealers in New Hampshire.
- Bowring, James R., Herbert C. Moore, and A. W. Chadbourne, Jr. REDUCING COSTS OF PROCESSING MILK BY CONSOLIDATING OPERATIONS. N. H. Agr. Expt. Sta. Agr. Econ. Res. Mimeo. 25, Nov. 1959, 21 pp.
Costs of 10 fluid milk plants in 1957, costs for a consolidated operation, and economies from the consolidated operation of 3 New Hampshire cooperative milk dealers.
- Clement, C. E. MILK PLANT OPERATION. U.S. Dept. Agr. Bul. 973, 45 pp., June 1923.
Description of plant operations and advice for managers.
- Clement, C. E. OPERATION AND MANAGEMENT OF MILK PLANTS. U.S. Dept. Agr. Cir. 260, 51 pp., 1933.
"Basic information on the methods of operating milk plants which have proved to be satisfactory in practice, and . . . phases of management . . . directly related to successful operation." The systems used in buying milk, receiving, and pasteurizing milk, the operation of the pasteurizing and cooling equipment, bottling and capping, washing cans, milk plant sanitation, bottle losses, goods returned, disposal of surplus milk, shrinkage in handling milk at plants, checking milk through the plant, and the number of men required to operate plants of different sizes and to deliver milk are discussed.
- Clement, C. E., J. B. Bain, and Fred M. Grant. EFFECT OF PLANT ARRANGEMENT, EQUIPMENT, AND METHODS OF OPERATION IN RELATION TO BREAKAGE OF BOTTLES IN MILK PLANTS. U.S. Dept. Agr. Tech. Bul. 280, 28 pp., Jan. 1932.
Breakage of bottles with different methods.
- Clement, C. E. et al. EFFECT OF MILK-PLANT ARRANGEMENT AND METHODS OF OPERATION ON LABOR REQUIREMENTS. U.S. Dept. Agr. Tech. Bul. 153, 40 pp., Dec. 1929.
Man-minutes required for each operation by different methods.

- Conner, Maynard C., Leland Spencer, and C. W. Pierce. SPECIFICATIONS AND COSTS FOR A MILK PASTEURIZING AND BOTTLING PLANT. Northeast. Region. Pub. 16, Va. Agr. Expt. Sta., Bul. 463, 48 pp., 1953.
A model fluid milk processing plant with detailed design and cost specifications. Modifications in the original model plant to test the effect on costs of reduced volume of output, handling of surplus milk, purchase of some byproducts, and combined glass-paper operations.
- Conner, M. C., Fred C. Webster and T. R. Owens. AN ECONOMIC ANALYSIS OF MODEL PLANTS FOR PASTEURIZING AND BOTTLING MILK. Va. Agr. Expt. Sta. Bul. 484, in coop. with Cornell Univ. and Pa. Agr. Expt. Sta., 72 pp., June 1957.
Determination of effects of size of plant, volume of product, method of pasteurization, type of container, method of receiving, and number of processing days per week on costs. Four model plants.
- French, Charles E. RESEARCH PROCEDURE IN EVALUATING MILK RECEIVING LABOR IN INDIANA. Purdue Univ. Agr. Expt. Sta. Bul. 575, 24 pp., Jan. 1952.
- French, Charles E., G. B. Wood, and V. C. Manhart. LABOR UTILIZATION IN RECEIVING ROOMS OF INDIANA MILK PLANTS. Purdue Univ. Agr. Expt. Sta. Bul. 576, in coop. with U.S. Prod. and Mktg. Admin., 55 pp., July 1952.
Variation in amount of labor used in receiving rooms; reasons for variation; production standards; improved methods.
- Hackamack, Lawrence C. MANAGERIAL EFFICIENCY IN DAIRY PROCESSING PLANTS (BASED ON SELECTED SAMPLE OF MILK PROCESSING PLANTS LOCATED IN MASSACHUSETTS). Mass. Agr. Expt. Sta. 41 pp., July 1956.
Study of 31 dairy processing plants, comparing equipment investment; real estate investment; depreciation; labor efficiency and turnover; machine efficiency; unit costs; overhead rate on direct labor hours.
- Hurt, V. G. COST AND EFFICIENCY OF SELECTED MISSISSIPPI FLUID MILK PLANTS. Miss. Agr. Expt. Sta. Bul. 536, 30 pp., Aug. 1955.
Operating costs in 1952-54 are categorized and analyzed for 12 fluid milk plants. Plants selected by size and type of operation, geographical location, type of records available, and influence of other plants within the State. Average costs of management, processing, and distribution.
- Jacobson, M. A. and E. M. Babb. ANALYSIS OF A DAIRY MANAGEMENT INFORMATION SYSTEM. Purdue Univ. Agr. Expt. Sta. Res. Prog. Rpt. 165, in coop. with Econ. Res. Serv., 25 pp., Mar. 1965.
Study of four cases to determine the value of proposed system in fluid milk operations.
- Jeffrey, Arthur D. BALANCING PROBLEMS OF INDEPENDENT MILK DEALERS OPERATING SMALL AND MEDIUM SIZE PLANTS. Northeast. Region. Pub. 39, N. H. Agr. Expt. Sta. Bul. 460, 30 pp., June 1959.
Policies and methods of balancing milk supplies with fluid sales used by independent dealers and factors influencing a dealers' decision.
- Johnson, A. C., Jr., and H. B. Metzger. COSTS AND MARGINS IN HANDLING EXCESS MILK IN FLUID MILK PLANTS. Maine Agr. Expt. Sta. Bul. 569, 29 pp., Dec. 1957.
Costs and margins in 1956 in 10 local Maine plants.
- Kelly, Ernest and C. E. Clement. CITY MILK PLANTS: CONSTRUCTION AND ARRANGEMENT U.S. Dept. Agr. Bul. 849, 35 pp., 1920.
Suggestions for location, construction and internal arrangement; data secured from milk plants throughout the country on economy in labor, time, and space of different layouts and operating schemes. Emphasis is placed on sanitary requirements.
- MacLeod, Howard. APPRAISAL OF DAIRY PLANT OPERATION IN SOUTHEASTERN NORTH DAKOTA. N. Dak. State Col. M.S. thesis, 1960.
- MacPherson, D. D. MILK DISTRIBUTORS' OPERATIONS--ANALYSIS OF GROWTH, SALES DISTRIBUTION, COSTS AND PROFITS. U.S. Dept. Agr. Econ. Res. Serv. ERS-84, 62 pp., Nov. 1962.
Costs of processing and distributing fluid milk, 1952-1961.
- Metzger, Homer B. COST OF OBTAINING PASTEURIZED MILK. A COMPARISON FOR SUB-DEALERS AND SMALL PROCESSOR-DISTRIBUTORS. Maine Agr. Expt. Sta. Bul. 515, 42 pp., May 1953.
Survey, summer 1951. Twenty-seven subdealer-distributors, 25 small processor-distributors, and 17 processing plants supplying subdealers. Comparison of costs of milk when processed in own small plant or purchased from another processor.

- Metzger, Homer B. LABOR UTILIZATION IN SMALL VOLUME MILK PASTEURIZING PLANTS. Maine Agr. Expt. Sta. Mimeo. Rpt. 49, 33 pp., Dec. 1954.
Time study on labor efficiency in 8 pasteurizing plants, summer 1952.
- Mohr, Fred W. WAGE STRUCTURE, FLUID MILK INDUSTRY, APRIL-JUNE 1960. U.S. Bur. Labor Statis. BLS Rpt. 174, 37 pp., Jan. 1961.
Wages, practices, and supplementary wage provisions in 27 areas for 4 types of plant workers and routemen.
- Monroe, W. J. and S. A. Walker. AN ECONOMIC STUDY OF SMALL FLUID MILK PLANT PROBLEMS IN NORTHERN IDAHO. Idaho Agr. Expt. Sta. Bul. 255, 43 pp., Mar. 1956.
Annual data from six plants, November 1953. Operating costs and effect of increasing volume on costs analyzed for basic model plants.
- O'Connell, Paul and W. E. Snyder. COST ANALYSIS OF FLUID MILK PROCESSING AND DISTRIBUTION IN COLORADO. Colo. Agr. Expt. Sta. Tech. Bul. 86, 30 pp., 1965.
Five model plants and two model delivery routes.
- Purcell, J. C. and N. M. Penny. COST OF PROCESSING AND DISTRIBUTING MILK IN THE SOUTH. South. Coop. Ser. Bul. 45, 40 pp., June 1955.
Analyzes cost per unit in receiving, processing, distribution, and administration; processing costs (filling, containers, and supplies); cost comparisons between type of container and size of plant; relation of costs to volume. Data from 16 fluid milk plants in Georgia, Mississippi, South Carolina, and Tennessee in 1952-53.
- Scott, Robert A. LABOR UTILIZATION IN SMALL-VOLUME MILK PASTEURIZING AND BOTTLING PLANTS. Cornell Univ. Agr. Expt. Sta. Bul. A.E. 850, 37 pp., Apr. 1953.
Improving labor efficiency in 4 plants packaging 2,500 to 3,500 quarts per day.
- Snyder, James C. and Charles E. French. SELECTION OF A PRODUCT LINE FOR A FLUID MILK PLANT BY ACTIVITY ANALYSIS. Purdue Univ. Agr. Expt. Sta. Res. Bul. 667, 35 pp., Aug. 1958.
Case study in one plant on effects of different factors on maximum returns.
- Spencer, Leland. AN ECONOMIC STUDY OF THE OPERATIONS OF SIX LEADING MILK COMPANIES IN THE NEW YORK-NEW JERSEY METROPOLITAN AREA, 1941-1948. Cornell Univ. Agr. Expt. Sta. Bul. A.E. 686, 47 pp., Jan. 1949.
Sales; costs; earnings; invested capital.
- Spencer, Leland. RECENT TRENDS IN THE SALES, COSTS AND PROFITS OF MILK DEALERS IN THE NEW YORK MARKET. Cornell Univ. Agr. Expt. Sta. Bul. A.E. 774, 7 pp., Oct. 1951.
Survey of 36 dealers in New York Metropolitan area, 1946-50: sales, cost of sales, gross spread, delivery and selling expense, administration and general expense, profit. Tabulated separately for 6 large firms with both wholesale and retail routes, 15 wholesale distributors with sales over \$1 million in 1946, and 15 firms with 1946 sales of less than \$1 million.
- Stevenson, Jordan and Harrison, Inc. COMPARATIVE COST STUDY OF GLASS CONTAINERS. For Owens-Illinois Glass Company, Dairy Container Div., Toledo, Ohio, 1953.
- Strain, J. R. and S. K. Christensen. RELATIONSHIP BETWEEN PLANT SIZE AND COST OF PROCESSING FLUID MILK IN OREGON. Ore. Agr. Expt. Sta. Tech. Bul. 55, 44 pp., Nov. 1960.
Costs in 5 model plants ranging from 14,000 pounds of milk per day to 16 times as large.
- Taylor, J. C. and R. W. Brown. FLUID MILK PLANTS IN THE SOUTHEAST--METHODS, EQUIPMENT, AND LAYOUT. U.S. Dept. Agr. in coop. with Ga. Agr. Expt. Sta. Mktg. Res. Rpt. 232, 77 pp., Nov. 1958.
Determines labor and equipment requirements and costs for fluid milk plant operations with daily volume of 6,000 gallons. Improved work methods for can receiving operations reduced the cost from \$2.90 to \$2.68 per 1,000 gallons. When bulk milk is received, the cost is reduced from \$1.36 to \$1.21. Costs are reduced for both types of plant studied by approximately 3.5 percent when the low-cost combination of methods is used for handling milk. Cost for handling milk with the low-cost combination method is about 16 percent less.
- Tinley, J. M. PROBLEMS OF CREAMERY OPERATING EFFICIENCY IN CALIFORNIA. Jour. Farm Econ. 17: 732-735, 1935.
The problems of internal plant operation--particularly labor utilization and cost-accounting procedures--are discussed.

- Tinley, J. M. PLANT OPERATING EFFICIENCY IN THE MARKET MILK INDUSTRY. Jour. Farm Econ. 19:496-500, 1937.
The writer sees as the only alternative to public control, the reorganization of the fluid milk industry by elimination of excess capacity and improving industry efficiency.
- Tracy, P. H. LAYOUTS AND OPERATING CRITERIA FOR AUTOMATION OF DAIRY PLANTS PROCESSING MILK AND HALF-AND-HALF. U.S. Dept. Agr. Mktg. Res. Rpt. 568, 43 pp., Mar. 1963.
Equipment, layout, labor requirements, operating methods, and costs for plants producing 35,000 and 105,000 gallons per week.
- Tracy, P. H. LAYOUTS AND OPERATING CRITERIA FOR AUTOMATION OF DAIRY PLANTS PROCESSING MILK, HALF-AND-HALF, CREAM, CHOCOLATE DRINK, AND BUTTERMILK. U.S. Dept. Agr. Mktg. Res. Rpt. 591, 47 pp., Sept. 1963.
Model plants handling 105,000 and 35,000 gallons of milk per week.
- Vogel, Glen F. PRODUCTIVITY TRENDS IN THE CONDENSED AND EVAPORATED MILK INDUSTRY, 1935-1950. U.S. Bur. Labor Statis., May 1952.
- Walker, Scott. THE POSITION OF THE SMALL MILK PLANT TODAY. Idaho Agr. Expt. Sta. Dept. Agr. Econ. Prog. Rpt. 4, 19 pp., Jan. 1957.
Products; containers; minimum size; changes possible.
- Webster, Fred C. MILK DISTRIBUTION COSTS IN VERMONT. Vt. Agr. Expt. Sta. Misc. Pub. 7, 8 pp., Oct. 1958.
Costs of 25 Vermont milk dealers, 1957-58.
- Webster, F. C. SPECIFICATIONS AND COSTS FOR A MODERATELY SMALL MILK PASTEURIZING AND BOTTLING PLANT. Cornell Univ. Agr. Expt. Sta. A. E. 1031, 39 pp., May 1956.
Synthetic costs in a plant with daily capacity of about 5,000 quarts.
- Webster, Fred, et al. ECONOMIES OF SIZE IN FLUID MILK PROCESSING PLANTS. Vt. Agr. Expt. Sta. in coop. N. H. Agr. Expt. Sta. Bul. 636, 32 pp., June 1963.
Investment and costs in 4 model plants with daily capacity of from 6,000 to 100,000 quarts per day.
- Williams, Sheldon. W. COST AND RETURNS TO ALABAMA MILK DISTRIBUTORS. Ala. Agr. Expt. Sta. Bul. 287, 70 pp., June 1953.
Survey of 35 milk distributors for 1948 and part of 1949. Operations and sales outlets; margins; plant volume; containers; markets within and outside the State.

Manufactured Products

- Albrecht, Oscar. RESOURCE PRODUCTIVITY IN KANSAS-NEBRASKA BUTTER PLANTS. Kans. State Univ. MS. thesis, 1958.
- Babb, Emerson M. and James C. Taylor. USE OF ECONOMIC-ENGINEERING TECHNIQUES IN PLANNING ICE CREAM OPERATIONS. Purdue Univ. Agr. Ext. Serv. Mimeo. EC-240, 18 pp. June 1962.
Useful techniques on organizing production processes, mechanized or manual operations, effect of volume on costs, size of plant, product mix.
- Bakken, Henry H. AMERICAN CHEESE FACTORIES IN WISCONSIN. Wis. Agr. Expt. Sta. Res. Bul. 100, 30 pp., Aug. 1930.
Survey of 182 factories in 12 counties of the 3 principal cheese-producing sections of Wisconsin, number of patrons per plant, value of buildings and equipment, volume of milk received, distance hauled, type of ownership and management, efficiency and expenses of manufacturing, methods of paying and wages paid cheesemakers, factors affecting the yield of cheese, types of sales agreements between factories and cheese buyers, and other factors.
- Bakken, H. H. CHEESE CONTENT IN MILK. Jour. Farm Econ. 12:612-615, 1930.
Relationship between butterfat content and cheese yields of milk.
- Bakken, H. H. THE COST OF MANUFACTURING AND MARKETING EVAPORATED MILK. Rio Jour. 23 pp., 1938.
Costs cover maintenance, depreciation, taxes, rent interest, insurance, transportation, labor, power, canning materials, and supplies. A large volume of milk delivered from

400-800 farms in Wisconsin must be brought into 1 plant to keep down costs and maintain efficiency. The value added by manufacture is greater than it is for either butter or cheese. Where plants are located in seasonal milk production areas, considerable operating capital is required.

- Ballinger, Roy A. and L. C. Larkin. SWEETENERS USED BY THE DAIRY INDUSTRY. THEIR COMPETITIVE POSITION IN THE UNITED STATES. U.S. Dept. Agr. Agr. Econ. Rpt. 30, 18 pp., Apr. 1963.
Sweeteners (sugar, dextrose, and corn sirup) used in dairy products (ice cream, sweetened condensed milk, and sweetened milk products), 1952-1961.
- Black, John D. and Edward S. Guthrie. ECONOMIC ASPECTS OF CREAMERY ORGANIZATION. Minn. Agr. Expt. Sta. U.S. Bur. Agr. Econ. coop., Tech. Bul. 26, 111 pp., Dec. 1924.
Study of costs, efficiency, quality, and prices received on 102 creameries in Minnesota surveyed in 1920.
- Boles, James N. ECONOMIES OF SCALE FOR EVAPORATED MILK PLANTS IN CALIFORNIA. Calif. Agr. Expt. Sta. Hilgardia, 27(21):621-722. Oct. 1958.
Costs in six model plants.
- Bormuth, W. D. and D. B. Jones. PLANTS MANUFACTURING DAIRY PRODUCTS BY PRODUCTION-SIZE GROUPS AND GEOGRAPHIC DISTRIBUTION, 1957. U.S. Dept. Agr., Agr. Mktg. Serv. AMS-301, 20 pp., Mar. 1959.
Number of plants, by volume produced, for each State, 1957.
- Brubaker, D. D. CHEESE YIELDS. A SUMMARY OF AVAILABLE INFORMATION. U.S. Farm Credit Admin. Spec. Rpt. 124, 13 pp., July 1943.
- Butz, Dale E. and E. Fred Koller. COSTS OF DRYING MILK IN MINNESOTA PLANTS. Minn. Agr. Expt. Sta. Bul. 413, 30 pp., May 1952.
1947-48 and some 1949-50 data; milk assembly; hauling costs; manufacturing costs; physical input-output relationships; cost reduction.
- Cook, Hugh L. and LaVerne Schaller. COSTS FOR MANUFACTURING AMERICAN CHEESE IN FOUR WISCONSIN FACTORIES OF TWO-VAT SIZE, 1950. PRELIMINARY (INCLUDES 1951 SUPPLEMENT). Wis. Agr. Expt. Sta., May 1951, 16 pp.
Detailed breakdown of costs.
- Cowden, Joseph M. and Harry C. Trelogan. FLEXIBILITY OF OPERATION IN DAIRY MANUFACTURING PLANTS. U.S. Dept. Agr. Cir. 799, 40 pp., Sept. 1948.
Describes the degree of flexibility of operation within the dairy manufacturing plants of the country as they were operated in 1944. [Plants and production for one-product plants, joint-product plants, partially diversified plants, and generally diversified plants.]
- Fitzpatrick, John M. and Charles E. French. IMPACT OF SEASONALITY OF MILK SUPPLIES ON LABOR COSTS AND EFFICIENCY IN DAIRY MANUFACTURING PLANTS. Purdue Univ. Agr. Expt. Sta. U.S. Dept. Econ. Res. Serv., coop., 36 pp., Mar. 1964.
This study in 7 Indiana milk manufacturing plants, found that evening out production to process equal amounts each month at the average annual rate would reduce labor costs about 10 percent and total costs less than 1 percent. Evening out production at the peak rate would reduce labor costs about 20 percent, allowing 19 cents per hundredweight for supplemental milk procurement.
- Frazer, J. R., V. H. Nielsen, and G. W. Ladd. MANUFACTURING COSTS: WHOLE MILK CREAMERIES. Iowa Agr. Expt. Sta. Spec. Rpt. 17, 20 pp., Dec. 1956.
Costs in 4 model plants with volumes of 200,000 to 500,000 lb. per year.
- Frazer, J. R., V. H. Nielsen, and J. D. Nord. THE COST OF MANUFACTURING BUTTER. Iowa Agr. Expt. Sta. Bul. 389, pp. 783-860, June 1952.
Based on 1950 data from 13 Iowa creameries.
- Glickstein, Aaron, et al. SIMULATION PROCEDURES FOR PRODUCTION CONTROL IN AN INDIANA CHEESE PLANT. Ind. Agr. Expt. Sta., U.S. Dept. Agr. coop., Res. Bul. 757, 24 pp., Dec. 1962.
Testing the feasibility of using simulation as a decision-making tool for management of cheese plants.

- Groves, Francis W. and Truman F. Graf. AN ECONOMIC ANALYSIS OF WHEY UTILIZATION AND DISPOSAL IN WISCONSIN. Wis. Agr. Expt. Sta. Agr. Econ. 44, 61 pp., July 1965.
Survey of 590 Wisconsin cheese factories, 1962. Whey production, utilization, disposal methods, processing, marketing channels; processing costs.
- Holt, B. A. and W. B. Combs. JUDGING CREAMERY EFFICIENCY. Univ. of Minn. Agr. Expt. Sta. Bul. 231, 22 pp., Aug. 1926.
Analyzes some factors of efficiency in operating creameries with a method for judging the efficiency of individual creameries. Based on data used by J.D. Black and E.S. Guthrie (Minn. Tech. Bul. 26), revised to fit 1925 conditions. The price paid for butterfat was found to be the best test of efficiency. Costs are tabulated and analyzed.
- Homme, Henry A. ESTIMATION AND USE OF COST FUNCTIONS IN IOWA CREAMERIES. Jour. Farm Econ. XXXV(5):931-937, Dec. 1953.
Modified engineering approach.
- International Association of Ice Cream Manufacturers. TRENDS IN COSTS--ICE CREAM AND RELATED PRODUCTS--1955. Spec. Bul. 97, 29 pp., Nov. 1956., Washington, D.C.
The latest in a series on trends in ice cream costs. Includes an analysis and comparison on a district basis of the product and ingredient costs per gallon. Operating expenses are compared for 1952-55, and weighted average costs per gallon are shown from 1936-55.
- Johnson, Aaron C., Jr., Olan D. Forker, and D. A. Clarke, Jr. OPERATIONS AND COSTS OF MANUFACTURING DAIRY PRODUCTS IN CALIFORNIA. Calif. Agr. Expt. Sta. Giannini Found. Res. Rpt. 272, 72 pp., Jan. 1964.
Manufactured dairy products industry in California; number and location of plants, products manufactured; plant equipment and operating capacities, aggregate annual capacity, inter-plant transfers of milk. Costs of processing manufactured dairy products in model plants.
- Jones, W. Webster. BUTTER AND NONFAT DRY MILK PRODUCTION IN DIVERSIFIED PLANTS IN KANSAS, MISSOURI AND OKLAHOMA. U.S. Dept. Agr. Mktg. Res. Rpt. 430, 51 pp., Sept. 1960.
Analyzes methods and costs of producing butter and nonfat dry milk and procurement, processing, and distribution practices and costs.
- Juers, L. E. and E. F. Koller. COSTS OF DRYING MILK...IN SPECIALIZED DRYING PLANTS. Minn. Agr. Expt. Sta. Bul. 435, 24 pp., June 1956.
Changes in the cost of manufacturing dry milk since World War II in 18 large specialized drying plants in Minnesota. Analyzes manufacturing and packaging costs and the effect of seasonal production on costs.
- Kelley, Paul L., et al. A LINEAR PROGRAMMING MODEL OF A SURPLUS MILK PLANT. Kans. Agr. Expt. Sta. Tech. Bul. 123, 70 pp., Apr. 1962.
Designs a linear programming model of a multiproduct dairy plant, develops the necessary empirical data for the model, and determines the feasibility of management using such a model.
- Knudtson, Arvid C. and E. Fred Koller. MANUFACTURING COSTS IN MINNESOTA CREAMERIES. Minn. Agr. Expt. Sta. Bul. 442, 30 pp., June 1957.
Survey of 138 creameries in 1955. Size distribution of plants; description of operations; manufacturing costs, 1934 to 1954.
- Knudtson, Arvid C. and E. Fred Koller. PROCESSING COSTS OF WHOLE MILK CREAMERIES. Minn. Agr. Expt. Sta. Tech. Bul. 236, 51 pp., June 1960.
Economies of scale for whole milk creameries; costs in 4 model plants.
- Kolmer, Lee, Henry A. Homme, and G. W. Ladd. SPRAY DRYING COSTS IN LOW-VOLUME MILK PLANTS. Iowa Agr. Expt. Sta. Spec. Rpt. 19, 12 pp., Sept. 1957.
Costs by economic-engineering methods for 3 model plants processing up to 750 pounds per hour.
- Krieder, E. L. and J. C. Snyder. COMPUTER CONTROLS FOR ICE CREAM PRODUCTION. Purdue Univ. Agr. Expt. Sta. Res. Prog. PRpt. 94, 7 pp., Feb. 1964.
Linear programming least-cost mix.

- Lacasse, Armand and Leland Spencer. COSTS AND EFFICIENCY IN THE OPERATION OF MILK MANUFACTURING PLANTS IN THE NEW YORK-NEW JERSEY MILKSHED. Cornell Univ. Agr. Expt. Sta. A.E. Res. 26, 43 pp., Nov. 1960.
Detailed study in 8 plants whose principal products were cream and nonfat dry milk; costs; factors affecting costs; ways of increasing efficiency.
- Manning, Travis W., Ralph Felberg and R. L. Kristjanson. MILK OR CREAM--WHICH IS MORE PROFITABLE FOR SOUTH DAKOTA FARMERS AND CREAMERIES? S. Dak. Agr. Expt. Sta. Bul. 460, 27 pp., Feb. 1957.
Survey of 23 creameries in eastern South Dakota and southwestern Minnesota. Costs and returns from switching from cream to whole milk receipts.
- McAllister, C. E., and D. A. Clarke, Jr. CLASS III MILK IN THE NEW YORK MILKSHED: IV. PROCESSING MARGINS FOR MANUFACTURED DAIRY PRODUCTS. U.S. Dept. Agr. Mktg. Res. Rpt. 419, 102 pp., Aug. 1960.
Net returns from the manufacture of dairy products from Class III milk in the New York-Jersey milkshed remained relatively stable during the 10-year period studied.
- Nelson, Glen T. INPUT-OUTPUT RELATIONSHIPS IN SPECIALIZED BUTTER-POWDER AND CHEESE PLANTS. Oreg. Agr. Expt. Sta. Tech. Bul. 32, 24 pp., July 1954.
Costs in model plants of various sizes.
- Nelson, Glen T. DECIDING WHETHER TO MANUFACTURE BUTTER AND POWDER OR CHEESE. West. Region. Pub., Oreg. Agr. Expt. Sta. Bul. 546, 9 pp., Nov. 1954.
A report to aid management in making economic decisions in remodeling or building new plants, deciding market to producer.
- Owens, T. R., and D. A. Clarke, Jr. CLASS III MILK IN THE NEW YORK MILKSHED: III. COSTS OF MANUFACTURING DAIRY PRODUCTS. U.S. Dept. Agr. Mktg. Res. Rpt. 400, 57 pp., May 1960.
Costs of processing Class III milk into selected products at typical plants of three types: a receiving station, a Cheddar cheese plant, and a plant processing milk into cream and nonfat dry milk. Costs were estimated at 16.6 cents per hundredweight of milk for the receiving station and from 44.8 to 73.5 cents for manufacturing plants.
- Page, Clayton M. and Scott A. Walker. BUILDING DESIGNS FOR DAIRY PROCESSING PLANTS. Idaho Agr. Expt. Sta. Bul. 297, 27 pp., June 1953.
A summary of the principles of site selection, building flexibility, structural systems and materials, and special construction and material use problems; descriptions for floor plans and estimated building costs for 4 model butter-powder plants; descriptions of physical and maintenance characteristics for use in rating different constructions.
- Quackenbush, G. G. DAIRY PLANT DIVERSIFICATION IN MICHIGAN. Mich. Agr. Expt. Sta. Spec. Bul. 384, 22 pp., Nov. 1952.
Number and volume of different dairy plant products, Michigan, 1948.
- Reese, Robert B. SURVEY OF FRUIT AND TREE NUT USE BY FROZEN DESSERT MANUFACTURERS. U.S. Dept. Agr. Mktg. Res. Rpt. 146, 32 pp., Dec. 1956.
Amount of fruit used in frozen desserts in 1953 and projected to 1975.
- Riekens, James A. and L. C. Thomsen. COSTS OF PROCESSING, TRANSPORTING, AND DISTRIBUTING FRESH OR STERILE CONCENTRATED MILK. Wis. Agr. Expt. Sta. Res. Bul. 204, 27 pp., Mar. 1958.
Processing, and local and distant delivery costs.
- Rowe, Gordon A. ECONOMICS OF CHEESE MANUFACTURING IN TILLAMOOK COUNTY. Oreg. Agr. Expt. Sta. Bul. 529, 31 pp., Dec. 1952.
Relationship of unit cost to volume in cheese plants based on a study of 16 plants. Economies of scale in the operations of cheese plants were found but the minimum point in the long run planning curve of manufactured cost was beyond the range of volume for plants included in the study.
- Schultz, S. R. and E. F. Baumer. SHIFTS IN THE OHIO DAIRY INDUSTRY. Ohio Agr. Expt. Sta. Res. Cir. 80, 40 pp., Dec. 1959.
Shifts in milk production; relationships between the production of fluid milk and manufactured milk, 1948-58; shifts in milk manufacturing plants.

Simmons, Richard L. THE ECONOMIC FEASIBILITY OF ADDITIONAL MILK MANUFACTURING FACILITIES IN NORTH CAROLINA. N.C. Agr. Expt. Sta. A.E. Inform. Ser. 99, 45 pp., Feb. 1963.

Can a manufacturing plant operating under the economic conditions of North Carolina pay a competitive price for raw Class III milk, manufacture it, sell the products competitively, and realize a reasonable return on the capital invested?

Stelly, Randall. ECONOMICS OF MILK PRODUCTS MANUFACTURING PLANTS IN TEXAS. Tex. Agr. Expt. Sta. Bul. 883, 12 pp., Dec. 1957.

Survey of 34 dairy products manufacturing plants in 1957. Characteristics of plants, products produced; sources, volume, and price of milk supplies; distribution.

Subcommittee on Dairy Waste Disposal. AN INDUSTRIAL WASTE GUIDE TO THE MILK PROCESSING INDUSTRY. Prepared by Subcom. on Dairy Waste Disposal, Dairy Indus. Com., in coop. with the Natl. Tech. Task Com. on Indus. Wastes, U.S. Pub. Health Serv. Pub. 298, 14 pp., 1953.

Sources, quantity, and composition of wastes; pollution effects; remedial measures; utilization of dairy byproducts; waste saving and treatment.

Taylor, James C., Thomas E. Bartlett, and Charles E. French. EFFECTS OF VOLUME ON COSTS OF ICE CREAM MANUFACTURING. Purdue Univ. Agr. Expt. Sta. Res. Bul. 779, 23 pp., May 1964.

Synthetic cost study for ice cream plants with volumes from 100,000 to 500,000 gallons per year.

Taylor, James C. ICE CREAM MANUFACTURING PLANTS IN THE MIDWEST. METHODS, EQUIPMENT, AND LAYOUT. U.S. Dept. Agr. Mktg. Res. Rpt. 477, in coop with Purdue Agr. Expt. Sta., 58 pp., Oct. 1961.

Cost reductions through improved work methods and plant layout.

Thompson, Russell G. AN APPROACH TO ESTIMATING OPTIMUM SIZES OF BUTTER-POWDER PLANTS. Univ. Minn. Ph. D. thesis, 1962.

Thomsen, L. C. and R. K. Froker. PACKAGING OF BUTTER FOR RETAIL SALES. Wis. Agr. Expt. Sta. Bul. 481, 16 pp., Nov. 1948.

Costs of printing and packaging butter; protective qualities of various types of packages.

Tinley, J. M., et al. CREAMERY OPERATING EFFICIENCY IN CALIFORNIA. PART I. GENERAL INTRODUCTION. PART II. UTILIZATION OF LABOR AND LABOR COSTS. Calif. Agr. Expt. Sta. Giannini Found. Mimeo. 41, 82 pp., June 1935.

Organization, products produced; labor use and cost.

Townsend, T. W., P. L. Kelley, and A. Feyerherm. LABOR COEFFICIENTS FOR A SURPLUS MILK PLANT AS DETERMINED BY WORK SAMPLING. Kans. Agr. Expt. Sta. Tech. Bul. 122, 51 pp., May 1962.

Development of fixed and variable labor coefficients (requirements) for the basic processes in a large multiproduct dairy processing plant.

Ullyot, Lloyd L. and Harold F. Holland. CREAMERY BUSINESS ANALYSIS. Univ. Minn. Div. Agr. Econ. Bul. 322, 48 pp., Apr. 1935.

Vial, E. E. STUDY OF COSTS OF MANUFACTURING CREAM AND SKIM MILK POWDER AT NEW YORK POOL PLANTS, 1947-1950. Milk Dealers' Assoc. of Metrop. New York, Inc., 11 pp., Sept. 1953.

Costs of handling surplus milk in 7 plants operated in 1950 by members of the Association. Comparative figures for 1947-48 and 1948-49, also comparisons with other figures for New York pool plants for earlier periods (1947-49).

Walker, S. A., H. J. Preston, and G. T. Nelson. AN ECONOMIC ANALYSIS OF BUTTER-NON-FAT DRY MILK PLANTS. Idaho Agr. Expt. Sta. Res. Bul. 20, 90 pp., June 1953.

Develops 5 model spray-process butter-powder plants from data collected from a like number of real plants for 1948-49. Uses model plants to analyze relationship between costs and scale of operations and to study efficiency in the utilization of labor, equipment, and other resources. Based on detailed processing costs obtained for each of 17 functions in four broad categories: Overhead, joint operating, butter manufacturing, and powder manufacturing.

DISTRIBUTION

Fluid Milk

Abrahamsen, M.A. MILK ASSEMBLING AND DISTRIBUTION IN HARRISON COUNTY, WEST VIRGINIA. W. Va. Agr. Expt. Sta. Mimeo. Cir. 47, 30 pp., 1943.

Milk assembling and distributing; possible reorganization of these services.

Alvord, Henry E. and R. A. Pearson. THE MILK SUPPLY OF TWO HUNDRED CITIES AND TOWNS. U.S. Dept. Agr. Bul. 46, 210 pp., 1903.

Milk laws and ordinances; supervision of production and handling of milk; suggestions for the improvement of market milk; number of milk stores and milk wagons; retail price, summer and winter; milk standard.

Amott, A. L. THE MILK SUPPLY OF CHICAGO. Papers on Bacteriology and Allied Subjects by Former Students of Harry Luman Russell. Univ. Wis. Stud. in Science, No. 2, pp. 170-181., June 1921.

Expansion of the milkshed since 1907; 98 percent pasteurized; 2 percent certified; all milk for retail trade has been bottled since 1891; largest dealers have most milk bottled in the country and shipped into the city by rail; 305 pasteurizing plants in the city; milk trains carry nothing but milk in bottles or 8 or 10-quart cans; 3,286 delivery wagons; 70 establishments buy bottled milk and deliver it; 205 bottled milk establishments; 2 wholesale only establishments; 5 deal in bulk milk only; 21 wholesale bulk establishments; prices; price changes.

Angus, R. C. and G. E. Brandow. CHANGES OF PRODUCTIVITY IN MILK DISTRIBUTION IN TWO PENNSYLVANIA MARKETS, 1940-1957. Pa. Agr. Expt. Sta. Prog. Rpt. 221, 14 pp., June 1960.

Changes in output (measured by milk receipts from producers) and inputs (labor and capital) in Pittsburgh and Philadelphia markets.

Bacon, Lois B. INSTITUTIONAL FACTORS AFFECTING THE MARKETING OF MILK IN BOSTON. Radcliffe Col. Ph. D. thesis, Dec. 1934.

Bartlett, Ronald W. THE MILK INDUSTRY. A COMPREHENSIVE SURVEY OF PRODUCTION, DISTRIBUTION, AND ECONOMIC IMPORTANCE. New York, The Ronald Press Co., 282 pp., 1946.

The importance of the dairy industry in the national economy; relative importance of the butter, cheese, ice cream, dried milk products, evaporated and condensed milk, and market milk industries; the growth of the dairy chains; competition in the industry; the paper bottle; factors affecting per capita sales, milk prices, distribution costs, and milk plant efficiency.

Baum, E. L. ECONOMIC ANALYSIS OF THE QUAD CITIES (IOWA-ILLINOIS) MILK MARKETS. Iowa State Col. Ph. D. thesis, 1949.

Bird, Reginald W., Philip R. Allen, and John C. Runkle. THE MILK QUESTION IN NEW ENGLAND. AN INVESTIGATION OF THE COST OF PRODUCING MILK IN NEW ENGLAND AND ITS DISTRIBUTION IN BOSTON WITH RECOMMENDATIONS. Boston Chamber of Commerce, 57 pp., Dec. 1917.

Bishop, G. R. AN ANALYSIS OF DEALERS' SALES OF MILK AND CREAM IN THE BUFFALO MARKET ON DECEMBER 9, 1937. Cornell Univ. Agr. Expt. Sta. A.E. 253, 18 pp., Feb. 1939.

Based on reports obtained from all dealers licensed to sell milk in the Buffalo area. Includes data on sales of milk, cream, and other products, types and size of containers, number of customers and routes, and per capita consumption.

Blake, Helen T. and Lloyd F. Friend. MILK DATING REGULATIONS--THEIR EFFECT ON MILK DISTRIBUTION AND MERCHANDISING PRACTICES. U.S. Dept. Agr. Mktg. Res. Rpt. 415, 36 pp., rev. Mar. 1961.

Extent and nature of dating requirements for fluid milk and their economic consequences in 34 areas having some type of dating regulations in 1957, compared with a number of areas without dating regulations.

Blanford, C. J. AN ANALYSIS OF DEALERS' SALES OF MILK AND CREAM IN THE NEW YORK MARKET, 1933-1938. Cornell Univ. Agr. Expt. Sta. Bul. 735, U.S. Dept. Agr. coop., 24 pp., June 1940.

Grades of milk and types of packages, milk and cream receipts, trends in sales of grades A and B milk and heavy cream, and variations in sales due to price changes and changes in business conditions.

Boston Chamber of Commerce. INVESTIGATION AND ANALYSIS OF THE PRODUCTION, TRANSPORTATION, INSPECTION AND DISTRIBUTION OF MILK AND CREAM IN NEW ENGLAND. 63 pp., July 1915.

Bowring, J. R. and J. C. Holmes. MILK MARKETING IN SMALL TOWNS. N.H. Agr. Expt. Sta. Agr. Econ. Res. Mimeo. 6, 13 pp., July 1949.

Study in 6 small towns in New Hampshire covering milk supply, number and size of dealers and producer-dealers, and changes. Size distribution of milk licenses in New Hampshire in 1947.

Bressler, Raymond G., Jr. CITY MILK DISTRIBUTION. Harvard Univ. Econ. Stud. XCI, 398 pp., 1952.

The present organization of milk distribution in Connecticut; the basis for market reorganization; synthetic studies of milk distribution; the consumer and milk distribution.

Brown, C. A. COSTS AND MARGINS AND OTHER RELATED FACTORS IN THE DISTRIBUTION OF FLUID MILK IN FOUR ILLINOIS MARKET AREAS. Ill. Agr. Expt. Sta. Bul. 318, pp. 169-282., Rev. Apr. 1929.

Survey of dealers' costs and margins in the 4 large markets for which Illinois dairymen produce milk. Statistics for Illinois production, and for the factors affecting it, and seasonal variations in butterfat content in each district are discussed. The marketing agencies and contributory organizations and assembling and processing plants are described. The per capita consumption, trend in sales, seasonal and daily variation in sales, demand for different sales units, the amounts, causes, and disposal of dealers' surpluses, and the effect of dealers' surpluses on producers' prices and dealers' margins are discussed.

Brownell, S. J. STUDIES IN CITY MILK DISTRIBUTION. Mich. Agr. Expt. Sta. Spec. Bul. 111, 24 pp., Nov. 1921.

Lansing, Kalamazoo, Flint; Retail route operations; duplication of delivery; size of load; size of distributor and efficiency of delivery. Wholesale vs. retail delivery.

HALF AND HALF MILK. Business week. 256: 27-28, June 27, 1936.

Concentrated fresh milk carrying a minimum of 7.8 percent butterfat and 25.5 percent total solids is sold in Ohio at 8 cents a pint, with pasteurized milk selling at 10 cents or more a quart. Profits apparently without extra investment and on the use of milk bought at the surplus price to the farmer.

Cance, Alexander E. and Richard H. Ferguson. THE COST OF DISTRIBUTING MILK IN SIX CITIES AND TOWNS IN MASSACHUSETTS. Mass. Agr. Expt. Sta., U.S. Dept. Agr. coop., Bul. 173, 54 pp., May 1917.

Springfield, Worcester, Pittsfield, Amherst, Haverhill, Walpole; 85 distributors; 1914-1915; includes producer-distributors; accounting costs, by size of firm.

Carley, D. H. TRANSPORTING PACKAGED FLUID MILK TO DISTANT MARKETS. COSTS AND SYSTEMS IN GEORGIA. Ga. Agr. Expt. Stas., U.S. Dept. Agr. coop., Tech. Bul. N.S. 30, 38 pp., Nov. 1963.

Systems used and analysis of costs of transporting packaged fluid milk to markets at various distances from point of processing by 2 methods.

Clement, Clarence E. and Gustav P. Warber. THE MARKET MILK BUSINESS OF DETROIT, MICHIGAN, IN 1915. U.S. Dept. Agr. Bul. 639, 28 pp., Feb. 1918.

Number and size distribution of dealers; costs.

Cobia, D. W. and E. M. Babb. DETERMINING THE OPTIMUM SIZE FLUID MILK PROCESSING PLANT AND SALES AREA. Purdue Univ. Agr. Expt. Sta. Res. Bul. 778, 20 pp., May 1964.

Economies of scale for processing and for distribution of fluid milk by synthetic method.

Cook, H. L. PAPER PACKAGED MILK IN WISCONSIN. Wis. Agr. Expt. Sta. Res. Bul. 179, 40 pp., June 1953.

Explores the use of paper in milk packaging and its part in expanding distribution areas. Investigates cost factors together with distribution savings realized in converting from a dual operation to straight paper.

Cowden, T.K. DISTRIBUTION AND CONSUMPTION OF MILK IN READING, PENNSYLVANIA. Pa. Agr. Expt. Sta. Tech. Paper 614, 14 pp., 1933.

The source of milk supply, number of dealers, forms in which milk was used, per capita consumption, units of sale, daily and seasonal variations in sales, percentages of fluid milk sold wholesale and retail, and the effects of beer sales on sales of milk by dealers and restaurants are discussed.

- Cowden, T. K. and F. F. Lininger. THE CONSUMPTION OF MILK IN ALLEGHENY COUNTY, PENNSYLVANIA. Pa. Agr. Expt. Sta. Tech. Paper 569, 12 pp., 1932.
This is the first of a series dealing with the factors affecting the consumption of milk. Survey made in September 1932. The per capita consumption of and total use of milk, methods of sale of fluid milk and cream, number of dealers and their milk handling capacity, and the relative amounts of milk handled by organized and unorganized dealers are discussed.
- Cowden, T. K. and C. G. Gifford. THE DISTRIBUTION AND CONSUMPTION OF MILK IN ALLEGHENY COUNTY, PENNSYLVANIA. Pa. Agr. Expt. Sta. Tech. Paper 664, 16 pp., 1934.
- Dow, G. F. AN ECONOMIC STUDY OF MILK DISTRIBUTION IN MAINE MARKETS. Maine Agr. Expt. Sta., Bul. 395, March 1939, pp. 523-674.
A comprehensive analysis of the factors affecting distribution costs based on detailed records procured by market areas for the years ending April 30, 1935, and 1936. These distributors represented 43 percent of all distributors and they handled three-fourths of the milk and cream sold in these markets.
- Ernst and Ernst. 1963 OPERATING RATIO REPORT TO THE METROPOLITAN DAIRY INSTITUTE. New York, N.Y., 2 pp., Apr. 1965.
Costs and profits of 21 companies, 1963. Sales breakdown by products. Similar report for 17 companies in 1962.
- Foster, Rosamond and William O'Grady. FRESH MILK MARKETING IN LARGE CITIES. U.S. Bur. Labor Statis., 19 pp., Jan. 1951.
Survey of milk distribution and prices in 56 large cities, April 1948. Three to six principal dealers in each city. Prices, price differentials, home delivered, store, institutional sales.
- Gresham, Mary and Joseph W. Block. LABOR ASPECTS OF THE CHICAGO MILK INDUSTRY. U.S. Bur. Labor Statis., Bul. 715, 53 pp., 1942.
In 1941, 144 dealers; 1915, 1260; 1918, 603 (2 dealers had 40 percent of business); June 1935, 131 (2 largest nearly 50 percent of business); competitive practices; growth of the vendor system; antitrust suit in Chicago; milk prices; first store differentials January 1934; half-gallon and gallon containers introduced on home delivery, January 1940; costs; increase in importance of store distribution; paper containers introduced October 1940; types of trade served by vendors and distributors; labor problems; incomes of vendors and drivers.
- Herrmann, Louis F. and William G. Welden. PRE-WAR DEVELOPMENTS IN MILK DISTRIBUTION. U.S. Farm Credit Admin. Misc. Rpt. 62, 24 pp., Nov. 1942.
Changes in channels of distribution (wholesale-retail); types and numbers of dealers; container types and sizes; types of milk; price structures.
- Herrmann, Louis F. and Thomas J. Whatley. COSTS AND MARGINS OF MILK DISTRIBUTORS IN MEMPHIS, TENNESSEE, IN 1948. U.S. Dept. Agr. Bur. Agr. Econ., 30 pp., 1950.
Shows sales, expenses, and profits for a group of milk distributors in Memphis, Tenn. Compares expenses for retail and wholesale distributors, large and small dealers, and compares price spreads and measures of performance for Memphis with other markets.
- Herrmann, Louis F. and Lloyd F. Friend. FARM-TO-RETAIL PRICE SPREADS FOR FLUID MILK IN CHICAGO. U.S. Dept. Agr. Mktg. Res. Rpt. 246, 31 pp., June 1958.
A sample survey of 733 Chicago families showed that households that purchased milk paid an average price of 21.5 cents a quart. The equivalent farm price was 8.8 cents a quart. The marketing margin based on single quarts of milk delivered to homes increased from 11.5 cents a quart in January 1947 to 16.5 cents in December 1957.
- Jesness, O. B., W. C. Waite, and P. E. Quintus. THE TWIN CITY MILK MARKET. Minn. Agr. Expt. Sta. Bul. 331, 24 pp., July 1936.
The milk market of Minneapolis and St. Paul is described, with tables and charts showing, by years, the fluid sales of pasteurized, raw, and certified milk, 1921-35, and pasteurized and raw cream, 1924-35, in Minneapolis; the seasonal variations in sales, 1923-31; the percentage of sales in different size units; monthly retail prices of milk, 1919-35; range of average prices paid by distributors for milk; average annual distributors margins per quart, 1919-35; etc.
- Kepner, K. W. and E. F. Baumer. THE MARKETING OF HIGH FAT FLUID MILK PRODUCTS IN FIVE MAJOR OHIO MARKETS. Ohio Agr. Expt. Sta. Res. Bul. 897, 23 pp., Dec. 1961.
Trends for 10 years in sales volume of high-fat products; seasonality of cream sales; handlers' attitudes toward high-fat fluid products; alternatives open to handlers when a high-fat product is not profitable.

- King, Clyde L., Chairman. THE PRODUCTION, DISTRIBUTION AND FOOD VALUE OF MILK. A REPORT TO HERBERT C. HOOVER, UNITED STATES FOOD ADMINISTRATOR, BY THE MILK COMMITTEE. U.S. Food Admin., 41 pp., 1918.
Production and prices; costs of producing milk; distribution costs (survey of 45 companies, January-June 1917) by markets; food value.
- Klein, Jack E. MARKETING MILK IN ALASKA. U.S. Dept. Agr. Mktg. Res. Rpt. 385, 29 pp., Mar. 1960.
Analyzes Alaskan milk marketing practices, sources of supply, and types of milk distributed in Alaska. Less than half of the milk drunk in Alaska is fresh milk; a large market exists for other forms of milk, such as recombined, concentrated, evaporated, and dry milk.
- Luebke, B. H., C. C. Mantle, and W. S. Rowan. FACILITIES AND AGENCIES OF THE KNOXVILLE MILK INDUSTRY, 1943. Tenn. Agr. Expt. Sta. Mono. 171, 39 pp., June 1944.
The availability of processing and distribution in the Knoxville milkshed; the classification and location of marketing agencies; the organization of distributing agencies; the capital and output of plants; the major types of investment in pasteurization plants; and the facilities of raw milk retailers, bulk butter distributors, and the Knoxville Milk Producers' Association; and some State and city regulations affecting milk plants.
- McCallister, Charles E. VERMONT'S MILK DEALERS. Vt. Agr. Expt. Sta. Bul. 594, 19 pp., June 1956.
Survey of 69 of 163 milk dealers in Vermont, 1954. Changes in number of dealers, sales, and sales characteristics; prices paid for milk; short-buying of milk; utilization.
- McFall, R. J. SURVEY OF THE NEW ENGLAND DAIRY MARKET. New England Res. Council, 442 pp., Aug. 1924.
Demand and supply; movement to market; marketing agencies (Boston dealers: 700 in 1884; 205 in 1914; 131 in 1923); methods of city distribution; cooperatives; prices and price systems.
- Metzger, H. B. AN APPRAISAL OF MULTIPLE-QUART CONTAINERS, VOLUME DISCOUNTS AND STORE DIFFERENTIALS IN MILK DISTRIBUTION. Maine Agr. Expt. Sta. Rpt. 56, 21 pp., Sept. 1955.
Investigates the adoption of multiple-quart containers and the effect of gallon-jug usage on marketing costs in various areas. Discusses volume discounts and unit costs (mostly 1953-54) for retailing milk in stores.
- Mitchell, Glen H. and Elmer F. Baumer. AN INTERIM REPORT ON MILK MARKETING DISTRIBUTION SYSTEMS IN OHIO. Ohio Agr. Expt. Sta. Res. Circ. 29, 14 pp., Mar. 1956.
Household surveys in Akron, Cleveland, Dayton, and Ironton, in 1954-55. Consumption, preferences, source, type of container, prices.
- Mitchell, Glen H. and Elmer F. Baumer. A PROGRESS REPORT ON SELECTED ASPECTS OF FOUR OHIO MILK DISTRIBUTION SYSTEMS. Ohio Agr. Expt. Sta. Res. Circ. 42, 12 pp., Mar. 1957.
Studies in Cincinnati, Toledo, Youngstown, and Canton, 1955-56. Consumption, source, type of container, prices.
- Mitchell, G. H., D. W. Ware and E. F. Baumer. MILK DISTRIBUTION SYSTEMS IN OHIO. Ohio Agr. Expt. Sta. Res. Bul. 855, 47 pp., June 1960.
Surveys of 7,413 households in 8 Ohio markets, 1954-56; resurvey in 2 markets, 1958-59. Types of containers, prices, outlets; per capita consumption; consumer preferences for containers; factors influencing the quantity of milk purchased.
- Mortenson, W. P. ECONOMIC CONSIDERATIONS IN MARKETING FLUID MILK. Wis. Agr. Expt. Sta. Res. Bul. 125, December 1934, 56 pp.
Market price plans and policies; distributors' margins; distributors' costs and profits; public control of milk distribution; competition of evaporated milk with fresh milk.
- Nance, Willis O., Chairman. REPORT ON THE MORE ECONOMIC DISTRIBUTION AND DELIVERY OF MILK IN THE CITY OF CHICAGO BY THE COMMITTEE ON HEALTH, CHICAGO CITY COUNCIL. Munic. Ref. Bul. 8, Munic. Ref. Libr., Chicago, 15 pp., Dec. 1917.
Prices, margins, 1907-17, and costs in Chicago; retail and farm prices in 31 cities; proposed ordinance providing for consolidation of delivery routes; duplication of delivery routes; co-operatives; municipal milk stations.

- Nixon, A. J. and O. M. Reed. MUNICIPAL MILK DISTRIBUTION IN TARBORO, NORTH CAROLINA. U.S. Dept. Agr., Agr. Adjust. Admin., Mktg. Inf. Ser., DM-5, 30 pp., Dec. 1938.
A description of a unified milk plant and distribution system, municipally owned and operated. The study develops the history of the enterprise, data and information on receipts and sales, and an analysis of the operations of the system.
- North Central Regional Committee on Dairy Marketing Research. OUTER-MARKET DISTRIBUTION OF MILK IN PAPER CONTAINERS IN THE NORTH CENTRAL REGION. Purdue Univ. Agr. Expt. Sta. Bul. 600, North Central Reg. Pub. 39, 44 pp., Oct. 1953.
The volume of paper-packaged milk distributed outside local markets by operators of the 588 plants studied was equivalent to 12 percent of all bottled and packaged milk distributed in the region.
- Pierce, C. W., W. T. Butz and R. D. Knutson. BASIS FOR RESALE PRICE DIFFERENTIALS IN THE YORK MARKETING AREA. Pa. Agr. Expt. Sta., A.E. & R.S. 45, 65 pp., Nov. 1963.
Study in York County, Pa., 1962; characteristics of the market; size distribution of deliveries; delivery time; selling and delivery and packaging costs; quantity discounts; container differentials.
- Porter, E. H. KINGSTON MILK DISTRIBUTION COSTS. N.Y. State Dept. of Farms and Mkts., Foods and Mkts. 3(27): 13-26, 1920.
A report of the distribution of milk in Kingston, N.Y. made by the State Commissioner of Foods and Markets during the summer of 1920. Tabulated data include number of dealers and producers, amount of milk delivered, prices received by producers and distributors, the investment of distributors in plant equipment and supplies, and individual items in the daily cost of handling milk by 13 distributors.
- Pringle, George Edward. A STUDY OF FLUID MILK MARKETING COSTS AND PRICES IN PUERTO RICO. P.R. Agr. Expt. Sta. Bul. 158, 55 pp., May 1961.
Survey of 12 of 13 firms in Puerto Rico, 1956-57. Sales outlets; resale prices; investment; costs by function; product costs and margins; prices.
- Purcell, J. C. and J. C. Elrod. FLUID MILK DISTRIBUTION IN GEORGIA. Ga. Agr. Expt. Stas. Mimeo. Ser. N.S. 218, 11 pp., Dec. 1964.
Detailed study of 10 fluid milk distributors in Georgia. Costs by item and method of distribution; milk sales by method of distribution; containers, outlet; time requirements in milk delivery, by functions, size of delivery, and type of outlet.
- Rehberg, W. A. et al. COOPERATIVE ARRANGEMENTS AMONG SMALL PROCESSORS OF FARM PRODUCTS. Wis. Agr. Expt. Sta. Res. Bul. 243, 63 pp., June 1963.
Cooperative arrangements in dairy industries, wholesale baking, and vegetable canning.
- Riehl, John Gordon. METHODOLOGY AND STATISTICAL ANALYSIS EMPLOYED IN THE AKRON MARKET MILK DISTRIBUTION STUDY. Ohio State Univ., M.S. thesis, 1955.
- Roberts, J. B. and H. B. Price. MILK MARKETING IN LEXINGTON. Ky. Agr. Expt. Sta. Bul. 377, pp. 263-301, Dec. 1937.
Organization and development of the market, sources of market milk, price mechanism, milk consumption and its variations, surplus and shortage, market competition, and dealers' price spreads. Analyzes the use of milk by pasteurizing plants, which sell only about one-half of the bottled milk of the city and distribute a relatively large proportion of manufactured products, besides handling most of the surplus milk.
- Robinson, Kenneth. A STUDY OF FLUID MILK MARGINS IN NORTHEASTERN CITIES. Harvard Studies in Mktg. Farm Prods. No. 8-H, 36 pp., June 1954.
Considers factors causing 50 percent higher fluid milk margins in some markets than in others. The cities studied were Boston, Portland, Providence, Hartford, New York, Philadelphia, Baltimore, and Washington, D.C. Based on 1950 data, the intermarket margin relationships and the factors associated with intermarket differences in fluid milk margins were investigated.
- Rozman, David. SECONDARY MILK MARKETS IN MASSACHUSETTS IN THE PERIOD OF FALLING PRICES, 1930-1932. Mass. Agr. Expt. Sta. Bul. 304, 20 pp., Dec. 1933.
Gardner, Attleboro, Newburyport. Previously supplied almost entirely by local producers, in early 30's pressure from outside milk sources developed. Many local producers became producer-distributors. Prices, cost of distribution, channels.

- Schlenker, A. A. and E. J. Parker. MARGINS OF FLUID MILK IN THE DULUTH-SUPERIOR MARKETING AREA, 1947-48. U.S. Dept. Agr. Mktg. Res. Rpt. 32, 55 pp., Jan. 1953.
Develops a measure of the composite margin received by dealers for all fluid products sold in the area, and provides comparisons with margins for the individual items. Shows effects on dealers' margins of two different types of quantity discount plans, which enable distributors to calculate precisely the price structure which will yield a chosen overall margin.
- Schutz, W. D. DAIRY PLANTS IN WYOMING: TRENDS AND PRACTICES. Wyo. Agr. Expt. Sta. Mimeo. Cir. 169, 6 pp., Apr. 1962.
Changes between 1956 and 1961: number and type of plants; procurement; distribution; advertising outlays.
- Schutz, Willard D. MARKETING PRACTICES OF WYOMING DAIRY PLANTS. Wyo. Agr. Expt. Sta. Mimeo. Cir. 152, 8 pp., Apr. 1961.
Distribution, promotion practices, wholesale-retail sales for 25 of 26 major fluid milk plants in Wyoming.
- Smith, H. V. and L. F. Herrmann. CHANGING PATTERNS IN FLUID MILK DISTRIBUTION: TYPES OF MILK, CHANNELS OF SALE, TYPES AND SIZES OF CONTAINERS. U.S. Dept. Agr., Mktg. Res. Rpt. 135, 138 pp., Aug. 1956.
Milk distributors in many parts of the country are selling increasing proportions of their milk in half-gallon and gallon containers in place of quarts; in paper containers in place of glass. In nearly all the markets studied, homogenized milk was rapidly replacing regular milk.
- Spencer, Leland. THE CHANGING PICTURE OF FLUID MILK MARKETING. Cornell Univ., Agr. Expt. Sta., A.E. 143, 15 pp., Nov. 1936.
Price relationships, consumption, methods of distribution, and public control of milk prices.
- Spencer, Leland. COSTS OF DISTRIBUTING MILK IN NEW JERSEY. N.J. Dept. Agr., May 1943.
- Spencer, Leland. WAYS OF REDUCING COSTS OF DISTRIBUTING MILK IN NEW YORK. Jour. Farm Econ. 21(1): 291-298, Feb. 1939.
Deals with changes in price spread on grade B milk; items in spread on grade B retail milk; changes in costs; costs of distribution through stores; use of paper containers; and maladjustment of prices and wages. The necessary adjustments resulting from the adoption of new methods and equipment requiring less labor in distribution would be much less painful if commodity prices were to rise in the near future to 40 percent or more above pre-World War I.
- Stelzer, R. O. and L. M. Thurston. MILK DISTRIBUTION COSTS IN WEST VIRGINIA. I. A STUDY OF THE COST INCURRED IN 22 PLANTS DURING 1933. W. Va. Agr. Expt. Sta. Bul. 266, 36 pp., 1935.
This study is based on cost records obtained from 22 milk distribution plants in 1933. Data are presented and discussed on labor; depreciation; supplies, repairs, insurance, etc., incurred in care and operation of buildings and equipment; loss of milk; bad debts; interest; advertising; and administrative costs. Cost of distribution varied because of (1) size of plant, (2) size of unit sold, (3) investment per unit of milk purchased, (4) cost of labor, (5) efficiency of labor, (6) loss of milk, (7) bad accounts, (8) efficiency of routes, and (9) cost of administration.
- Stevenson, Jordan, and Harrison. A STUDY OF MILK DISTRIBUTION IN NEW HAVEN WITH RECOMMENDATIONS. 76 pp., June 1939.
Consumption; store sales; prices; costs of plant operation and delivery; milk delivery problems and suggested solutions.
- Story, Robert P. COST OF MILK DISTRIBUTION IN LOCAL VERMONT MARKETS. Vt. Agr. Expt. Sta. Bul. 545, 36 pp., Nov. 1948.
Size distribution of milk dealers in Vermont, 1946; sales, costs, and profits of 61 dealers, 1945-46; costs by functions; costs by size of business.
- U.S. Department of Agriculture. A SURVEY OF MILK MARKETING IN MILWAUKEE. U.S. Dept. Agr. Agr. Adjust. Admin. DM-1 (Mktg. Inf. Ser.) 119 pp., May 1937.
The major purpose was to determine the feasibility of centralizing milk distribution in Milwaukee. Plans for a unified system of processing and delivery large enough to serve the needs of the community are described. The proposed system would be noncompetitive and operated municipally.

Vial, E. E. and Alfred Sperber. PROFITS IN THE MILK INDUSTRY. NEW YORK METROPOLITAN AREA. Metrop. Dairy Inst., 18 pp., Aug. 1960.
Study of profits and costs, 34 companies, 1950-57.

Whitaker, George M. THE MILK SUPPLY OF BOSTON AND OTHER NEW ENGLAND CITIES. U.S. Dept. Agr. Bur. of Anim. Indus. Bul. 20, 37 pp., 1898.
Description of milk marketing practices in Boston area in 1897 and their development; 7 "contractors" (wholesalers) handled about three-fourths of the milk, remainder bought from nearby producers by peddlers; contractors used a classified pricing system, negotiated with the Milk Producers Union; milk sold by peddlers in 1- and 2-quart tin cans delivered to homes.

Whitney, Clifton. A STUDY OF THE MARKETING OF MILK AND CREAM SHIPPED FROM MAINE TO BOSTON. Univ. of Maine M.S. thesis, 1941.

Wilson, Lowell E. AN ANALYSIS OF DISTRIBUTION COSTS AND MARGINS FOR FLUID MILK. Univ. of Ill. Ph. D. thesis, Feb. 1960.
Gross margins for one distributor in 90 markets and costs in a number of markets.

Outlets

Alexander, M., W. T. Butz, and J. S. Pfautz. CHARACTERISTICS OF FLUID MILK SALES IN PENNSYLVANIA. Pa. Agr. Expt. Sta. A.E. & R.S. 36, Pa. Milk Control Com., 51 pp., May 1962.

Fluid milk sales by types of dealer, outlet, and container, all by marketing area; sales to schools, by type and size of container and product; dealer-to-dealer sales; vending machine sales; intermarket sales.

Copeland, Royal S., Chairman. REPORT OF THE FAIR PRICE MILK COMMITTEE FOR THE CITY OF NEW YORK APPOINTED BY GOVERNOR ALFRED E. SMITH. 78 pp., Dec. 1919.
Distribution; costs of each step in marketing; estimated marketing channels (53 percent home delivered, 7 percent through stores bottled, 40 percent through stores "loose").

Klein, Jack E. and Leo R. Gray. DRIVE-IN DAIRIES IN CENTRAL CALIFORNIA. DEVELOPMENT, ORGANIZATION, AND OPERATION. U.S. Dept. Agr. Mktg. Res. Rpt. 636, 11 pp., Dec. 1963.
Factors influencing development of drive-in dairies; organization of drive-ins; procurement and operating practices.

Miller, R. S., et al. CHARACTERISTICS OF FLUID MILK SALES IN PENNSYLVANIA, OCTOBER 1963. Pa. Agr. Expt. Sta., Pa. Milk Control Com., coop., A.E. & R.S. 48, 61 pp., June 1964.

Fluid milk sales by types of dealer, outlet, and container, all by marketing area; sales to schools, by type and size of container and product; dealer-to-dealer sales; vending machine sales; intermarket sales.

Pierce, C. W. SALES OF FLUID DAIRY PRODUCTS IN ALLEGHENY COUNTY (PITTSBURGH) DURING APRIL 1951. Pa. Agr. Expt. Sta. Prog. Rpt. 112, 10 pp., Dec. 1953.
Wholesale-retail, package, products; 98 distributors.

Roberts, John B. and C. C. Erwin. KENTUCKY'S BOTTLED MILK INDUSTRY. Ky. Agr. Expt. Sta. Bul. 625, 30 pp., June 1955.
Size distribution of bottling plants, State, 1952; plants and sales by type of business organization, 1952; wholesale-retail; paper-glass.

Roberts, John B. FLUID MILK MARKETING SUMMARY AND GROCERY STORE DISTRIBUTION--23 COUNTIES. Ky. Agr. Expt. Sta. 52 pp., July 1964.
Testimony at hearings on expansion of Louisville and Nashville orders. Grocery store sales of milk in 23 counties in south central Kentucky, by origin of milk.

Roberts, J. B., S. W. Williams, and S. F. Whitted. MERCHANDISING MILK AND DAIRY PRODUCTS IN RETAIL GROCERY STORES. Ky. Agr. Expt. Sta. Cir. 551, North Central Reg. Pub. 78, 52 pp., June 1957.
Methods of handling merchandising milk in 235 stores, effectiveness of various displays, handling margins and store sales, income and store margins.

Spindler, H. G. RETAIL SALES OF MILK IN MULTIPLE-QUART UNITS IN THE SPRINGFIELD AREA. Mass. Agr. Expt. Sta. Bul. 495, 19 pp., June 1957.

A store survey to determine the extent of acceptance of multiple-quart units of milk and the effect of the multiple-quart units on per capita consumption.

Townsend, T. W., W. T. Butz, and J. S. Pfautz. CHARACTERISTICS OF FLUID MILK SALES IN PENNSYLVANIA: OCTOBER 1959. Pa. Agr. Expt. Sta., Pa. Milk Com., coop. A.E. & R.S. 25, 51 pp., May 1960.

Fluid milk sales by type of dealer, type of outlet, type of container, all by marketing area; sales to schools, by type and size of container and product; dealer to dealer sales; vending machine sales; and intermarket sales.

U.S. Department of Agriculture. PACKAGED FLUID MILK SALES IN FEDERAL ORDER MARKETS BY SIZE AND TYPE OF CONTAINERS, AND DISTRIBUTION METHOD DURING NOVEMBER 1963. U.S. Dept. Agr., Consumer and Mktg. Serv. C&MS-11 (Nov. 1963) May 1965. Compilation of available data from Federal order markets for November 1962. Includes at least some data from 66 markets.

West, George A. and Leland Spencer. SALES OF MILK AND CREAM IN ROCHESTER, NEW YORK. Cornell Univ. Jour. Farm Econ. Agr. Expt. Sta. Bul. 81, p. 1960, June 1933.

In November 1932, there were 126 milk dealers holding permits in Rochester, N.Y., and 123 in November 1931. Distribution of milk: Retail 73.2 percent; stores 16.2 percent; restaurants, 10.6 percent (4.0 percent in bottles; 6.6 percent bulk). Cream: 29.3 percent retail, 13.4 percent stores, 57.3 percent restaurants.

Vial, E. E. CHANGES IN SALES OF MILK AT INDEPENDENT GROCERY STORES. Milk Dealers' Assoc. of Metrop. New York, Membership Ltr. 84, 7 pp., Sept. 7, 1954.

Data from 100 independent grocery stores in various sections of New York City from N.Y. Dept. of Agriculture and Markets. Glass vs. paper; homogenized vs. pasteurized; advertised vs. unadvertised.

Vial, E. E. CHANGES IN SALES OF CREAM AT INDEPENDENT GROCERY STORES. Milk Dealers' Assoc. of Metrop. New York, Membership Ltr. 86, 6 pp., Nov. 5, 1954.

Sales of cream in 100 independent stores in New York City, 1948-54.

Delivery Routes

Adams, T. M. WARTIME CHANGES IN MILK DISTRIBUTION AND IN THE CONSUMPTION OF MILK, CREAM, BUTTER AND OLEOMARGARINE IN VERMONT. Vt. Agr. Expt. Sta. Bul. 527, 30 pp., Oct. 1945.

Information from interviews during June 1944 with 1,150 housewives in Burlington and two nearby villages. The attitudes of dealers toward continuation of every-other-day delivery of milk after the war were learned during the summer of 1944 from 112 usable replies to a mail questionnaire sent to 400 milk dealers of the State. The bulletin discusses housewives' attitudes toward alternate-day deliveries; percentage of milk purchased in stores; changes in milk distribution; and consumption of milk, cream, butter, and margarine.

Alexander, W. H. and R. A. Ballinger. THE DISTRIBUTION OF FLUID MILK IN NEW ORLEANS, LOUISIANA. La. Agr. Expt. Sta. Mimeo. Cir. 32, 25 pp., Apr. 1943.

The volume of milk delivered, condition of trucks and tiers, delivery vehicles, time required for delivery, length and reorganization of delivery routes, and the duplication of stops are discussed.

Anderson, Reice and Leland Spencer. WAYS OF CONSERVING TIRES AND REDUCING OTHER EXPENSES IN THE DISTRIBUTION OF MILK. Cornell Univ. Agr. Expt. Sta. A.E. 386, 12 pp., Jan. 1942.

Possible ways of changing milk distribution: alternate-day delivery, discounting, exchanging customers, curtailing callbacks and special deliveries, shifting to daylight delivery.

Babb, E. M. and W. T. Butz. IMPROVING FLUID MILK DISTRIBUTION PRACTICES THROUGH ECONOMIC-ENGINEERING TECHNIQUES. Pa. Agr. Expt. Sta. Bul. 622, 40 pp., June 1957.

Study of developing and testing methods of reducing retail distribution costs that can be applied in small dairies with minimum expenditure of resources. Techniques show how a small dealer could evaluate his delivery system and determine what phases of distribution could be improved.

Blanford, C. J. COMPETITION AMONG DEALERS IN THE DELIVERY OF MILK IN NEW YORK CITY. Cornell Univ. Jour. Farm Econ. 99: 2427-2428, Feb. 1937.

Measures amount of duplication in milk delivery to: Families in apartment houses, stores, and other wholesale customers.

Bowring, J. R. and John C. Holmes. COMPARING MARKET EFFICIENCY IN THE DELIVERY OF MILK. N.H. Agr. Expt. Sta. Agr. Econ. Res. Mimeo. 10, 7 pp., Sept. 1952.

Measuring aggregate efficiency in 4 markets in New Hampshire by units of milk delivered per man-hour and per truck-mile.

Bowring, J. R. and Joseph Gartner. COMPARING MARKET EFFICIENCY IN THE DISTRIBUTION OF MILK. N.H. Agr. Expt. Sta. Agr. Econ. Res. Mimeo. 13, 5 pp., Feb. 1955.

Units of milk delivered per man-hour and per truck-mile in 4 New Hampshire markets, 1941, 1945, 1951, 1954.

Bressler, R. G., Jr. et al. EFFICIENCY OF MILK MARKETING IN CONNECTICUT: 5. ECONOMIC AND BIOLOGY OF ALTERNATE-DAY MILK DELIVERY. Storrs (Conn.) Agr. Expt. Sta. Bul. 247, 60 pp., 1943.

Information regarding their retail operations before and after adopting the alternate-day plan was obtained from 100 distributors representative of different sizes and types of dealers. The study of biological aspects is based on samples from 24 sources--dealers in different cities and towns, the University creamery, and reports of health officers. The changes in number of routes; volume of milk; distance traveled by trucks; average time per route; tire, gasoline, and oil consumption; and in truck labor, and miscellaneous costs are discussed. Alternate-day deliveries are satisfactory where home refrigeration is adequate.

Bressler, R. G., Jr. and Alan MacLeod. CONNECTICUT STUDIES MILK DELIVERY. Jour. Mktg., pp. 211-219, Oct. 1947.

Inefficiency in existing delivery system; reduction in routes, mileage, and costs; acceptability of alternate-day delivery to consumers.

Bressler, R. G., Jr., D. A. Clarke, Jr., and S. K. Seaver. EFFICIENCY OF MILK MARKETING IN CONNECTICUT. 9. CONSERVATION POSSIBILITIES IN RETAIL DELIVERY IN MAJOR MARKETS. Storrs (Conn.) Agr. Expt. Sta. Bul. 253, 40 pp., 1944.

For the Hartford market, describes the dealers, delivery densities, and the present delivery system, and discusses the reorganization possibilities--exclusive delivery territories, reorganized mileage requirements, and deliveries from one central plant. For the New Haven market, general characteristics, geographic distribution of dealers and of consumption, and the present delivery system are described and discussed; and the reorganization studies on allocating territories for all dealers and for limited groups of dealers, and deliveries from central plants are discussed. Other sections of the report deal with the estimated costs of delivery of milk for the two cities, and milk delivery in all Connecticut markets.

Conner, M. C. and E. J. Giles. MILK DELIVERY PRACTICES--ALTERNATIVES AND COSTS. Va. Agr. Expt. Sta. Bul. 515, 59 pp., July 1950.

Evaluates in terms of work content and costs, several alternative arrangements for distributing milk products from the milk plant to retail and wholesale customers. Gives specific information on route characteristics, including number of customers, miles per route, units per stop, daily load, time in hours, and labor and truck costs. Based on 1948 studies in Danville and Lynchburg.

Cook, H. L., H. W. Halvorsen, and R. W. Robinson. COSTS AND EFFICIENCY OF WHOLESALE MILK DISTRIBUTION IN MILWAUKEE. Wis. Agr. Expt. Sta. Res. Bul. 196, 40 pp., Jan. 1956.

The study was made to measure the cost variation with volume per stop and variation due to kinds of service and types of container. The expenses of wholesale delivery result from labor requirements and truck expense.

Dow, G. F. REDUCING COST OF DISTRIBUTING MILK IN MAINE. Jour. Farm Econ. 21: 309-314, Feb. 1939.

Recommends that special attention be given to the following factors: larger volume per distributor; greater volume of sales per mile traveled on milk routes; stricter credit policy to reduce bad debts and collection costs; reduction of bottle losses; consideration of the use of horses instead of motortrucks on milk routes up to 15 miles in length; employment in general of only one man to a route; and curtailment of special services such as special deliveries.

Dow, G. F. SIZE OF LOADS AND DELIVERY COSTS FOR LABOR IN MILK DISTRIBUTION IN BOSTON AND PORTLAND. Maine Agr. Expt. Sta. Bul. 437, pp. 459-490, 1945.

This study of the effect of wartime practices upon the size of loads and the trend in delivery costs is based upon surveys in Portland of each of the 4 largest distributors, and in Boston of each of the 8 largest distributors, representing more than two-thirds of the total sales in that market. The wartime practices and trends in number of delivery routes and volume of dairy products sold from 1941 to 1944 are discussed. The size of loads, labor utilization, and delivery costs for labor on the retail and wholesale routes in the 2 cities in October 1944 are analyzed. The increase in delivery costs (if return is made to prewar loads and other practices), consumer acceptance of alternate-day deliveries, and other wartime practices are discussed.

Dow, G. F. A PRELIMINARY REPORT ON CONSUMERS' PROBLEMS OF EVERY-OTHER-DAY DELIVERY OF MILK IN PORTLAND AND WESTBROOK, MAINE. Maine Agr. Expt. Sta. Misc. Pub. 571, Jan. 1943.

Consumer survey in summer 1942. See also Misc. Pub. 574.

Ellenberger, H. B. BOTTLED MILK DELIVERIES. Univ. Vt. Agr. Expt. Sta. Bul. 486, 12 pp., Apr. 1942.

In a survey of milk distribution in Burlington, records were obtained for 43 of the 44 milk routes, covering the time consumed in each operation from the loading of the delivery truck, through all deliveries, and including the return trip and unloading of empty bottles and returns; the location of each stop; the amounts delivered and the time required; the routing of the trucks; and the time of each en route. The refrigeration facilities in 161 and 101 homes in two sections of the city are also reported.

Garcia Ortega, Rafael, and George Edward Pringle. COSTS AND EFFICIENCY OF RETAIL MILK ROUTES IN THE SAN JUAN METROPOLITAN AREA, PURETO RICO. P.R. Agr. Expt. Sta. Bul. 174, 53 pp., Dec. 1963.

Study of 13 milk routes of 2 plants. Time factors involved in retail milk distribution; costs per customer and per quart; costs and volume.

Hicks, J. W. and G. B. Wood. OPERATIONS IN RETAIL AND WHOLESALE MILK ROUTES. Purdue Univ. Agr. Expt. Sta. Bul. 556, 41 pp., Nov. 1950.

Factors, particularly labor, influencing the cost of milk delivery in Indiana markets, 1948-49.

Hitchcock, J. A. REDUCING TRUCK MILEAGE IN RETAIL MILK DELIVERY. Vt. Agr. Expt. Sta. Bul. 491, 12 pp., June 1942.

Cost reductions through every-other-day delivery.

Hoecker, R. W. DISTRIBUTION OF MILK IN MANHATTAN, KANSAS, AND METHODS OF CONSERVING TIRES. Kans. Agr. Expt. Sta. Agr. Econ. Rpt. 16, 14 pp., 1942.

This report is based on data collected during the spring of 1942 from 17 of 20 milk distributors in the city and representing about 91 percent of the milk sold during the period. The retail and wholesale and possible alternative methods of distribution are also discussed.

Holmes, J. C., H. C. Woodworth, and W. Bredo. THE EFFICIENCY OF WARTIME PRACTICES IN DELIVERY OF MILK. EVERY-OTHER-DAY DELIVERY OF MILK. N.H. Agr. Expt. Sta. Agr. Econ. Res. Mono. 2, March 1947.

Johnson, S. and G. K. Brinegar. EFFICIENCY FACTORS AND CHANGES IN MILK DISTRIBUTION, 1946-1954. Storrs (Conn.) Agr. Expt. Sta. Bul. 312, 30 pp., Sept. 1954.

Changes in practices, sales, load size, 1946 to 1954, of 19 Connecticut handlers.

Johnson, Stewart. MILK DISTRIBUTION IN SIX LARGE CITIES OF UPSTATE NEW YORK.

Cornell Univ. Agr. Expt. Sta. A.E. 517, 35 pp., Mar. 1945.

Loads on wholesale and retail routes, October 1944; changes in sales on routes; labor cost in delivering milk on retail routes, 1941-44.

Johnson, Stewart. LOAD SIZE AND DELIVERY LABOR COST IN MILK DISTRIBUTION. Storrs (Conn.) Agr. Expt. Sta. Bul. 264, 19 pp., Mar. 1950.

Loads on retail routes of 23 Connecticut distributors, May 1946; earnings of retail routemen; loads and earnings on wholesale routes; changes in distribution between 1941 and 1946.

King, G. A. and R. G. Bressler. EFFICIENCY OF MILK MARKETING IN CONNECTICUT. 12. WHOLESALE MILK DISTRIBUTION. Storrs (Conn.) Agr. Expt. Sta. Bul. 273, 56 pp., July 1950.

Time studies of particular route operations were analyzed. Equations express route time requirements as a function of such factors as miles traveled, route volume, and number of customers served. Studies of truck costs resulted in cost equations for trucks of the sizes and types commonly used in wholesale milk delivery.

Luebke, B. H., C. C. Mantle, and W. S. Rowan. MILK DELIVERY IN KNOXVILLE, TENNESSEE. Tenn. Agr. Expt. Sta. Mono. 167, 33 pp., March 1944.

Based largely on interviews in a sample area of Knoxville on the method of milk and cream delivery, efficiency of delivery and consumer preferences for various delivery methods.

MacLeod, Alan and C. J. Miller. EFFICIENCY OF MILK MARKETING IN CONNECTICUT: 7. MILK DELIVERY IN RURAL CONNECTICUT. Storrs (Conn.) Agr. Expt. Sta. Bul. 249, 37 pp., 1943.

Based on a study of 12 areas grouped on the basis of daily commercial deliveries of less than 200 quarts, 200-499 quarts, and 500-2,500 quarts. The potential savings in rural areas, the problems of exclusive territory system of distribution, and the possible savings if milk were delivered from one central plant are discussed.

Metzger, H. B. THE TREND IN MILK DELIVERY EFFICIENCY AND LABOR COSTS IN PORTLAND, MAINE, 1941, 1951, 1954. Maine Agr. Expt. Sta. Rpt. 50, 26 pp., Dec. 1954.

Assesses the extent to which World War II efficiencies of milk delivery had been carried into the postwar period and measures their effect on costs. Data are for the years 1941, 1951, and 1954, and were obtained from the records of the 4 largest distributors in the Portland market.

Metzger, H. B. DELIVERY PRACTICES ON HOME DELIVERY MILK ROUTES IN THE NORTHEAST AND DISTRIBUTOR ATTITUDES TOWARD REDUCTION IN DELIVERY FREQUENCY. Maine Agr. Expt. Sta. Misc. Rpt. 111, 19 pp., Feb. 1964.

Survey of 264 processors in the Northeast, fall 1963. Present frequency of delivery and attitudes toward less-frequent delivery (twice a week).

Metzger, H. B. TWICE-WEEKLY DELIVERY ON RETAIL MILK ROUTES: POSSIBLE ECONOMIES: CONSUMER AND DEALER ATTITUDES TOWARD ADOPTION. Maine Agr. Expt. Sta. Bul. 612, 28 pp., Mar. 1963.

Survey of 44 milk distributors operating 342 routes, 1961, and of 529 households in Portland, Maine. Characteristics of retail milk routes; possible economies from twice-weekly delivery; distributor and consumer attitudes towards twice-weekly delivery.

Pierce, C. W. SURVEY OF MILK ROUTES IN NEW YORK CITY. Cornell Univ., Farm Econ. 88: 2129-33, Feb. 1935.

Study of 69 routes, 1933-34. Type of vehicle, practices, time in various operations, customers served, loads, sales.

Pollard, A. J. DUPLICATION IN DELIVERY OF MILK TO STORES IN NEW YORK CITY. Cornell Univ., Jour. Farm Econ. 116: 2863-2865, Jan. 1940.

In a survey of retail food stores in New York City, June 1938, data indicated an average number of delivery stops per store of 2.3. The independent stores tended to buy from more dealers than did the stores of other kinds, especially in low-income sections of the city. Duplication in delivery to independent stores was greater in the Bronx than in the other boroughs.

Rinear, E. H. and H. C. Moore. RETAILING MILK IN LACONIA. N.H. Agr. Expt. Sta. Bul. 272, 20 pp., 1933.

A study was made in 1932 to determine whether more efficient methods of distribution with resulting larger returns to producers could be used in Laconia, a city of 12,400 people.

Seaver, S. K. and R. G. Bressler, Jr. EFFICIENCY OF MILK MARKETING IN CONNECTICUT: 8. POSSIBLE MILK DELIVERY ECONOMIES IN SECONDARY MARKETS. Storrs (Conn.) Agr. Expt. Sta. Bul. 252, 68 pp., 1944.

General characteristics of the markets, duplication of delivery routes, present organization of routes, and potential effects of exclusive territories on costs of delivery and possible savings for Torrington and Willimantic, and less detailed analysis in New Haven suburban markets.

Simmons, Richard L. WHOLESALE MILK DISTRIBUTION PRACTICES, COSTS AND PRICING IN NORTH CAROLINA. N.C. Agr. Expt. Sta. A.E. Info. Ser. 88, 38 pp., Feb. 1962.

Intensive cost study of 19 wholesale routes of 5 distributors in 5 North Carolina markets; cost savings through less-frequent delivery; volume discounts.

Spencer, Leland. WARTIME ECONOMIES IN MILK DELIVERY. Cornell Univ. Agr. Expt. Sta. Bul. A.E. 528-A, 9 pp., Sept. 1945.

Reduction in selling and delivery costs; economy measures and their effects.

Spencer, Leland and H. Alan Luke. A STUDY OF MILK DELIVERY IN THE NEW YORK MARKET WITH PARTICULAR ATTENTION TO WARTIME ADJUSTMENTS. Cornell Univ., Agr. Expt. Sta., Bul. A.E. 534, 82 pp., Dec. 1945.

Bulletin A.E. 534-A, October 1945, is a summary. Survey of firms operating routes, October 1944. Size distribution of dealers; factors affecting efficiency on wholesale and retail routes; effects of wartime regulations on efficiency (changes 1942 to 1944); attitudes of dealers on wartime restrictions.

Spencer, Leland and Max Brunk. A STUDY OF MILK DISTRIBUTION PRACTICES AS RELATED TO THE COMPETITIVE POSITION OF HOME DELIVERY. American Dairy Assoc., 3 pp., Sept. 1959.

Price is major reason for shifting to store purchase. Quantity discounts should be used. Weekly bills might help.

Spindler, Herbert G. LABOR COSTS ON WHOLESALE MILK ROUTES IN SPRINGFIELD, MASSACHUSETTS. Mass. Agr. Expt. Sta. Bul. 498, 44 pp., Jan. 1958.

Study of 13 wholesale routes of 7 companies. Characteristics of routes; sales and costs; effect of various factors on costs.

Tedford, J. R. and A. L. Domike. EFFICIENCY OF MILK DISTRIBUTION IN RHODE ISLAND. R.I. Agr. Expt. Sta. Bul. 333, June 1956.

Labor and equipment use; impact on efficiency of eliminating Sunday deliveries.

Utter, K. L., W. S. Rosenberger, H. Homme, and Geoffrey Shepherd. METHODS AND COSTS OF PROCESSING AND DELIVERING FRESH CONCENTRATED MILK IN RURAL AREAS. Iowa Agr. Expt. Sta. Spec. Rpt. 14, 16 pp., Nov. 1955.

Experimental rural delivery routes in Iowa and Illinois; methods of processing; customers and their reactions; costs of processing and rural delivery.

Williams, J. R. THE ECONOMIC PROBLEMS OF MILK DISTRIBUTION IN THEIR RELATION TO THE PUBLIC HEALTH. Fifteenth Internatl. Cong. on Hyg. and Demog. Trans. 5: 128-140, 1912.

A Rochester milk study; efficiency of route operations (overlapping).

Stores

Alberts, N. L. LOCATION VS. BRAND PREFERENCE IN SUPERMARKET MILK PURCHASES. Purdue Univ., M.S. thesis, Jan. 1955.

Barron, J. C. and W. T. Butz. DISTRIBUTION OF FLUID MILK THROUGH RESALE OUTLETS. PRACTICES AND COSTS. Pa. Agr. Expt. Sta. Bul. 723, 32 pp., Aug. 1965.

Characteristics of resale outlets (mostly grocery stores) for fluid milk; sale prices; delivery plans and costs.

Bartlett, R. W. DISTRIBUTION OF MILK THROUGH STORES AND DEPOTS. Ill. Farm Econ. 24/25: 116-119, May-June 1937.

Costs of distribution in Boston, Mass., and Danville, Ill.

Bishop, G. R. MILK SALES BY STORES IN BUFFALO. Jour. Farm Econ. 113: 2891-2793, May 1939.

On March 1, 1937, there were 2,816 independent stores and 391 chain stores that sold milk in Buffalo, New York, market. About the same number of stores sold milk as those that sold food at retail. Independent stores most commonly sold food at retail. Independent stores usually sold from 13 to 24 quarts of milk; sales in this range were made by 1,019 of the 2,816 stores. Chain stores sold from 25 to 36 quarts; sales in this range were made by 182 of the 391 chain stores. The total daily sales of milk by independent stores were 52,360 quarts and by chain stores, 10,259 quarts. An average of 1.7 stops per independent store is recorded, and 1.1 stops per chain store.

Blanford, C. J. DAY-OF-THE-WEEK VARIATIONS IN THE STORES SALES OF MILK AND CREAM IN THE NEW YORK MARKET. Cornell Univ. Jour. Farm Econ. 112: 2755-2756, Apr. 1939.

Because many retail food stores were closed all or part of the day on Sunday in 1937, milk and cream sales on Sunday were low and on Saturday and Monday were high. The degree of variation differed with the product, the type of store, and the type of trade served.

Blanford, C. J. SALES OF CREAM BY RETAIL STORES IN THE NEW YORK MARKET, JUNE 1938. Cornell Univ. Agr. Expt. Sta. A.E. 244, 14 pp., 1939.

About two-thirds of all cream distributed in New York City is sold for home consumption, and one-third to soda fountains and restaurants. Of the quantity sold for home consumption, about seven-eighths is sold through stores. Retail prices of cream varied considerably and were lowest at stores serving low income families. The effect of price differentials upon relative sales of evaporated milk is also discussed.

Blanford, C. J. SALES OF MILK BY RETAIL STORES IN THE NEW YORK MARKET, JUNE 1938. Cornell Univ. Agr. Expt. Sta. A.E. 237, 18 pp., Dec. 1938.

Based on data obtained from 4,508 retail food stores, June 6-18, 1938. Includes proportion of stores selling each grade of milk in relation to family income; quantities of milk sold per store by grade; factors affecting quantities sold; and prices of milk, with reference to variation in prices, relation of prices to quantities sold, and effect of price differentials upon relative sales of fluid milk in glass bottles and paper containers and of evaporated milk.

Dow, George F. MILK DISTRIBUTION THROUGH STORES IN THE PORTLAND MARKET. Maine Agr. Expt. Sta. Misc. Pub. 574, July 1943.

Consumer study (1937) to determine reasons for buying at stores.

Field, Barry C. QUANTITY OF MILK PURCHASES PER CUSTOMER, SACRAMENTO MARKETING AREA. RETAIL STORE AND CONSUMER SALES AT MILK PLANTS. Calif. Bur. of Milk Stabilization, 15 pp., May 1960.

Survey of 80 grocery stores and 13 drive-ins, 1960; size of purchase at each.

Field, Barry C. CUSTOMER PURCHASES OF FLUID MILK IN GROCERY STORES AND DAIRY DRIVE-INS WITH SPECIAL REFERENCE TO THE ALAMEDA-CONTRA COSTA MARKETING AREA. Calif. Agr. Expt. Sta. 36 pp., Mar. 1961.

Development of dairy drive-ins in California; sales by drive-ins by marketing area, 1957-59; price differentials; survey of 82 grocery stores, November 1960, and of 11 drive-ins for customer purchases by size of purchase; survey of 821 customers of drive-ins for buying practices.

Flynn, Gordon. IMPROVED HANDLING OF DAIRY PRODUCTS IN RETAIL FOOD STORES. U.S. Dept. Agr. Mktg. Res. Rpt. 661, 24 pp., Aug. 1964.

More efficient work methods for ordering, receiving, price-marking, and stocking milk, butter, margarine, and eggs.

Friedly, Donald Eugene. AN ANALYSIS OF THE PRACTICES AND PROCEDURES OF THE RETAIL DAIRY DEPARTMENTS IN CLEVELAND, COLUMBUS, AND DAYTON, OHIO. Ohio State Univ. M.S. thesis, 1959.

Kirkwood, E. K. and J. H. Blackstone. MERCHANDISING DAIRY PRODUCTS IN ALABAMA RETAIL FOOD STORES. Ala. Agr. Expt. Sta. Bul. 294, 62 pp., May 1955.

Methods of handling and selling dairy products; cost and efficiency of these factors.

Korzan, G. E. and J. A. Pfanner, Jr. COSTS OF RETAILING MILK AMONG A GROUP OF GROCERY STORES IN PORTLAND, OREGON. Oreg. Agr. Expt. Sta. Bul. 504, 16 pp., Oct. 1951.

Shows unit costs for handling milk in small, medium, and large grocery stores, and by type of outlet, in June 1950, in 35 stores.

Meade, D. and R. K. Mead. SALE OF DAIRY PRODUCTS AT ROADSIDE MARKETS IN MARYLAND. Md. Agr. Expt. Sta. Bul. 394, pp. 595-626, Mar. 1936.

A survey of 13 dairy roadside markets made during the summer of 1934. Factors such as weather, time of day, direction of traffic, qualities of products that appeal, and prices are considered in relation to sales.

Mize, Jessie J., Richie C. Thornton, and Doris W. Thompson. INVENTORY OF DAIRY PRODUCTS IN RETAIL MARKETING AGENCIES, WALTON COUNTY AND ALBANY, GEORGIA. Ga. Agr. Expt. Stas. Bul. N.S. 38, 31 pp., Jan. 1957.
Survey of 86 retail outlets in Walton county and 32 in Albany, 1954-56. Percentage of stores handling various products; most frequent prices; size of container; storage space; display space; services.

Norton, L. J., and Leland Spencer. A PRELIMINARY SURVEY OF MILK MARKETING IN NEW YORK. Cornell Univ. Agr. Expt. Sta. Bul. 445, 51 pp., Nov. 1925.
Sheffield Farms Co., Inc., operated a chain of grocery stores which sold both bottled and bulk milk. Bulk sold at 4-5 cents per quart less.

Spindler, H. G. EFFECTS OF SALES OF MILK IN MULTIPLE QUART CONTAINERS. Mass. Agr. Expt. Sta. Bul. 507, 22 pp., Jan. 1959.
Milk sales volume and price data for 15 stores in Springfield, Nov. 1956 and Oct. 1955. Glass gallon and half-gallon containers had been introduced in Aug. 1954. Prices and margins; consumption.

Restaurants, Institutions

Clement, Wendell E. USE AND PROMOTION OF DAIRY PRODUCTS IN PUBLIC EATING PLACES. U.S. Dept. Agr. Mktg. Res. Rpt. 626, 25 pp., Aug. 1963.
Survey of public eating places in Hartford, Conn., and Indianapolis, Ind., in November 1961. Merchandising and use of fluid milk and other beverages, including margins, prices, and practices; merchandising and use of other dairy products; promotional practices and materials.

Colburn, Jerry and S. Kent Christensen. COMPARATIVE COSTS OF SERVING COFFEE AND MILK IN SELECTED OREGON RESTAURANTS. Oreg. Agr. Expt. Sta. Misc. Paper 59, 30 pp., July 1958.
Intensive study in 4 restaurants to determine costs.

England, George M. WHAT DETERMINES THE CHARGES FOR MILK SERVED IN RESTAURANTS. Vt. Ext. Brieflet 890 (PR1252), 10 pp., 1954.
Survey of restaurants in 11 cities and towns in Vermont. Fifty percent charged 10 cents extra for milk with meals; 10 percent charged 5 cents extra. No clear explanation, except that owners thought cost of milk higher than coffee. Only few milk dispensers in use although had been legal since 1947. Reduced costs of milk 5 cents per quart over bottles. Machine costs \$200. Justified with moderate milk volume.

MacPherson, D. D. and Jesus L. Maldonado. COSTS, NET MARGINS, AND SELLING PRICES OF BEVERAGES SOLD IN AN EMPLOYEE FOOD SERVICE. U.S. Dept. Agr. Mktg. Res. Rpt. 464, 27 pp., Apr. 1961.
Relation of costs and margins to prices for beverages in a cafeteria operated for employees in an office building in Washington, D.C. During a 2-week period, 56 percent of the 106,000 beverage sales were coffee, 17 percent tea, 14 percent milk, and 13 percent other beverages. Major components of beverage cost were 40 percent for raw materials, 37 percent for labor, 18 percent for containers, and 5 percent other.

Vending Machines, Home Dispensers

Anderson, R. F. THE USE OF VENDING MACHINES TO MERCHANDISE MILK. Ga. Expt Stas. Spec. Rpt. 30 pp., July 1963.
Practices, organization, costs, returns.

Banks, Quentin D. and Stephen F. Whitted. PROBLEMS IN MILK VENDING. Mo. Agr. Expt. Sta., Bul. 693, 11 pp., Oct. 1957.
Where vending fits in; vending problems.

Brown, E. Evan. SELLING MILK BY AUTOMATIC VENDING MACHINES. S.C. Agr. Expt. Sta. Bul. 435, 46 pp., June 1956.
Experiments with vending machines in various locations; costs and returns.

Brown, E. Evan and B. J. Todd. AUTOMATIC MILK VENDING. S.C. Agr. Expt. Sta. A.E. 115, 13 pp., Nov. 1955.
Second report on an experimental study of automatic milk vending, dealing with locations of machines and products sold.

Brown, E. Evan, C. D. Evans and B. J. Todd. AUTOMATIC MERCHANDISING OF FLUID MILK PRODUCTS. S.C. Agr. Expt. Sta. A.E. 111, 20 pp., June 1955.

Test of milk sales through vending machines on a college campus.

Clarke, James H., Mardy Myers, and J. Scott Hunter. A MARKETWIDE EVALUATION IN BERKELEY COUNTY, W. VA. W. Va. Agr. Expt. Sta., Agr. Mktg. Serv. coop., Bul. 429, 58 pp., June 1959.

Sales of fluid milk through coin-operated vending machines averaged 1.5 percent of total milk sales in the market area from October 1955 to June 1957. More than 70 percent of milk vended was sold in plants and offices. Before installation of vending machines in these plants and offices, 19 percent of the employees used milk; after installation 63 percent used milk.

Clarke, James H. and Walter F. Thompson. MERCHANDISING MILK THROUGH VENDING MACHINES. W. Va. Agr. Expt. Sta. Bul. 430, 49 pp., June 1959.

Development of milk vending, organization, locations, factors affecting sales, costs and returns, regulations, and attitudes.

Cook, Hugh L. A BUSINESS ANALYSIS OF MILK VENDING OPERATIONS. Wis. Agr. Expt. Sta. Res. Bul. 174, 22 pp., Mar. 1951.

Study of use of packaged milk vending machines in Wisconsin; organization of enterprise; locations; costs and returns; sales; prices.

ox, William, E. F. Baumer, and Karl Kepner. THE SALE OF MILK THROUGH HOME DISPENSERS. Ohio Agr. Expt. Sta. Res. Cir. 100, Apr. 17 pp., 1961.

Survey of 100 households using home dispensers; consumption increased about 25 percent after introduction of dispenser; likes and dislikes.

Klein, J. E. COSTS OF DISTRIBUTING MILK THROUGH VENDING MACHINES AND BY RETAIL AND WHOLESALE ROUTES, MARTINSBURG, W. VA. U.S. Dept. Agr. Mktg. Res. Rpt. 229, 42 pp., May 1958.

Describes the operations and compares the costs of milk distribution by vending machine, home delivery, and wholesale routes, when vending is carried on as a complement rather than in competition with wholesale and retail route distribution. Both the physical and monetary costs involved in milk vending are presented as a guide in learning whether such operations are feasible.

Metz, Joseph F., Jr. MILK VENDING MACHINES IN INDUSTRIAL PLANTS. Cornell Univ. Agr. Expt. Sta., A.E. 1033, 7 pp., May 1956.

Survey of 175 industrial plants in upstate New York and 150 in New York City. Types of products in vending machines; location; who operates.

Metzger, Homer B. SELLING MILK BY AUTOMATIC VENDER. Maine Agr. Expt. Sta. Bul. 528, 18 pp., June 1954.

Experiments with 1 machine in 4 locations.

Moe, L. E. and S. Kent Christensen. ECONOMICS OF BULK MILK DISPENSERS FOR HOME USE. Oreg. Agr. Expt. Sta., Bul. 575, 23 pp., Dec. 1960.

Effects of bulk home milk dispensers on consumption, costs of processing and packaging, and costs of distribution.

Padgett, J. H. AN ANALYSIS OF MILK VENDOR OPERATIONS IN SOUTH CAROLINA. S.C. Agr. Expt. Sta. Cir. 100, 15 pp., Nov. 1955.

Survey of operators of vending machines in South Carolina; locations; costs and returns; difficulties.

Spurlock, Hughes H. and Donald E. Hirsch. VENDING MILK IN SMALL CONTAINERS, BY CO-OPERATIVES AND OTHERS. U.S. Farmer Co-op. Serv., FCS Cir. 20, 31 pp., Mar. 1957.

Survey of experiences of 200 operators vending milk indoors in small containers; factors influencing profitability.

Sykes, J. G. MILK VENDING IN VERMONT. Vt. Agr. Expt. Sta. Bul. 592, 12 pp., June 1956.

Experiments with vending machines in various types of locations.

Sykes, J. G. HOME MILK DISPENSERS. Vt. Agr. Expt. Sta. Misc. Pub. 14, 6 pp., June 1960.

Tests with home milk dispensers in Vermont; reaction of consumers and milk dealers; effects on milk consumption and dealers' costs.

Producer-Distributors

- Armentrout, W. W. and R. O. Stelzer. MILK DISTRIBUTION COSTS IN WEST VIRGINIA. II. A STUDY OF COSTS INCURRED BY 75 PRODUCER-DISTRIBUTORS IN THE CLARKSBURG, FAIRMONT, MORGANTOWN, AND WHEELING MARKETS FOR A 12-MONTH PERIOD DURING 1934-35. W. Va. Agr. Expt. Sta. Bul. 270, 32 pp., 1936.
Records were obtained from 17 producer-distributors in the Clarksburg market, 24 in the Fairmont market, 14 in the Morgantown market, and 20 in the Wheeling market for the year ending in 1935. Comparisons were made with 9 milk-distributing plants in the 4 cities and 22 plants in West Virginia studied in 1933. The cost of distribution--plant costs, delivery cost, administration, interest, labor, depreciation, building and equipment cost, truck operation, bad accounts, and other costs are discussed.
- Christensen, R. A. and Dewsnap, H. K. THE RETAIL RAW MILK INDUSTRY IN UTAH, AN ECONOMIC ANALYSIS. Utah Agr. Expt. Sta. Utah Resources Ser. 14, 28 pp., 1962.
Operations, costs, locations, of producer-dealers selling raw milk to consumers; consumption and buying practices of families buying raw milk.
- Farr, Robert. THE DISTRIBUTION OF MILK BY PRODUCER-DEALER IN CONNECTICUT MARKETS, 1937. Conn. Agr. Ext. Serv. Econ. Digest for Conn. Agr. No. 73: 601-608, Dec. 1938.
Number of producer-dealers and commercial-dealers and volume of milk, by markets, 1937. Analysis of sample of 186 producer-dealers; labor, equipment, number of customers, costs.
- Fellows, I. F. AN ECONOMIC ANALYSIS OF THE COSTS INCURRED BY PRODUCERS IN THE RETAIL DISTRIBUTION OF MILK. Univ. of Conn. M.S. thesis, 1940.
- Herrmann, L. F. MILK DISTRIBUTION COSTS IN WEST VIRGINIA. III. A STUDY OF THE COSTS INCURRED BY 67 PRODUCER-DISTRIBUTORS IN THE CHARLESTON, HUNTINGTON, AND PARKERSBURG MARKETS FOR A 12-MONTH PERIOD DURING 1935-36. W. Va. Agr. Expt. Sta. Bul. 282, 26 pp., June 1937.
Results of the study show the average cost to be \$1.94 per cwt. Labor and truck expense were the most important items of cost, amounting to 93 cents and 45 cents respectively. The tendency toward higher costs among plants than among producer-distributors was due to higher wages, additional costs of pasteurization, greater administrative costs, and a larger investment in real estate and equipment.
- Hughes, E. M. THE BUSINESS OF MILK RETAILING BY PRODUCER-DISTRIBUTORS IN NEW YORK STATE. Cornell Univ. Agr. Expt. Sta. Bul. 741, 85 pp., Nov. 1940.
Amount and variation of costs and profits in milk distribution, and the effects of volume of business, labor, route and capital efficiency, and type of business on costs and profits.
- Hughes, E. M. MILK RETAILING BY PRODUCER-DISTRIBUTORS IN NEW YORK STATE. N.Y. Agr. Col., Dept. Agr. Econ. and Farm Mangt. A. E. 239, 18 pp., Feb. 1939.
This study, made from detailed records of 92 producer-distributors located in upstate New York and on Long Island, shows capital invested, costs of distribution and sales outlets, and discusses factors affecting costs and profits.
- Johnson, W. S. and M. V. Waananen. PRODUCER-HANDLERS OF MILK IN WASHINGTON. Wash. Agr. Expt. Sta. Bul. 663, 20 pp., Mar. 1965.
Study of 18 producer-handlers in Yakima and Clark counties and in the Puget Sound marketing area. Description; practices; costs and returns.
- Metzger, Homer and C. W. Pierce. MILK MARKETING BY PRODUCER-DISTRIBUTORS. Pa. Agr. Expt. Sta., Bul. 544, 50 pp., Oct. 1951.
Milk businesses of 77 producer distributors, 1945-46; capital investment; costs and returns from milk distribution; factors influencing milk distribution costs.
- Pierce, C. W. and J. G. Cooper. GALLON JUG SALES ON PENNSYLVANIA DAIRY FARMS. PROCESSING AND SELLING COSTS. Pa. Agr. Expt. Sta. Prog. Rpt. 249, 28 pp., Oct. 1951.
Dairy farmers processing and selling their own milk do not come under the jurisdiction of the Pennsylvania Milk Control Commission. Plant specifications, and costs of a producer producing up to 200 gallons daily.

Rinear, E. H. MILK DISTRIBUTION COSTS OF PRODUCER-DISTRIBUTORS AND SUBDEALERS IN NEW JERSEY. N.J. Agr. Expt. Sta. Bul. 663, 56 pp., Mar. 1939.

Distribution costs involved in processing, bottling, and delivering milk, the relationships between volume of business, capital, and labor, and the conditions whereby one distributor has lower costs than another.

Subdealers, Vendors, Depots

Blanford, C. J. ROUTE RETURNS AT 11 RETAIL MILK DISTRIBUTION BRANCHES IN THE NEW YORK MARKET, OCTOBER 1933. Cornell Univ. Jour. Farm Econ. 105: 2563-2565, Feb. 1938.

Route returns were greater for products whose sales were most variable. They were much higher at some distribution branches than at others. Sales branches in the suburban residential sections market had higher route returns than branches located nearer the center of the city.

Blanford, C. J. AN ECONOMIC STUDY OF THE COSTS OF SELLING AND DELIVERING MILK IN THE NEW YORK MARKET. Cornell Univ. Agr. Expt. Sta. Bul. 686, 60 pp., 1938.

Cost records for October 1933 were obtained from 11 retailers with 774 retail or mixed routes and 33 wholesale routes, and from 7 wholesalers with 111 routes. For the retail routes, kinds of products delivered were analyzed for variations in total costs, types of expenditures, factors affecting costs of branch operations, route costs, size of load, etc. For the wholesalers, types of costs, factors affecting branch operations, size of load, etc. were analyzed.

Loyd, Max I. COSTS OF DISTRIBUTING MILK THROUGH BRANCH SALES PLANTS. N.C. State Col. Unpublished M.S. thesis.

O'Dwyer, Thomas. EFFECT OF COLLECTION, TRANSPORTATION AND REHANDLING COSTS ON ECONOMIES OF SIZE IN FLUID MILK PROCESSING, INCLUDING A BUDGETARY ANALYSIS OF DEPOT COSTS. Cornell Univ. M.S. thesis, 95 pp., June 1965.

Costs of rehandling packaged milk through various types of depots; total costs of collection, transportation, and rehandling of fluid milk, based on conventional cost analysis and on present-value, after-tax approach.

Spencer, L. and H. Kling. THE DISTRIBUTION OF MILK BY SUBDEALERS IN NEW YORK CITY. Cornell Univ., A.E. 320, 10 pp., May 1940.

Subdealers or peddlers handle approximately 4 percent of all milk sold in New York City, or nearly 10 percent of the milk delivered to the doorstep. They have established their businesses mainly in medium-income areas with relatively few stores. Four-fifths of them are located in Brooklyn and Queens. The daily average of sales of milk, mostly Grade B, sold to family trade, is 227 quarts per subdealer.

Spencer, Leland, H. R. Kling, and I. R. Bierly. THE DISTRIBUTION OF MILK BY SUBDEALERS IN NEW YORK CITY. Cornell Univ., Agr. Expt. Sta., A.E. 358, September 1941, 13 pp.

Revision of A.E. 320. Number, volume, practices, earnings, price.

Manufactured Products

Blanford, C. J. SALES OF EVAPORATED MILK BY RETAIL STORES IN THE NEW YORK MARKET. Cornell Univ. Agr. Expt. Sta. A.E. 245, 10 pp., Jan. 1939.

Estimated consumption of evaporated milk amounted to the equivalent of 1.7 tall cans per capita. Sales were greater in low-income areas where the price differential between evaporated milk and grade B milk was greatest. No evidence was found that evaporated milk is substituted for cream, except in low-income areas.

Cooley, R. J. and W. H. E. Reid. ICE CREAM STORE, MODERN TRENDS IN THE RETAIL. Mo. Agr. Expt. Sta. Bul. 420, Oct. 1940.

Daggit, Edmund M. THE TWIN CITIES BUTTER MARKET. In H. B. Price, Ed., The Marketing of Farm Products. Studies in the Organization of the Twin Cities Market. Univ. Minn. Press, pp. 288-319, 1927.

Location of markets; dealers and functions; the call board and price quotations; characteristics of price quotations (use arbitrary grade differentials); inspection; grading; transportation; marketing of country creamery butter; methods of sale, marketing centralizer butter.

Dubov, I. and D.D. MacPherson. FARM-TO-RETAIL PRICE SPREADS FOR CHEDDAR CHEESE IN THE SOUTH. U.S. Dept. Agr. Mktg. Res. Rpt. 318, 23 pp., Apr. 1959.

Eight lots of cheese produced and marketed in the Southeast were analyzed as to costs and merchandising methods from the time the whole milk was received at the plant until the cheese was offered for sale by retailers. The lots were produced in 4 different plants at different times of the year. Total plant costs ranged from 30.2 to 35.5 cents per pound. Prices to consumers ranged from 39 to 69 cents per pound; farm-to-retail price spreads varied from 17 to 48 cents; and the farmer's share of the consumer's dollar ranged from 31 to 56 percent.

Harris, E. S. MARKETING MARGINS FOR BUTTER. U.S. Dept. Agr. Mktg. Res. Rpt. 289, 45 pp., Nov. 1958.

The farm value of butterfat used in making butter has fluctuated more widely than the retail price of butter. No pronounced single trend is noted in the marketing margin during the 1919-57 period. Ten actual shipments were studied to provide greater understanding of the butter marketing process. These studies illustrate the variety of services that the several marketing agencies perform in processing butter and moving it to the consumer.

Ice Cream Field. ANNUAL SURVEY OF INDUSTRY TRENDS. Ice Cream Field magazine, annual since 1953.

Packages; prices; distribution by type of outlet.

Ice Cream Trade Journal. PACKAGES. AN ANNUAL EXCLUSIVE ANALYSIS RELATED TO INDUSTRY SALES. Ice Cream Trade Journal, May 1962.

Sales of ice-cream containers.

Irwin, H. S. SOME EARLY CHICAGO BUTTER MARKETING PRACTICES. Agr. Hist. 35(2): 82-84, Apr. 1961.

Wholesale marketing practices in the 1890's. All butter was bought by inspection--broker or jobber (the buyer) and the selling commission man would inspect each container and agree on a grade.

Jones, W. Webster. THE MARKETING OF COTTAGE CHEESE AND FROZEN DAIRY PRODUCTS IN KANSAS, MISSOURI, AND OKLAHOMA. U.S. Dept. Agr. Mktg. Res. Rpt. 504, 24 pp., Oct. 1961.

Study of marketing of cottage cheese and frozen dairy products by 35 plants in 1959. Production, advertising and sales promotion, distribution practices, and importance of these products in the plants' operations.

Krause, O. E. MARKETING WHEY FROM CHEESE FACTORIES. Wis. Crop Rptg. Serv. Spec. Bul. 44, 32 pp., June 1954.

Utilization of milk solids in Wisconsin, 1951; whey production and disposition; whey products over the years.

Maclin, Theodore. THE MARKETING OF KANSAS BUTTER. Kans. Agr. Expt. Sta. Bul. 216, 79 pp. 1917.

Survey of methods, processes, and costs of marketing butter in Kansas and prices received by farmers.

Miller, Arthur H. MARKETING OF NONFAT DRY MILK SOLIDS BY WISCONSIN PLANTS. Wis. Agr. Expt. Sta. Res. Bul. 175, 32 pp., Apr. 1951.

Market outlets; price evaluation by sellers; sales promotion; price relationship between plants; merchandising price supports.

Mortenson, W. P. MARKET OUTLETS FOR DRY WHOLE MILK. Wis. Agr. Expt. Sta. Stencil Bul. 7, 50 pp., June 1948.

Review of industry development, possibilities for exports, and domestic consumption.

Potts, Roy C. MARKETING PRACTICES OF WISCONSIN AND MINNESOTA CREAMERIES. U.S. Dept. Agr. Bul. 690, 15 pp., July 1918.

Buying policies and practices; marketing of byproducts; shrinkage; marketing and market distribution of creamery butter.

Purcell, Margaret R. NONFAT DRY MILK PACKAGED FOR HOUSEHOLD USE. MARKETING PRACTICES AND COSTS OF MANUFACTURE AND DISTRIBUTION. U.S. Dept. Agr. Mktg. Res. Rpt. 403, 49 pp., June 1960.

Farmers received 15 cents of each dollar spent for instant nonfat dry milk in December 1958. The rest of the consumer's dollar for this product was divided as follows: processors, 14 cents; distributors (for instantizing, packaging, advertising, and distributing products), 48 cents; wholesalers, 5 cents; and retailers, 18 cents.

Stallings, D. G. DRY MILK SALES BOOM IN MINNESOTA STORES. Minn. Agr. Ext. Serv., Minn. Farm Bus. Notes 345: 2-3, Mar. 1953.

Availability of nonfat dry milk; number of brands offered and selling price.

University of Kansas Bureau of Business Research. MARKETING MELLORINE IN SEVEN TRADE AREAS. U.S. Dept. Agr. Mktg. Res. Rpt. 296, 41 pp., Dec. 1958.

Competition among frozen desserts seems to be secondary to the competition among frozen dessert manufacturers to maintain a full line of dairy products. Sales of mellorine in the 7 areas studied are affected by price, promotion, and the marketing strategy of frozen dessert manufacturers in each area.

Utter, Kenneth L., Earl G. Taylor, and A. B. Lowstuter. NEW YORK CITY WHOLESALE BUTTER, MARGARINE, EGG, AND CHEESE MARKET FACILITIES. U.S. Dept. Agr. Mktg. Res. Rpt. 561, 43 pp., Dec. 1962.

Facilities, volume, number and types of dealers, channels, costs, possible new market.

Ward, E. H. and H. L. Cook. CONCENTRATED MILK: SOME ASPECTS OF COSTS AND ACCEPTANCE FOR RETAIL DISTRIBUTION. Univ. Wis. Agr. Econ. 12, 40 pp., Sept. 1954.

Reported or estimated 1951 costs of raw milk, processing, containers, and distribution in various cities, together with cost of whole milk for the concentrating operation. Bibliography.

White, Robert E. SOME FACTORS PERTAINING TO THE POTENTIAL MARKET FOR STERILE CONCENTRATED MILK OVERSEAS. Univ. Ill. M.S. thesis, 44 pp., Aug. 1958.

International trade in dairy products; agricultural trade policies and trade barriers; comparative dairy product prices and transportation costs; probable impact of sterile concentrate on the fluid milk market.

Wiest, Edward. THE BUTTER INDUSTRY IN THE UNITED STATES; AN ECONOMIC STUDY OF BUTTER AND OLEOMARGARINE. Columbia Univ. Studies in History, Economics, and Public Law, 69 (2) and (165) 1916. Ph. D. Thesis.

History of butter manufacturing; history and development of the organization of the butter market; methods of marketing and channels; prices; price determination; margins; seasonality; manufacture of oleomargarine; oleomargarine law.

Merchandising Methods

Clement, Wendell E., Peter L. Henderson, and Cleveland P. Eley. THE EFFECT OF DIFFERENT LEVELS OF PROMOTIONAL EXPENDITURES ON SALES OF FLUID MILK. U.S. Dept. Agr. Econ. Res. Serv. ERS-259, 21 pp., Oct. 1965.

Two-year controlled experiment with 3 different levels of promotional expenditures in 6 markets.

Gooding, D. I., E. F. Baumer, and W. D. Eickhoff. FACTORS RELATING TO THE SALE OF DAIRY PRODUCTS IN RETAIL STORES. Ohio Agr. Expt. Sta. Res. Bul. 910, 11 pp., May 1962.

Analysis of sale of dairy products in 60 stores in Cleveland, Columbus, and Dayton, 1958. Effects of space allocation, consumer income on sales of dairy products; policies and practices.

Hind, James F. and Mardy Myers. EVALUATION OF PROMOTIONAL MATERIALS ON HOME DELIVERY ROUTES, CUMBERLAND, MD. U.S. Dept. Agr., Agr. Mktg. Serv. AMS-394, 14 pp., Aug. 1960.

A 10-week test on milk routes using flyers and recipe booklets.

Huelskamp, Henry J. EVALUATION OF RETAIL MERCHANDISING PRACTICES FOR PEARS, PEANUT BUTTER, AND CREAMERY BUTTER. U.S. Dept. Agr. Mktg. Res. Rpt. 180, 16 pp., June 1957.

Controlled retail store experiments to measure the effect of specific merchandising practices on the sales of pears, peanut butter, and creamery butter in St. Louis, Mo., January 16-April 7, 1956.

Huelskamp, Henry J., William S. Hoofnagle, and Mardy Myers. EFFECT OF SPECIFIC MERCHANDISING PRACTICES ON RETAIL SALES OF BUTTER. U.S. Dept. Agr., Mktg. Res. Rpt. 117, May 1956.

Controlled retail store experiments to measure the effect of specific merchandising practices on the sales of butter.

Johnson, Allen O. EVALUATION OF MILK MERCHANDISING PRACTICES IN NEW YORK STATE GROCERY STORES. Cornell Univ., Ph. D. thesis, 1962.

Krueckeberg, Harry F. WHERE TO FIND THE FACTS ON MERCHANDISING DAIRY PRODUCTS IN SUPERMARKETS. Univ. Del. Food Business Inst., American Dairy Assoc. coop., 33 pp., July 1965.

Miles, James F. METHODS USED BY DISTRIBUTORS TO INCREASE MILK SALES IN SOUTH CAROLINA. S.C. Agr. Expt. Sta. Bul. 481, 23 pp., Apr. 1960.

Advertising and sales promotion practices, costs, and results.

Pauls, D. E. and M. V. Waananen. MAINTAINING DAIRY SALES ON RETAIL ROUTES. Wash. Agr. Expt. Sta. Cir. 327, April 1958, 11 pp.

Driver payment plans; working conditions; sales contests; training; incentive programs.

Smith, H. M., W. E. Clement, and W. S. Hoofnagle. MERCHANDISING NATURAL CHEDDAR CHEESE IN RETAIL FOOD STORES. U.S. Dept. Agr., Mktg. Res. Rpt. 115, Pa. State Univ., coop., 11 pp., Apr. 1956.

A controlled experiment in supermarkets, using the Latin-square design to test 4 methods of displaying natural Cheddar cheese.

Spencer, Leland. PROGRAMS FOR PROMOTING INCREASED SALES OF MILK. Cornell Univ. Agr. Expt. Sta. A. E. Res. 133, 93 pp., Dec. 1963.

National and local programs for milk promotion; financing milk promotion under Federal milk orders; State-administered promotion programs; effects of promotional programs.

Spurlock, Hughes H. AN APPLICATION OF ADVERTISING AND SALES PROMOTION TO THE SALE OF DAIRY PRODUCTS. Univ. Ky. M.S. thesis, 1954.

Steele, Howard L. and C. W. Pierce. MERCHANDISING COTTAGE CHEESE IN THE ERIE AND YORK MARKETS OF PENNSYLVANIA, 1947-1951. Pa. Agr. Expt. Sta. Paper No. 1830 Jour. Ser., 12 pp., Oct. 1953.

Study of merchandising programs for cottage cheese initiated by distributors between January 1947 and June 1951. Survey of consumers on what prompted first purchase of a brand.

Stockman, L. H. and W. E. Clement. EFFECTS OF COUPONS AND SPECIAL OFFERS ON SALES OF BUTTER, MARGARINE, SHORTENING, AND SALAD AND COOKING OILS. U.S. Dept. Agr. Mktg. Res. Rpt. 356, 23 pp., Aug. 1959.

The most apparent effect of coupons and special promotion offers in influencing the demand for butter, margarine, shortening, and salad and cooking oils was to influence some customers temporarily to switch brands. Among families most likely to use deals were those that were white, large, in upper income level, of higher educational level than those not availing themselves of the deals, or had young homemaker.

Tomkins, N. C. THE SALE AND ADVERTISING OF DAIRY PRODUCTS. 127 pp., 1924. The Olsen Publishing Co., Milwaukee.

Methods of advertising and selling ice cream, market milk, butter, and cheese are discussed, as well as methods of selling and advertising employed by the dairy farmer.

Tye, H. J. and M. V. Waananen. PROMOTING COTTAGE CHEESE SALES ON HOME DELIVERY ROUTES. Wash. Agr. Expt. Sta. Cir. 364, 15 pp., Nov. 1959.

Market tests of free samples and leaflets on home-delivery routes.

- Waananen, Martin V. METHODS USED BY WASHINGTON MILK HANDLERS TO INCREASE DAIRY PRODUCT SALES. Wash. Agr. Expt. Sta. Cir. 331, 7 pp., May 1958.
Survey of 82 plants in Washington, 1957. Type of outlet, geographic area of distribution; use of subdealers; training for routemen; quantity discounts; advertising and promotion.
- Waite, W. C. and A. B. Larson. SALES OF BUTTER AND MARGARINE IN MINNEAPOLIS RETAIL STORES. Minn. Agr. Ext. Serv. Farm Business Notes 327: 4, Nov. 1950.
A survey to determine quantities sold and the relation of certain merchandising practices to sales.
- Waber, Jack. A HANDBOOK FOR DAIRY ADVERTISING. Idaho Agr. Expt. Sta. Bul. 279, Western Reg. Publ., 59 pp., June 1957.
What is advertising? Groundwork for advertising; how to advertise effectively; how to plan sales promotion and advertising; which medium is best?

COOPERATIVES

- Anderson, H. G. and A. H. Benton. COOPERATIVE MARKETING OF DAIRY PRODUCTS. N. Dak. Agr. Expt. Sta. Bul. 238, 115 pp., 1930.
The purpose of this bulletin is "to furnish the basis for an appraisal of the relative merits of cooperative institutions marketing North Dakota dairy products." Deals with cooperative and federated cooperative creameries.
- Atkeson, F. W. and D. L. Fourt. COOPERATIVE CREAM POOLS IN IDAHO. Idaho Agr. Expt. Sta. Bul. 144, 33 pp., 1925.
Discusses history of the pools in Idaho, results obtained, advantages, organization, and important factors in the success of a pool, and gives legal forms for organization and operation and business forms.
- Bakken, H. H. MARKETING WISCONSIN FOREIGN CHEESE BY FEDERATION. Wis. Agr. Expt. Sta. Bul. 380, 28 pp., 1926.
A descriptive account of the foreign-type cheese industry, and the plans of leading dairy-men in producing districts for organizing into a federation of local cheese factory associations, a central sales organization, and two district cooperative cheese corporations.
- Bartlett, Roland Willey. COOPERATION IN MARKETING DAIRY PRODUCTS. Charles C. Thomas, Pub., 299 pp., 1931.
Part I; Aims and Agencies; Part II: Price Plans.
- Baughman, Ernest T. A STUDY OF THE EFFICIENCY OF COOPERATIVE CREAMERIES IN WEST CENTRAL MINNESOTA WITH SUGGESTED ADJUSTMENTS. Univ. Minn. M.S. thesis, 1941.
- Baumer, Elmer. FINANCING DAIRY COOPERATIVES. Univ. Ohio, M.S. thesis, 1946.
- Benton, A. H. MARKETING DAIRY PRODUCTS: CREAMERIES AND COOPERATIVE CREAM SHIPPING STATIONS IN NORTH DAKOTA. N. Dak. Agr. Expt. Sta. Bul. 182, 40 pp., 1924.
Of at least 145 local creameries, 38 were in operation in 1923--all but 4 manufacturing butter. The bulk of cream in North Dakota is purchased by centralizer creameries, 14 of which are located in the State. Between 25 and 30 shipped cream to their plants in neighboring States. In 1923 there were 1,135 cream stations; 1,209 were operated by centralizer creameries and independent cream buyers, and 26 by cooperative cream shipping associations. The average value of equipment of the cooperative stations was \$452, and average operating expenses were \$1,822. The successful ones, one third, handled an average of 76,527 pounds of butterfat and had an average of 105 members.
- Black, J. D. and H. B. Price. COOPERATIVE AND CENTRAL MARKETING ORGANIZATION. Minn. Agr. Expt. Sta. Bul. 211, 122 pp., 1924.
Discusses 16 problems which local cooperatives acting alone were unable to solve satisfactorily. Several organizations illustrate the different degrees of centralization and integration in the United States, and the principal differences between these and federated organizations are pointed out. Organization and management problems are discussed, including pooling, controlling the time of movement to market, monopoly, control of quality and distribution of the product, disposing of surplus crops, selling, integration, the status of locals, the membership contract, financing, nonmember business, and improving the organization and management of the locals.

- Blanford, Charles J. COOPERATIVE MARKETING OF MILK IN THE NEW YORK MILK SHED. Cornell Univ. Agr. Ext. Serv. A.E. 195, 6 pp., Dec. 1937.
Survey of 762 dairy plants by extension staffs of N.Y., Vt., and Pa. Number of producers and volume of milk, by type of cooperative and type of operation.
- Buck, John T. AN ECONOMIC ANALYSIS OF THE SHIFT FROM CREAM TO WHOLE MILK IN MINNESOTA COOPERATIVE CREAMERIES. Univ. Minn., Ph. D. thesis, 1951.
- Camburn, O. M. COOPERATIVE CREAMERY OPERATION IN VERMONT. Vt. Agr. Expt. Sta. Bul. 335, Sept. 1931.
A study of the internal operations of 6 cooperative creameries. Total operating costs, and plant operating, overhead, and receiving room costs, as totals and per hundredweight of milk; distribution of annual land and building costs, equipment, wage, and electricity costs; costs of generating steam, testing, handling milk shipped, separating and handling patrons' cream, manufacturing butter, condensing skim milk, and manufacturing casein. Operating costs by products and man-hours, total and per 1,000 pounds, used in handling milk, separating milk, handling cream, and manufacturing products.
- Carlisle, R. M. and J. W. Hicks. MILK BARGAINING ASSOCIATIONS SERVING INDIANA. Purdue Univ. Agr. Expt. Sta. Sta. Circ. 378, 14 pp., Dec. 1951.
Study of 19 of the 21 associations serving Indiana. Services; operations; evaluation.
- Cook, Hugh L. DAIRY COOPERATIVE MANAGEMENT SALARIES, OTHER CONDITIONS OF EMPLOYMENT, AND RESPONSIBILITIES IN WISCONSIN, MINNESOTA AND IOWA. Wis. Agr. Expt. Sta. Agr. Econ. 22, 35 pp., Feb. 1957.
Survey of general managers of 33 larger manufacturing cooperatives to determine the responsibilities of general managers, their background, salaries, tenure, and other conditions of employment.
- Cotton, W. P., Gabriel Lundy, and L. M. Brown. COOPERATIVE CREAMERIES IN SOUTH DAKOTA. S. Dak. Agr. Expt. Sta. Bul. 363, 31 pp., July 1942.
Organizational characteristics; financing; assembly; butterfat buying policies; factors affecting net returns.
- Dankers, W. H. et al. A STUDY OF DAIRY MARKETING. THREE COOPERATIVE ASSOCIATIONS. Minn. and Wis. Agr. Ext. Serv. 76 pp., Nov. 1954.
Operations of cooperatives in Duluth-Superior area.
- Davidson, Donald R. HOW MANUFACTURING CO-OPS MARKET GRADE A MILK. U.S. Farmer Co-op. Serv., FCS Cir. 26, 51 pp., Oct. 1960.
Survey of 124 dairy manufacturing cooperatives marketing fluid milk in Minnesota, Wisconsin, and Iowa. Advantages and disadvantages of adding a Grade A operation. Includes detailed analyses of 3 concerns.
- Davidson, Donald R. IMPACT OF DAIRY COOPERATIVES ON FEDERAL ORDER MILK MARKETS. U.S. Farmer Co-op. Serv. Gen. Rpt. 114, 42 pp., Aug. 1963.
Number, size, and function of cooperatives, 1960. Comparison of member and nonmember producers.
- Davidson, Donald R. GRADE A MILK MARKETING BY MANUFACTURING CO-OPS. U.S. Farmers Co-op. Serv. Gen. Rpt. 56, 46 pp., 1959.
Study of 81 manufacturing cooperatives in Minnesota, Wisconsin, and Iowa that handled Grade A milk. Size, location, and other major factors determine the kind and number of Grade A marketing functions a cooperative can perform.
- Elsworth, R. H. COOPERATIVE MARKETING OF MILK AND CREAM. 1924, A PRELIMINARY REPORT. U.S. Dept. Agr. Bur. of Agr. Econ., 21 pp., 1925.
Statistical study of 124 dairy cooperatives: Year organized; membership; milk marketed by type of organization and size; list of associations.
- Erdman, H. E. THE "ASSOCIATED DAIRIES" OF NEW YORK AS PRECURSORS OF AMERICAN AGRICULTURAL COOPERATIVES. Agr. Hist. 36(2): 82-90, Apr. 1962.
The earliest forms of cooperatives: cheese factories in the 1850's and 1860's.
- Fredell, G. Herbert. THE MINNESOTA COOPERATIVE CREAMERIES ASSOCIATION, INC. Univ. of Minn. M.S. thesis, 1925.

- Fuhrman, W. U., H. H. Culter and W. P. Thomas. ECONOMIC ANALYSIS OF THE WEBER CENTRAL DAIRY ASSOCIATION. Utah Agr. Expt. Sta. Bul. 301, 42 pp., 1942.
Factors affecting the marketing of dairy products and the relationship of marketing to production. The report describes the association, a cooperative organized in 1923, and analyzes the financial history and the methods used in marketing sweet cream, butter, powdered milk, and market milk. Membership relations, operations, receipts of milk and butterfat, production and distribution costs by departments and the major expense item--basis of assigning charges to department, expenses per pound of butterfat, costs of processing market milk, manufacturing and selling powdered milk, departmental losses and profits, net profits per pound of butterfat by departments, returns to patrons, prices paid, etc. are discussed.
- Gessner, Anne L. INTEGRATED DAIRY OPERATIONS THROUGH FARMER COOPERATIVES. U.S. Farmer Co-op. Serv. Gen. Rpt. 69, 39 pp., Nov. 1959.
Survey of U.S. dairy cooperatives in 1957; dairy products manufactured; fluid milk distributed; combinations of dairy products; size distribution of manufacturing plants; transportation.
- Governor's Dairy Marketing Commission. IMPROVING THE EFFICIENCY OF DAIRY COOPERATIVES IN WISCONSIN. Second of two reports to Governor Gaylord Nelson. Univ. Wis., 46 pp., Sept. 1960.
Growth of Wisconsin cooperatives, 1932-58; present status; potential economic advantages to large-scale operations; needs and opportunities of cooperative reorganization and expansion.
- Hansen, Peter. SOME TRENDS OF COOPERATIVE DAIRY MARKETING IN MINNESOTA. Univ. Minn. M.S. thesis, 1930.
- Harrington, David N. SOME ECONOMIC CONSIDERATIONS IN THE HANDLING OF CREAM BY COOPERATIVE EXCHANGES IN MISSOURI. Univ. Mo. M.S. thesis, 1952.
- Henderson, Peter L. A STUDY OF THE VARIATION IN COST OF HANDLING MILK FROM PRODUCER TO CONSUMER BY SIZE OF COOPERATIVE ASSOCIATION IN GEORGIA. Univ. Ga. M.S. thesis, 1948.
- Herrmann, Louis F. and William C. Welden. DISTRIBUTION OF MILK BY FARMERS' COOPERATIVE ASSOCIATIONS. U.S. Farm Credit Admin. Cir. C-124, 72 pp., June 1941.
Status and development of cooperative distributing fluid milk; organizing problems and methods; financing; sales policies and practices; relations with other dealers and with producers; operating methods; costs; management and control.
- Hirsch, Donald E. DAIRY CO-OPS. DURING WORLD WAR II. U.S. Farm Credit Admin. Spec. Rpt. 217, 69 pp., Febr. 1951.
Prices, price control; production, production control; marketing; human factors, finances.
- Hirsch, Donald E. DAIRY COOPERATIVES AND LARGE-SCALE PLANTS. Farmer Co-op. Serv. Misc. Rpt. 155, 37 pp., July 1951.
Trend toward large-scale plants; factors affecting, measurement of, and reasons for trend. Size distribution of cooperative and other creameries in Minnesota, 1942, and of cheese plants in Wisconsin, 1932-47.
- Hirsch, Donald E. SELLING MILK--IDEAS FOR COOPERATIVE MANAGERMENTS. U.S. Farmer Co-op. Serv. Gen. Rpt. 20, 50 pp., 1955.
Outlines problems in selling fluid milk and describes ways in which cooperatives have sought to meet these problems. Also provides helpful hints on developing sales personnel and maintaining good public relations.
- Hirsch, D. E. MILK DISTRIBUTION COSTS OF GEORGIA COOPERATIVES. U.S. Farmer Co-op. Serv. Gen. Rpt. 16, 39 pp., May 1955.
Results of a 1953 cost study of 13 Georgia milk distributing cooperatives. Comparing investment and operating costs of the associations classified into 3 groups according to size.
- Hirsch, Hans G. THE ROLE OF MILK PRODUCER'S COOPERATIVES UNDER THE AGRICULTURAL MARKETING AGREEMENT ACT. Univ. Minn. Ph. D. thesis, 1950.
- Hoobler, Sharon Q. TRENDS IN THE INTEGRATION OF COOPERATIVE DAIRY PRODUCTS MARKETING CHANNELS IN THE PACIFIC NORTHWEST. Oreg. State Col. M.S. thesis, 1949.

James, D. L. and N. C. Jamison. A SURVEY OF MARKETING PROBLEMS OF THE OREGON CREAMERIES. Oreg. Agr. Expt. Sta. U.S. Bur. Agr. Econ., 1926, Cir. 7, 26 pp., 1926.

The causes of and remedies for the unsatisfactory marketing conditions for butter produced in Oregon. The manufacturing facilities in the State were found to be adequate, and the managerial and manufacturing ability compared favorably with that of other States. Competition has resulted in purchasing cream with little if any regard for grades, and in butter being manufactured without regard to grades, the market being glutted with butter scoring from 85 to 93, with an average of about 89.

Jesness, O. B. et al. PRODUCERS' COOPERATIVE MILK-DISTRIBUTING PLANTS. U.S. Dept. of Agr. Bul. 1095, 44 pp., 1922.

The essentials of success are set forth here as a volume of business sufficient to make economical operation possible, efficient management, conviction on the part of members that cooperation will benefit them, adequate capital, maintenance of a high standard of quality in the products, and sound business policy. Specific contracts between the organization and the producers are deemed advisable as giving permanence and stability to the organization. Methods of financing; forming the association; incorporating; the building and equipment; qualifications, duties, and responsibilities of the managers; problems of operating, including the securing of an adequate and proper milk supply, efficient and economical plant operation, and sales policies and methods of market distribution; and the records necessary are discussed in considerable detail.

Kirsch, William, THE HISTORY AND ACCOMPLISHMENTS OF THE WISCONSIN CHEESE PRODUCERS' FEDERATION. TEN YEARS OF SUCCESSFUL COOPERATIVE MARKETING OF AMERICAN CHEESE. Wis. Dept. Markets Bul. 6(5): 23 pp., Nov. 1925.

Organization, growth, and accomplishments of the Federation; the first cooperative law.

Koller, E. Fred and O. B. Jesness. ORGANIZATION AND OPERATION OF MINNESOTA CO-OPERATIVE CREAMERIES. Minn. Agr. Expt. Sta. Bul. 333, 82 pp., Reprinted Aug. 1938.

Organization; financing; patronage and butterfat supply; measures of creamery efficiency; manufacturing operations; marketing operations; relation of operating factors to butterfat returns.

Laughlin, Gordon C. and T. G. Stitts. PATRONAGE PROBLEMS OF MID-WEST PRODUCERS CREAMERIES, INC. U.S. Farm Credit Admin. Cir. No. C-106, 59 pp., Feb. 1938.

Corporate and financial structure; services to members; membership policies; financing; procurement (assembly) methods and cost; hauling rates; operations affecting prices paid for butterfat; costs of operation; creamery operating margins; price systems used.

Lavine, Hymen. THE NEW ENGLAND MILK PRODUCERS' ASSOCIATION. Clark Univ. M.S. thesis, 1937.

Link, Harold F. COOPERATIVE MARKETING OF WHOLE MILK. Univ. Ky. M.S. thesis, 1927.

Macklin, Theodore. MARKETING BY COOPERATIVE SALES COMPANIES. Wis. Agr. Expt. Sta. Bul. 346, 32 pp., 1923.

Study of Wisconsin Cheese Producers' Federation, a cooperative national sales company. There were 4,368 farmer patrons of the 168 cheese factories were members in 1921. This organization had 3 essential parts: local cooperative cheese factories or associations, the district exchanges with cold-storage warehouses and equipment for paraffining cheese, and the sales organization. The cheese federation is said to have narrowed the margin by an average of 4 cents per dollar of sales, and this saving goes to the cheese producers.

Macklin, Theodore. COOPERATIVE DAIRY MARKETING PLANS. Wis. Agr. Expt. Sta. Bul. 367, 24 pp., 1924.

Commodity marketing, or selling through cooperative organizations founded on a single man interest, is described. The organization of local bodies and their federation are outlined. A combined general dairy marketing plan providing for 5 forms of local cooperative organizations and 3 federations of locals to render central selling service for a specific finished article is outlined. Private condenseries and condensed milk sales organizations are included, as well as private city milk distribution.

Macklin, Theodore and M. A. Schaars. COOPERATIVE BUTTER MARKETING IN WISCONSIN. Wis. Agr. Expt. Sta. Bul. 401, 30 pp., 1928.

This bulletin is based upon data secured by personal visits to 182 cooperative creameries in 29 counties, being 64.3 percent of the cooperative creameries in Wisconsin. Comparisons are made of costs, net prices received for butter shipped to New York City, and

- prices paid for butterfat in 1925 by groups of creameries arranged according to size. Comparisons of prices and of cost of 14 federated and 4 other groups of similar number and size are made. A description of and statistics for the butter industry of the tri-state (Wisconsin, Minnesota, and Iowa) butter region, and information as to the organization and methods of Wisconsin cooperative creameries are also included.
- Manning, T. W., E. Fred Koller, and O. B. Jesness. MINNESOTA DAIRY COOPERATIVES. Minn. Agr. Expt. Sta. Bul. 420, 44 pp., June 1953.
Survey of 538 (all) dairy cooperatives, 1950. Location; organizational characteristics; financing; operations; expenses; margins; operating efficiency; regional cooperatives.
- Metzger, Hutzel. COOPERATIVE MARKETING OF FLUID MILK. U.S. Dept. Agr. Tech. Bul. 175, 91 pp., 1930.
Development of milk-marketing associations, types of associations, organization, pooling practices, financing, seasonal variation, and production control plans, price policies and plans, eight representative associations, and the National Cooperative Milk Producers Federation.
- Miller, G. H. HISTORY OF MILK PRODUCERS ASSOCIATION OF CENTRAL CALIFORNIA, 1917-1949. MODESTO, MILK PRODUCERS ASSOCIATION OF CENTRAL CALIFORNIA. 39 pp., 1951.
- Monroe, William J. MULTIQUEART CONTAINERS--THEIR SIGNIFICANCE IN DAIRY COOPERATIVES. U.S. Farmer Co-op. Serv. Gen. Rpt. 54, 16 pp., 1959.
Practices and problems of 187 dairy cooperatives handling multiquart containers. Characteristics of these associations, the increasing significance of multiquart containers, and the influence of these containers on various phases of milk operations, including distribution problems, costs, sales, practices, volume, and methods of competing.
- Morefield, Edward C. THE LAND O'LAKES CREAMERIES, INC., WITH SPECIAL REFERENCE TO THE MARKETING OF ITS PRODUCTS. State Univ. Iowa, M.S. thesis, 1943.
- Montgomery, George and W. J. Caulefield. THE ORGANIZATION AND OPERATION OF COOPERATIVE CREAMERIES IN KANSAS. Kans. Agr. Expt. Sta. Bul. 259, 1932.
The problems and essentials in organizing a cooperative creamery, building and equipment costs, the principles of successful operation, the relation of volume of business to operating expenses, and the factors affecting the price that can be paid for butterfat are discussed. Data were obtained in a survey of 9 cooperative creameries in northcentral Kansas.
- Naden, Kenneth D. ECONOMIC ANALYSIS OF THE ORGANIZATION AND OPERATIONS OF THE CHALLENGE CREAM AND BUTTER ASSOCIATION. Univ. Calif. Ph. D. thesis, 1948.
- Oefstos, Henry M. COOPERATIVE MARKETING OF BUTTER AND ITS EFFECTS ON QUALITY IMPROVEMENT AND PRICE RETURNS. N. Dak. Agr. Col. M.S. thesis, 1929.
- Park, William L. COMPENSATION OF MILK PRODUCER COOPERATIVES FOR MARKET-WIDE SERVICES UNDER FEDERAL MILK ORDERS. Cornell Univ. Ph. D. thesis, 1963.
- Price, H. Bruce. MARKETING COUNTRY CREAMERY BUTTER BY A COOPERATIVE SALES AGENCY. Minn. Agr. Expt. Sta. Bul. 244, 45 pp., Mar. 1928.
The organization and operations of Land O'Lakes Creameries, Inc., agency for 420 creameries, are described, and the advantages of the organization and the improvements it has brought about are discussed.
- Quintus, Paul E. OPERATING METHODS OF CHALLENGE CREAM AND BUTTER ASSOCIATION. U.S. Farm Credit Admin. Cir. C-119, 45 pp., May 1940.
Organization, operations, capital structure, settlement methods.
- Quintus, Paul E. and T. G. Stitts. BUTTER MARKETING BY COOPERATIVE CREAMERIES IN THE MIDDLE WEST. U.S. Farm Credit Admin. Bul. No. 36, 66 pp., June 1939.
Sales outlets and channels, marketing practices, prices and pricing, packaging, transportation. In 1936, 1,444 cooperative plants produced 39 percent of U.S. butter.
- Quintus, Paul E. and T. G. Stitts. COOPERATIVE FLUID-MILK ASSOCIATIONS IN IOWA. U.S. Farm Credit Admin., Iowa Agr. Expt. Sta., coop., Cir. C-150, 72 pp., Sept. 1937.
Early cooperative efforts; cooperative operating practices; sales plans; payments to producers; procurement of milk and cream (assembly).

- Roberts, John B. and H. B. Price. ORGANIZATION AND MANAGEMENT OF THE FALLS CITIES COOPERATIVE MILK PRODUCERS' ASSOCIATION. Ky. Agr. Expt. Sta., U.S. Farm Credit Admin., Coop. Bul. 390, 87 pp., Jan. 1939.
Organization of the Association and experiences and problems encountered. Includes a survey of 228 farmers.
- Robotka, Frank and Gordon C. Laughlin. COOPERATIVE ORGANIZATION OF IOWA FARMERS' CREAMERIES. U.S. Farm Credit Admin. Iowa Agr. Expt. Sta., Coop., Bul. 14, 92 pp., Apr. 1937.
Legal basis of Iowa cooperative creameries; membership and policies; financial relationship between creamery and its members.
- Robotka, Frank and Frank Shefrin. COOPERATIVE CREAMERIES IN THE UNITED STATES. Pan Amer. Union, Div. of Agr. Coop., Ser. on Co-ops. 34 pp., November 14, April 1940.
Historical development; local creameries and centralizers; cooperative form of organization; assembly methods; scale of operations; cost of manufacturing butter; methods of paying patrons; butter marketing methods; cooperative sales agencies; costs and margins for butter.
- Shoemaker, Karl G. STUDY OF COMPARISON OF METHODS AND EFFICIENCY FACTORS IN PROCUREMENT OF BUTTERFAT AND WHOLE MILK BY COOPERATIVE CREAMERIES IN KANSAS. Kans. State Col. M.S. thesis, 1948.
- Sosnick, S. H. and J. M. Tinley. MARKETING PROBLEMS OF SAN JOAQUIN VALLEY COOPERATIVES. Calif. Agr. Expt. Sta. Mimeo Rpt. 228, 61 pp., Jan. 1960.
Study of 5 dairy cooperatives and of marketing conditions affecting them.
- Stern, J. K. MEMBERSHIP PROBLEMS IN A MILK MARKETING ORGANIZATION. Pa. Agr. Expt. Sta. Bul. 256, 16 pp., 1930.
Data from 902 members of cooperative organizations in the Pittsburgh milk marketing area analyzed: Reasons why members joined, benefits of membership, sources of information regarding the organization, regular attendance at different kinds of meetings, age of members, satisfaction with the butterfat test of the organization, relation of size of herd and success of the farmer, and the differences as to success, attitudes, intelligence, interest in community improvements, credit and financial ratings, and other factors.
- Stitts, T. G. and William C. Welden. ECONOMIC ANALYSIS OF BARGAINING PROBLEMS OF MILK COOPERATIVES. U.S. Farm Credit Admin. Cir. C-104, 54 pp., Apr. 1937.
Economic factors affecting fluid milk prices; price differentials between fluid milk and manufacturing milk or butterfat; practices in 15 associations in maintaining and using statistical data.
- Stitts, T. G. and Gordon C. Laughlin. ORGANIZATION AND OPERATING PROBLEMS OF NEBRASKA COOPERATIVE CREAMERIES. U.S. Farm Credit Admin. Bul. 11, 56 pp., Mar. 1937.
Cooperative centralizers, development of local cooperative creameries, corporate changes since organization, creameries as operating units.
- Stitts, T. G., et al. REPORT ON THE SURVEY OF MILK MARKETING IN THE NORTHEASTERN STATES. Farmer Co-op. Serv., National Co-op. Milk Prod. Fed., Co-op. 94 pp., July 1933.
Receipts; milk sheds; cooperatives.
- Swartz, Donald M. PRODUCTION AND SALES RECORDS FOR MILK DISTRIBUTING COOPERATIVES. U.S. Farm Credit Admin. Misc. Rpt. 159, Feb. 1952.
Present and suggest record-keeping systems. Forms.
- Taylor, C. C. and G. H. Ward. NORFOLK PLAN OF MARKETING MILK. Va. Agr. Ext. Serv. Bul. 116, 19 pp., Nov. 1930.
The base allotment plan of the Norfolk Cooperative Milk Producers Association.
- Maryland and Virginia Milk Producers Association. THE WASHINGTON MILK MARKET. 24 YEARS OF COOPERATION. 61 pp., Sept. 1944.
Early history; organization; base-surplus plan; volume handled by independents and the association in Washington metropolitan area, 1924-1943.

Trelogan, Harry C. and French M. Hyre. COOPERATIVE MARKETING OF DAIRY PRODUCTS. U.S. Farm Credit Admin. Cir. C-116, 47 pp., June 1939.

Number of dairy and other cooperatives, 1870-1936. In 1936, cooperatives sold 31.7 billion pounds of fluid equivalent, including 48.2 percent of the market milk and cream, 39.0 percent of the creamery butter, 24.9 percent of the cheese, and 2.8 percent of concentrated milks. Income in 1936.

Ulrey, O. and Arthur Howland. COOPERATIVE AND NON-PROFIT DAIRY ASSOCIATIONS IN MICHIGAN. Mich. Agr. Expt. Sta. Spec. Bul. 414, 59 pp., Feb. 1956.

Organization and operations of dairy marketing cooperatives and production associations, 1952-53.

Valko, Laszlo. COOPERATIVE DAIRY ASSOCIATIONS IN WASHINGTON. Wash. Agr. Expt. Sta. Cir. 287, 15 pp., July 1956.

Survey of all dairy cooperatives, 1952. Organizational characteristics, policies and practices of management, volume and type of business, capital and financial structure.

Warburton, H. W. and J. C. Thompson. AN ECONOMIC ANALYSIS OF GEORGIA MARKET MILK COOPERATIVES. Ga. Agr. Expt. Sta. Bul. (n.s.) 78, 39 pp., Oct. 1960.

Comparative data for size distribution and 12 Georgia cooperative market milk associations, 1957.

Welden, William C. and T. G. Stitts. MILK COOPERATIVES IN FOUR OHIO MARKETS. U.S. Farm Credit Admin. Bul. 16, 73 pp., Apr. 1937.

Development of cooperative milk marketing in Akron, Columbus, Dayton, and Portsmouth; market price structure; market stability and control of surplus; control of farm-to-city milk transportation; butterfat testing and sampling by the associations; other activities of associations; membership relations.

Wesson, William T. ECONOMIC ANALYSIS OF DAIRY COOPERATIVES IN NORTH CAROLINA. N.C. State Col. M.S. thesis, 1949.

Williamson, Paul. FACTORS INFLUENCING THE CONSOLIDATION OF COOPERATIVE CREAMERIES IN SOUTH DAKOTA. S. Dak. State Col. M.S. thesis, 1957.

Young, P. A., C. G. McBride and R. W. Sherman. MILK MARKETING INFORMATION ON OHIO MARKETS, 1932. COOPERATIVE DAIRY MARKETING ASSOCIATION AND THEIR MILK SELLING PLANS. Ohio State Univ. Dept. of Rural Econ. Bul 46, 32 pp., 1932.

The flat price, use classification, and base surplus methods of selling milk. The plans used in Akron, Canton, Cincinnati, Columbus, Dayton, Springfield, and Portsmouth, Ohio, and Pittsburgh, Pennsylvania are discussed. The operation of typical base surplus plans--one with a different base used for each month, and one with a base set according to the producers' production during the last 5 months of the year--is illustrated, using 5 typical producers.

TRANSPORTATION

Anderson, J. C. A BRIEF HISTORY OF NEW YORK CITY'S MILK TRAFFIC. N.Y., Ontario and West. Ry., Dec. 1902.

Rail shipments of milk from Orange County to New York City in the 1840's.

Groves, Francis W. and Hugh L. Cook. HAULING AND TRANSPORTATION COST FUNCTIONS FOR WISCONSIN MILK. Wis. Agr. Expt. Sta. Econ. 31, 46 pp., Apr. 1961.

Hauling: Costs, potential economies, charges. Interplant transportation: Costs, factors affecting costs; charges.

Padgett, Jerry H. MORE EFFICIENT TRANSPORTATION PATTERNS AND MARKETING METHODS FOR INDIANA DAIRY PRODUCTS. Purdue Univ. Ph. D. thesis, Jan. 1960.

Utilizes the transportation model in analyzing surplus milk disposal arrangements for Indiana.

Pierce, C. W. and Edward F. Johnston. COUNTRY PLANT DIFFERENTIALS IN THE PITTSBURGH MILKSHED. Pa. Agr. Expt. Sta., A.E.&R. S. 1, 20 pp., Jan. 1956.

Costs of country plants, 1952-53; costs of transportation to city plants; appropriate price differentials for country plants.

- Pollard, A. J. TRANSPORTATION OF MILK AND CREAM TO BOSTON. Vt. Agr. Expt. Sta., New Eng. Res. Council on Mktg., and Food Supply, coop., Bul. 437, 42 pp., June 1938.
Outline of milksheds and creamsheds of Boston, seasonally; methods of transportation; transportation rates and services.
- Schneider, E. DIVERSION OF BUTTER TRAFFIC FROM RAIL TO TRUCK. U.S. Dept. Agr. Bur. Agr. Econ., Mktg. & Transportation Situation, MTS-86: 6-13, July 1950.
Table 5 shows the estimated reduction in rail revenues due to diversion of butter from railroads to trucks, by principal origins.
- Sonley, L. T. COST OF TRANSPORTING MILK AND CREAM TO BOSTON. Vt. Agr. Expt. Sta. Bul. 462, 56 pp., July 1940.
Outlines the development of transportation facilities and tariff structures in the Boston area, describes present rates and methods of shipment, determines the approximate cost of the services and operations associated with transport.
- Thompson, R. G. and E. F. Koller. INTERPLANT MILK TRANSPORTATION COSTS. Minn. Agr. Expt. Sta. Bul. 465, 24 pp., June 1963.
Transportation of milk among plants, particularly from butter plants to drying plants. Truck costs; labor relationships; total transportation costs.
- Varney, H. R. TRANSPORTATION OF MILK AND CREAM TO THE NEW YORK MARKET. Cornell Univ. Agr. Expt. Sta. Bul. 655, 78 pp., Aug. 1936.
Early history of transportation to the New York market; origin; changes in methods of transportation; history of freight rates; practices; costs of hauling milk by truck; effect of transportation methods on plant costs; receipts, 1885-1935.

INTERREGIONAL COMPETITION, INTERMARKET RELATIONSHIPS, LOCATION

- Allred, C. E., B. H. Luebke, and W. S. Crawford. SHIPMENTS OF DAIRY PRODUCTS INTO KNOXVILLE. Tenn. Agr. Expt. Sta. Rural Res. Serv. Mimeo. 103, 20 pp., Feb. 1940.
Of total purchases of dairy products by Knoxville wholesalers, 57.5 percent are shipped in from other States. Wisconsin is the chief out-of-State source of dairy products. One principal reason for buying elsewhere is underproduction in the area at certain seasons of the year. Quality and consumer demand determine cheese importations.
- Butz, William T. LONG-DISTANCE SHIPMENT OF MARKET MILK. U.S. Dept. Agr. Mktg. Res. Rpt. 648, 12 pp., Mar. 1964.
Bulk shipments of fluid milk, 1960-61. Origins, destinations, seasonality, transportation charges, practices of handlers.
- Carley, D. H. OPTIMUM ASSEMBLY OF MILK SUPPLIES IN THE SOUTHEAST. Southern Co-op. Ser. Bul. 92, 34 pp., Mar. 1964.
Least-cost movement of producer supplies among major Southeast markets; price alignment in Southeast markets.
- Carley, D. H. and J. C. Purcell. PATTERNS OF FLUID MILK DISTRIBUTION IN THE SOUTHEAST, 1959 AND PROJECTED 1975. South. Co-op. Serv. Bul. 105, 71 pp., June 1965.
Equilibrium distribution patterns for substate areas in 6 Southeastern States.
- Carley, D. H. and J. C. Purcell. MILK MOVEMENT PATTERNS IN THE SOUTHEAST. South. Co-op. Ser. Bul. 84, 76 pp., Apr. 1962.
Trends in milk production and marketing and in population; sources of milk supplies and distribution patterns; prices paid to producers for Grade A milk.
- Carley, D. H., V. G. Hurt and A. D. Seale. MILK MOVEMENT PATTERNS IN THE LOWER MISSISSIPPI VALLEY, 1956 AND PROJECTED 1975. South. Co-op. Ser. Bul. 86, 54 pp., May 1963.
Movement patterns of processed fluid milk and milk products from areas of processing to areas of consumption, pricing patterns, and analysis of movement under equilibrium conditions.
- Cobia, D. W. and E. M. Babb. AN APPLICATION OF EQUILIBRIUM SIZE OF PLANT ANALYSIS TO FLUID MILK PROCESSING AND DISTRIBUTION. Jour. Farm Econ. 46 (1): 109-116, Feb. 1964.

Dabov, Irving and M. Lloyd Downen. THE MIDWEST-EASTERN SEABOARD CONFLICT OF INTEREST IN THE PRODUCTION AND DISTRIBUTION OF MILK: THE ROLE OF MARKET STRUCTURE AND OTHER INSTITUTIONAL ARRANGEMENTS. Jour. Farm Econ. 42 (5): 1313-1327, Dec. 1960.

This paper (1) identifies the parties who could be involved in conflicts of interest, between the Midwest and the Eastern Seaboard in the production and distribution of milk, (2) notes the conceptual and empirical settings for conflicts among these parties, and (3) examines information on market structure characteristics and market performance to see their relation to any existing conflicts of interest. It concludes that the operation of Federal Order pricing and related regulation in Eastern markets makes the attainment of higher total returns to Midwest producers by sales in Eastern markets economically unfeasible. The relevant area of concern for improving the market power position of Midwest producers is not the conflict of interest between them and the Eastern Seaboard producers, but the conflict of interest between Midwest producers and the Midwest handlers to whom they sell milk.

French, Charles E. and Earl W. Kehrberg. THE MIDWEST-EASTERN SEABOARD CONFLICT OF INTEREST IN THE PRODUCTION AND DISTRIBUTION OF MILK: THE COMPARATIVE ADVANTAGE ASPECTS. Jour. Farm Econ. 42 (5): 1297-1309, Dec. 1960.

Comparative advantages of the Midwest and the Eastern Seaboard sections, the fringe areas, and the traditional dairy areas within each region.

Johnson, Stewart and Arthur D. Little. INTERMARKET PRICE RELATIONSHIP. I. FACTORS DETERMINING THE BOUNDARIES OF THE CONNECTICUT MILKSHED. Storrs (Conn.) Agr. Expt. Sta. Bul. 266, 57 pp., Jan. 1951.

Competitive relationships in the Connecticut and R. I. markets; effects of price and non-price factors in choice of market; Conn. and New York markets; methods of appraisal of alternative market outlets from the standpoint of the producer.

Mighell, R. L. and J. D. Black. INTERREGIONAL COMPETITION IN AGRICULTURE, WITH SPECIAL REFERENCE TO DAIRY FARMING IN THE LAKE STATES AND NEW ENGLAND. Harvard Econ. Study 39: Harvard Univ. Press, Cambridge. 320 pp., 1951.

Budgetary analysis of dairy farms in New England and the Lake States, and actual changes, 1936-1946.

Olson, F. L. LOCATION THEORY AS APPLIES TO MILK PROCESSING PLANTS. Jour. Farm Econ. XLI (5) 1546-56, Dec. 1959.

Development of a model for integrating the relevant elements of location theory with firm theory and evaluation of some applications of the model.

Pollard, A. J. and L. F. Chaplin. RECEIPTS OF MILK AND CREAM AT THE NEW YORK MARKET. U.S. Dept. Agr. Bur. Agr. Econ., N.Y. State Col. Agr., Coop., 12 pp., 1939.

This study supplements previous ones reporting rail and truck receipts at the N.Y. markets, from July 1937 to July 1938. Receipts of milk, cream, and plain condensed milk at this market are tabulated for 1933-38.

Ross, H. A. CHANGING METHODS IN MILK TRANSPORTATION. Cornell Univ. Farm Econ. No. 39: pp. 549-551, 1926.

Methods of transporting milk used by Chicago dealers, 1926; size distribution of dealers; rail and truck rates.

Sharp, John W. THE INTERMARKET MOVEMENT OF PAPER CONTAINER MILK IN OHIO. Ohio State Univ. M.S. thesis, 1949.

Snodgrass, Milton M. and Charles E. French. LINEAR PROGRAMMING APPROACH TO THE STUDY OF INTERREGIONAL COMPETITION IN DAIRYING. Ind. Agr. Expt. Sta. Bul. 637, 28 pp., May 1958.

Transportation model of U.S. dairy industry.

Spencer, Leland. WESTERN CREAM FOR EASTERN MARKETS. U.S. Farm Credit Admin. Misc. Rpt. 14, 16 pp. 1937.

Volume, sources, seasonal distribution of shipments of cream from western States to markets of northeastern States, types and control of western cream plants, potential shipments of cream from such plants, prices received by western producers for cream, freight costs, etc.

University of Minnesota. EQUILIBRIUM ANALYSIS OF INCOME-IMPROVING ADJUSTMENTS ON FARMS IN THE LAKE STATES DAIRY REGION, 1965. Minn. Agr. Expt. Sta., Tech. Bul. 246, Ill., Iowa, Mich., and Wis. Agr. Expt. Stas., and Econ. Res. Serv., coop., 56 pp., Oct. 1963.

This report presents the major assumption, analyses, and results of a study of profitable adjustments in Lake States dairying. Supply response is based on an income-maximizing linear programming analysis of typical farms in 80 farm strata. The supply relations obtained project income-improving adjustments that could be made in crop and livestock enterprises within the resource limitations of farm firms.

Vial, E. E. VOLUME AND PRICE OF NEW YORK CREAM IN THE BOSTON WEIGHTED AVERAGE PRICE OF BOTTLING QUALITY CREAM. Milk Dealers' Assoc. Metro. N.Y., Inc., Membership Let. 68, Nov. 26, 1962.

Percentage of N.Y. cream in Boston, weighted average price:

1937-39 13 percent average

1940-43 34 percent average

1944-48 5 percent average

1949-51 15 percent average

from 1937-1952, N.Y. cream price (cream included in Boston weighted average) was lower than other cream in price in 16 percent of the months, same in 25 percent and lower in 59 percent.

West, D. A. and G. E. Brandow. EQUILIBRIUM PRICES, PRODUCTION, AND SHIPMENTS OF MILK IN THE DAIRY REGIONS OF THE UNITED STATES, 1960. Pa. Agr. Expt. Sta.

A.E. & R.S. No. 49, 147 pp., Nov. 1964.

Companion piece to "Space-Product Equilibrium in the Dairy Industry of the Northeastern and North Central Regions." by the same authors.

West, D. A. and G. E. Brandow. SPACE-PRODUCT EQUILIBRIUM IN THE DAIRY INDUSTRY OF THE NORTHEASTERN AND NORTH CENTRAL REGIONS. Jour. Farm Econ. 46 (4): 719-731, Nov. 1964.

The broad impact of the removal of all institutional barriers to the production and movement of fluid milk on the dairy industry if the Northeastern and North Central regions is examined. Competitive equilibrium patterns of milk production, utilization prices, and shipments are obtained by estimating supply and demand functions for various areas and relating prices in the areas by transfer costs for fluid and manufactured milk.

Williams, D. C. and W. H. Alexander. OPTIMUM DISTRIBUTION OF PRODUCER MILK AMONG MARKETS AND CLASS USES IN LOUISIANA. La. Agr. Expt. Sta. Bul. 544, 38 pp., June 1961.

Optimum distribution determined by transportation model to maximize net returns to producers.

INTERNATIONAL TRADE

Hibbard, B. H. THE TARIFF ON AMERICAN DAIRY PRODUCTS. Jour. Farm Econ. 7: pp. 136-144, 1925.

The imports and exports of butter, and exports of condensed milk, resulting in a net export of dairy products, following World War I; the tariff on butter; and the economic effect of the tariff on dairy farmers. "Dairy products are about the best examples of goods which may be helped a little, or not at all, by a tariff yet may be made to appear popularly as an excellent example of a product of the farms helped by restriction of imports."

Marvin, T. O., et al. MILK AND CREAM. U.S. Tariff Comn., 74 pp., 1929.

Differences in costs of production and other advantages and disadvantages in the competition of milk and cream in the United States and Canada, the principle competing country; the dairy industry in the United States and Canada, the imports of milk and cream, systems of fixing prices in the United States, items of farm costs of producing milk, and creamery costs of handling milk and cream is given; and the statistics of imports, prices and costs of producing milk and cream are considered and analyzed.

McDonel, K. H. THE UNITED STATES EXPORT AND IMPORT TRADE IN DAIRY PRODUCTS, WITH SPECIAL CONSIDERATION OF THE TARIFF. Mich. Agr. Expt. Sta. Tech. Bul. 131, 37 pp., 1933.

Production of dairy products, 1925-28, of the principal exporting and importing countries; the exports and imports of the United States of fresh milk and cream by five-year periods,

1891-1920, and by years 1921-30, and of condensed, evaporated, and powdered milk by years, 1910-31; the destination of United States export of condensed and evaporated milk 1926-29; exports and imports of the United States of cheese and butter, by five-year periods, 1871-1920, and by years 1921-31; the destination of such exports, 1926-29; the United States imports for consumption by years, 1910-31, of cream, fresh milk, cheese and cheese substitutes, butter, and casein. Tables give the rates of duty on dairy products under different United States tariff acts, 1789 to 1930.

Renne, R. R. THE TARIFF ON DAIRY PRODUCTS. The Tariff Res. Comn., Agr. Tariff Ser. 2, 176 pp. 1933.

Butter; butter substitutes; cheese; milk; cream; casein; other dairy products. Production; consumption; prices; competition; effects of the duty.

Taylor, H. C. INTERNATIONAL TRADE IN DAIRY PRODUCTS--SIGNIFICANT TRENDS OF SUPPLY, DEMAND, AND PRICE. World's Dairy Cong. Proc. 1923. U.S. Dept. Agr. Bur. Animal Ind., Vol. 1: 55-62, 1924.

Sources of surplus dairy products are said to have shifted from the countries of the northern to those of the southern hemisphere and as a result the seasonal trend of butter imports into Great Britain is such as to trend toward a uniform supply throughout the year. For the United States this change in seasonal supply and price served to concentrate attention upon the possibility that mutually advantageous seasonal trade in fresh butter may eventually replace to some degree the system of seasonal storage that is developing there.

Tomlinson, Frederick R. WORLD PRODUCTION AND INTERNATIONAL TRADE IN BUTTER AND CHEESE. U.S. Dept. Agr. Bur. Agr. Econ., 146 pp., 1939.

In a statistical presentation, long-range production of butter and cheese in the 21 most important countries is shown. Data are also given on intercontinental and world trade in the same products.

U.S. Department of Agriculture. THE EFFECT OF THE TRADE AGREEMENTS PROGRAM ON THE U.S. DAIRY INDUSTRY. Bur. Agr. Econ., 11 pp., 1936.

Shows reduction made by the U.S. in its import duties on dairy products and those obtained from foreign countries.

U.S. Tariff Commission. DAIRY PRODUCTS AND RECIPROCAL TRADE AGREEMENTS. 22 pp., Apr. 1940.

U.S. Tariff Commission. CASEIN. REPORT... TO THE PRESIDENT OF THE UNITED STATES. DIFFERENCES IN COSTS OF PRODUCTION OF CASEIN IN THE UNITED STATES AND IN THE PRINCIPAL COMPETING COUNTRY, AS ASCERTAINED PURSUANT TO THE PROVISIONS OF SECTION 315 OF TITLE III OF THE TARIFF ACT OF 1922. 28 pp., 1922.

Production; utilization; prices; competitive conditions; domestic and foreign production costs.

UTILIZATION, SURPLUS MILK

Bowring, J. R. PRODUCTION AND UTILIZATION OF MILK BY-PRODUCTS IN NEW HAMPSHIRE. N.H. Agr. Expt. Sta. Bul. 441, 17 pp., June 1957.

Size distribution of licensed milk dealers, 1955.

Collins, Warren E. et al. SEASONALITY OF SUPPLY AND UTILIZATION OF MILK IN THE SOUTH, 1949. Southern Co-op. Ser. Bul. 25, 59 pp., July 1952.

Analyzes the seasonality of supply and utilization of milk in the South by geographic region and for milk utilized for fluid uses. Shows the average prices paid for milk in the South by months during 1949. Estimates per capita consumption of major fluid products in the South.

Groves, Francis William. BUDGETING TECHNIQUES IN DECISIONS ON EFFICIENT SURPLUS MILK DISPOSAL. Ph. D. thesis, Univ. Wis., 154 pp., 1961.

Harrington, A. H. and Wendell Calhoun. THE DAIRY BALANCE OF THE PACIFIC SLOPE. Wash. Agr. Expt. Stas. Cir. 191, U.S. Bur. of Agr. Econ., coop., West. Region. Pub., 17 pp., May 1952.

The production-consumption balance in 1949 and prospects for the future.

Krause, O. E. SKIM MILK MARKETINGS, SUPPLIES, PRODUCTS. Wis. Dept. of Agr. Crop Rpt. Serv. Bul. 324, 30 pp., Mar.-Apr. 1954.

Skim milk supply and utilization, 1936-1952.

Luke, H. Alan. UTILIZATION AND PRICING OF MILK UNDER THE NEW YORK MILK MARKETING ORDER. Cornell Univ. Agr. Expt. Sta. Bul. 866, Sept. 1950.
Study made in 1946-47 as joint project of Cornell and Mkt. Administrator.

MacPherson, D. D. THE MARKET FOR CLASS II MILK IN OKLAHOMA, KANSAS, AND WESTERN MISSOURI. U.S. Dept. Agr. Mktg. Res. Rpt. 263, 46 pp., Aug. 1958.
Analyzes the market for surplus milk including: (1) By whom and how surplus is handled, (2) products processed from surplus milk, and (3) where products are marketed.

Nicholson, Donald Ray. GRADE A MILK UTILIZATION IN MISSOURI. Univ. Mo. M.S. thesis, 1961.

Proctor, Robert Dean. AN ANALYSIS OF THE SURPLUS MILK PROBLEM IN SIX SELECTED OHIO MARKETS. Ohio State Univ. M.S. thesis, 1956.

Spencer, L. THE SURPLUS PROBLEM IN THE NORTHEASTERN MILKSHEDS. U.S. Farm Credit Admin. Bul. 24, N.Y. State Col. Agr., coop., 88 pp., Apr. 1938.
The surplus problem in the northeastern milksheds is said to involve two phases, (1) utilization of milk in these States, and (2) western cream as a supplementary supply for the markets of this region. These aspects are treated separately in part I and II of this bulletin. Lines of action toward solving the problem are suggested.

Vial, E. E. USE OF NEW YORK POOL MILK FOR FLUID CREAM. Milk Dealers' Assoc. of Metrop. N.Y., Inc., Membership Let. 77, 11 pp., Jan. 8, 1954.
Statistics of cream in N.Y. pool; sales to outside markets; seasonality.

Vial, E. E. USE OF POOL MILK FOR ICE CREAM. Milk Dealers' Assoc. of Metrop. N.Y., Inc., Membership Let. 78, 11 pp., Feb. 5, 1954.

Vial, E. E. USE OF NEW YORK POOL MILK IN CREAM CHEESE. Milk Dealers' Assoc. of Metrop. N.Y., Inc., Membership Let. 80, 9 pp., Apr. 28, 1954.
Figures 1940-53, in and out of pool, comparisons with use for fluid cream, seasonality of use for ice cream.

Whitted, S. F. HOW SURPLUS GRADE A MILK IS MARKETING IN THE MIDWEST. Mo. Agr. Sta. Res. Bul. 811, 57 pp., Aug. 1962.
Character of the surplus problem; factors influencing type and amount of surplus; utilization of the surplus; surplus handling systems.

Wilcox, Emery C., Orville E. Krause and Lawrence Brereton. UTILIZATION OF WISCONSIN MILK. Wis. State Dept. of Agr. Crop Rptg. Serv. Spec. Bul. 3, 113 pp., June 1950.
Trends in Wisconsin dairying; utilization of milk by counties; number of plants of each type and production by counties, 1885-1949.

Williams, Sheldon W. and Orval G. Kerchner. DISPOSING OF SURPLUS FLUID MILK IN MIDWESTERN MARKETS. North Cent. Region. Pub. 113, Ill. Sta. Bul. 664, 52 pp., Sept. 1960.
This study classifies the arrangements used in handling surplus milk of bottling quality in the North Central Region; examines relationships between the arrangements in use and characteristics such as size of market, type of agency responsible for surplus disposal, and the status of the manufacturing milk industry in the area; and evaluates the suitability of various handling arrangements to different market situations.

SUPPLY, SUPPLY RESPONSE

Allen, R. H., E. Hole and R. L. Michell. SUPPLY RESPONSES IN MILK PRODUCTION IN THE CABOT-MARSHFIELD AREA, VERMONT. U.S. Dept. of Agr. Tech. Bul. 709, 60 pp., Apr. 1940.

This study is based primarily upon farm-management data for the adjacent towns of Cabot and Marshfield in north-central Vermont for 1926 and 1936.

Baumer, E. F. and R. H. Pollock. SHIFTS IN MILK AND CREAM PRODUCTION IN OHIO. Ohio Agr. Expt. Sta. Res. Cir. 24, 19 pp., Feb. 1954.
Production of fluid milk and manufactured milk in Ohio, 1943-1952; shift in milk production and cream production, by counties, 1940-50.

- Blakley, L. V. and D. Brewer. SOME PRICING AND REGULATORY EFFECTS OF THE FEDERAL ORDER ON THE TULSA MILKSHED. Okla. Agr. Expt. Sta. Bul. B-451, 21 pp., Mar. 1955. Survey of 45 Grade A producers.
- Carley, Dale H. THE EFFECT OF PRICE ON THE SUPPLY RESPONSE OF MILK IN TWO OHIO MARKETS. Ohio State Univ. Ph.D. thesis, 1959.
- Carrigan, J. E. THE EFFECT OF EXTENSION EDUCATION OF THE SEASONAL SURPLUS MILK PROBLEM IN ADDISON COUNTY VERMONT. Vt. Agr. Expt. Sta. Bul. 330, 26 pp., 1931.
The problems in adjusting milk production in the area, the extension methods used, the class price plan in use, and farmers' responses to prices are discussed.
- Christensen, R. P. and R. L. Mighell. SUPPLY RESPONSES IN MILK PRODUCTION IN DODGE AND BARRON COUNTIES. U.S. Dept. of Agr., Wis. Agr. Expt. Sta. coop., Tech. Bul. 750, 94 pp., 1941.
This study is part of an investigation of interregional competition in the production of dairy products in the midwestern part of the United States and the New England region taken as a whole.
- Davidson, J. R. SUPPLY RESPONSE OF GRADE A MILK PRODUCTION IN UPPER FLATHEAD VALLEY. Mont. Agr. Expt. Sta. Mimeo. Cir. 91, 69 pp., Oct. 1955.
Supply response estimated for a budgeted representative farm at various price levels.
- Easley, Eddie V. AN APPLICATION OF LINEAR PROGRAMMING TO THE STUDY OF SUPPLY RESPONSES IN DAIRYING. Iowa State Col. Ph.D. thesis, 1957.
- Evans, T. A. CONVERSION FROM CREAM TO WHOLE MILK MARKETING IN NORTHEAST NEBRASKA. Paper at Ext. Summer School, Ft. Collins, Colo., 10 pp., July 1961.
Adjustments by various firms, especially cooperatives, in the area.
- Ezekiel, M. B. J., E. Rauchenstein, and O. V. Wells. FARMERS' RESPONSE TO PRICE IN THE PRODUCTION OF MARKET MILK. U.S. Dept. of Agr. Mimeo. Rpt., 16 pp., May 1932.
Studies in Vermont, St. Paul-Minneapolis, and Baltimore. Why milk production changes; reactions to milk-feed ratios.
- Gans, A. R. ELASTICITY OF SUPPLY OF MILK FROM VERMONT PLANTS, FACTORS AFFECTING AVERAGE DELIVERIES PER PATRON. 1. THE MILK-FEED PRICE RATIO. Vt. Agr. Expt. Sta. Bul. 269, 40 pp., 1927.
The statistical analysis is based on data of milk deliveries at 2 cooperative creameries; one for the period January 1921 to December 1926 and the other for December 1916 to November 1926, inclusive. Multiple correlation analyses were made between deliveries and the milk-feed price ratio for various periods and time lags.
- Hagen, John W. A STUDY OF THE PRODUCTION AND MARKETING CHARACTERISTICS OF NORTH DAKOTA DAIRY PRODUCERS. N. Dak. State Univ. M.S. thesis, Nov. 1957.
- Halvorson, Harlow W. THE SUPPLY ELASTICITY FOR MILK IN THE SHORT RUN. Jour. Farm Econ. XXXVII(5): 1186-97, Dec. 1955.
Progress report on research, using time series data on price relationships, grain and concentrates fed, by regions and seasons, 1931-54.
- Halvorson, Harlow W. RESPONSE OF MILK PRODUCTION TO PRICE. Jour. Farm Econ. XL(5): 1101-13, Dec. 1958.
Estimates of supply elasticity of milk production in the short run of a year using distributed lags.
- Hammerberg, D. O. ALLOCATION OF MILK SUPPLIES AMONG CONTIGUOUS MARKETS. Jour. Farm Econ. 22: 215-219, Feb. 1940.
A study of the supply problems of 14 markets in Connecticut, whose supply areas overlap to a considerable extent, shows that significant economies can be effected through re-allocation of supplies among adjacent markets.
- Hooker, Raymond W. and Stephen F. Whitted. PRODUCER ATTITUDES TOWARD ADJUSTMENT OF MILK PRODUCTION IN THE KANSAS CITY MILKSHED. Mo. Agr. Expt. Sta. Res. Bul. 707, 60 pp., Aug. 1959.
Survey of dairymen supplying Kansas City, 1959-57. Characteristics; attitudes toward production adjustment in response to changes in the price of milk and competing products.

- Johnson, S. M. ELASTICITY OF SUPPLY OF MILK FROM VERMONT PLANTS. II. FACTORS AFFECTING DELIVERIES ON CABOT AND MARSHFIELD, VERMONT, 1920-1935. Vt. Agr. Expt. Sta. Bul. 429, 40 pp., Dec. 1937.
Milk production in these two towns in the Boston milkshed was positively correlated with milk and feed prices expressed as milk-feed price ratios, for about three preceding years.
- Jones, E. B. and G. G. Quackenbush. MILK PRODUCERS ENTERING AND LEAVING THE DETROIT MARKET. Mich. Agr. Expt. Sta. Spec. Bul. 397, 44 pp., Apr. 1955.
Reasons for entering, leaving, shifting to another market; and for not entering the market; investment required to qualify as an inspected producer; factors related to producers entering and leaving the market.
- Kadlec, J.E., H. R. Jensen, and E. W. Kehrberg. ESTIMATING SUPPLY FUNCTIONS FOR MILK IN THE LOUISVILLE MILKSHED WITH FARM COST DATA. Purdue Univ. Agr. Expt. Sta. Bul. 720, 12 pp., 1961.
Milkshed supply functions estimated from variable cost functions for each herd-size group.
- Kottke, Marvin W. FORCES INFLUENCING THE CONNECTICUT SUPPLY OF MILK. AN APPLICATION OF THE THEORETICAL SUPPLY FRAMEWORK AS AN EXPLANATION OF SUPPLY RESPONSES OF MILK PRODUCERS. Storrs (Conn.) Agr. Expt. Sta. Bul. 341, 47 pp., June 1959.
The theoretical supply structure; milk producers' response to price; effect of changes in technology on the milk supply; the supply affected by dairy going out of production; economies of size as a shifter of the milk supply; interaction of supply forces.
- Ladd, George W. and Eddie V. Easley. AN APPLICATION OF LINEAR PROGRAMMING TO THE STUDY OF SUPPLY RESPONSES IN DAIRYING. Iowa Agr. Expt. Sta. Bul. 467, 18 pp., May 1959.
An application of continuous capital and variable price programming to an analysis of the farm supply of milk and cream in Sioux County, Iowa.
- McBride, Glynn and Ronald E. Kampe. FACTORS INFLUENCING MILK PRODUCERS WHO ENTERED AND LEFT THE DETROIT, CLEVELAND, AND TOLEDO MILK MARKETS. Mich. Agr. Expt. Sta. Spec. Bul. 437, 43 pp., Dec. 1961.
Study of producers entering and leaving 3 markets January 1, 1953, through July 1, 1965. Price is a major factor but many others are also important.
- Parker, L. W. A DESCRIPTION AND ECONOMIC ANALYSIS OF MILK SUPPLIES FOR CONNECTICUT MARKETS. Univ. Conn. M.S. thesis, 1938.
- Parsons, M. S. EFFECT OF CHANGE IN MILK AND FEED PRICES AND IN OTHER FACTORS UPON MILK PRODUCTION IN NEW YORK. Cornell Univ. Agr. Expt. Sta. Bul. 688, 67 pp., Mar. 1938.
The study of long-time effects is concerned with the relation of the milk-grain ratio and milk production per dairy. The study of the short-time effect is confined to the effect of milk prices, grain prices, and the milk-grain ratio.
- Pierce, C. W. and Alvi Voigt. CHARACTERISTICS OF FARMERS SUPPLYING COMPETING MILK MARKETS. Pa. Agr. Expt. Sta. Prog. Rpt. 169, 8 pp., Apr. 1957.
Higher paying outlets tend to obtain larger volume producers with greater than average efficiency and relatively uniform production from month to month.
- Simmons, Richard L. TRENDS AND PROJECTIONS FOR THE NORTH CAROLINA GRADE A MILK INDUSTRY. N.C. Agr. Expt. Sta. A.E. Inf. Ser. 105, 45 pp., July 1963.
Change in number of producers and average size of delivery, 1948-62; characteristics of Grade A producers by regions in North Carolina.
- Strand, E. G. and E. Hole. PRODUCTION RESPONSES OF DAIRY FARMERS IN EAST-CENTRAL MINNESOTA. U.S. Dept. Agr. Bur. Agr. Econ., Farm Mangt. Rpt. 6, 71 pp., 1940.
The annual variations in certain physical and economic factors and their effects on corp. livestock, and butterfat production are discussed. A detailed analysis is made of the production responses of 54 representative dairy farmers during 1927-37.
- Streeter, Charles L. et al. PRODUCERS' RESPONSE TO PRICE AND OTHER FACTORS IN THE GREATER KANSAS CITY MILK MARKET. 3. DERIVATION OF LINEAR PROGRAMMING COEFFICIENTS FOR DAIRY ENTERPRISES INVOLVING DISTANT PASTURE. Kans. Agr. Expt. Sta. Tech. Bul. 111, 27 pp., Jan. 1961.

Waite, Warren C. THE SUPPLY PROBLEMS OF THE ST. LOUIS MILK MARKET. A report to the Consumer Members of the Dairy Council--St. Louis District, 54 pp., Mar. 27, 1947.

Study of the problem of inadequate milk supplies in St. Louis area, the influence of the local milk ordinance, and reasons that producers do not ship to St. Louis.

Williams, Willard F. and Norris T. Pritchard. EXPECTATIONS AND PLANS OF MILK PRODUCERS IN THE EVANSVILLE MILKSHED. Purdue Univ. Agr. Expt. Sta. Bul. 594, 32 pp., July 1953.

Nature of expectations and plans of farmers; extent to which they made definite plans; factors on which plans were based; relation of price and other anticipations to plans; relation of plans to actual performance.

Seasonal Supply

Christensen, Rondo A. and Harold O. Ward. PRODUCER SUPPLY RESPONSE TO BASE EXCESS PRICING OF MILK IN UTAH. Utah Agr. Expt. Sta. Bul. 446, 20 pp., Sept. 1964.

Analysis of success of 3 major dairy cooperatives in Ogden-Salt Lake City-Provo area in controlling total producer deliveries through use of base excess plans, 1954-61.

Conley, Albert Rolland. EFFECT OF BASE AND SURPLUS PLAN ON SEASONAL PATTERN OF MILK DELIVERIES IN OHIO. Ohio State Univ., Ph.D. thesis, 1949.

Conley, A. R. and C. G. McBride. HOW PRICE PLANS AFFECT SEASONALITY OF MILK DELIVERIES FROM FARMS. Ohio Agr. Expt. Sta. Bul. 700, 35 pp., Jan. 1951.

Detailed analysis of 4 Ohio markets, 1927-1946; influence of price plans upon deliveries of 100 dairy farmers who had sold milk to one of these markets each month for 20 years.

Doyle, B. K. SUPPLY AND USE OF MILK AND CREAM PURCHASED FROM PRODUCERS BY MISSISSIPPI DAIRY MANUFACTURING PLANTS. Miss. Agr. Expt. Sta. Bul. 480, 30 pp., Feb. 1951.

Changes from 1939 to 1948 in seasonal supply and use of milk by 4 types of manufacturing plants; number and location of plants.

Lee, James D. SEASONALITY OF MILK DELIVERIES IN THE BOSTON MILKSHED. U.S. Dept. Agr. Bur. Agr. Econ., Maine, N.H., and Vt. Agr. Expt. Stas., coop., Mkt. Admin. of Fed. Order 4, 46 pp., June 1949.

Seasonality in 7 different areas in the milkshed, 1938-48.

Lindsey, A. H. SOURCES OF MILK SUPPLY IN TWENTY-NINE SECONDARY MARKETS IN MASSACHUSETTS. Mass. Agr. Expt. Sta. 31 pp., Mar. 1934.

Sources of milk by towns in Massachusetts, 1932, based largely on records of local boards of health.

Lininger, F. F. FACTORS AFFECTING THE PHILADELPHIA MILK SUPPLY. Second Internatl. Conf. Agr. Econ. Proc.: 630-643, 1930.

Sources of supply and influences of sanitary regulations; effect of distance from market on supply seasonality; cost of making seasonal adjustments in supply. The quality of the fluid milk supply in Philadelphia is controlled entirely by the cooperative.

Lininger, F. F. THE RELATION OF THE BASIC SURPLUS MARKETING PLAN TO MILK PRODUCTION IN THE PHILADELPHIA MILKSHED. Pa. Agr. Expt. Sta. Bul. 231, 63 pp., 1928.

Problems of milk production arising under the basic-surplus plan and (1) the relation of the average accomplishments for the region to those of certain groups of farmers in the adjustment of production, (2) the differences of degree of adjustment in different areas, (3) the influence of type of farming on the degree of adjustment, (4) how production in other sections of the State compares with that under the basic-surplus plan in the interstate territory, (5) the methods used to even up seasonal production, and (6) the influence of such methods on the cost of milk production.

Lininger, F. F. SEASONAL ADJUSTMENTS OF PRODUCTION AND CONSUMPTION IN FLUID MILK AREAS. Jour. Farm Econ. 11: 152-163, 1929.

Plans used by cooperatives; distribution of returns; sales to distributors on use basis; how farmers adjust production to demand.

Lininger, F. F. and C. W. Pierce. SEASONAL CHANGES IN MARKET MILK PRODUCTION IN PENNSYLVANIA. THE RELATION OF MONTH-TO-MONTH FLUCTUATIONS IN MILK SALES TO PRICES RECEIVED BY FARMERS. Pa. Agr. Expt. Sta. Bul. 358, 32 pp., Aug. 1938.

Changes in the Pittsburgh, New York, and Philadelphia milksheds are studied. It is concluded that the present price system favors uneven production and two plans for correcting this situation are suggested.

Metzger, H. I. MILK PRICING UNDER SEASONAL QUOTA PLANS--ATTITUDES TOWARD THE PLANS AND THEIR EFFECT ON INCOME. Maine Agr. Expt. Sta. Bul. 586, 44 pp., Oct. 1959.

Parsons, M. S. et al. THE SEASONAL ADJUSTMENT OF MILK PRODUCTION IN THE BOSTON MILKSHED. U.S. Dept. Agr. Bur. Agr. Econ., Maine, N.H., and Vt. Agr. Expt. Stas., coop., 57 pp., June 1950.

Gives the extent of seasonal variation from year-to-year and presents case examples of individual farms. Lists the reasons farms vary in seasonal patterns and farmers' opportunities for seasonal adjustments. Discussed seasonal milk pricing policy in terms of its relationship to freshening patterns and economic effects of reducing seasonal milk supplies.

Ross, H. A. ECONOMIC FACTORS AFFECTING MILK SUPPLIES OF LARGE CITIES. Internat. Conf. Agr. Econ. Proc. pp. 619-629, 1930.

Based largely on the results of a study of the New York City milkshed made by Cornell Univ. in coop. with the New York Central Railroad. Deals chiefly with seasonality of supply and the "November shortage."

Sherman, R. W. A STUDY OF THE REACTION OF INDIVIDUAL MILK PRODUCERS OF FOUR OHIO MARKETS FROM 1930 TO 1933 TO TYPES OF BUYING PLANTS IN USE. Ohio Agr. Expt. Sta. Mimeo. Bul. No. 76, 23 pp., Jan. 1935.

Reaction of producers to buying plans in effect in 4 different Ohio markets, all variations of base-surplus plan.

Spencer, L. and H. A. Luke. THE FALL SHORTAGE OF MILK--A PROBLEM IN PRICE ADJUSTMENT. Cornell Univ. Agr. Expt. Sta. A. E. 550, 31 pp., 1946.

The fall shortage of milk, especially in New York State, the factors that are responsible for the shortage, the seasonal pattern of milk production, price incentives for fall production and ways of producing such incentives. Proposed adjustments for the period April 1946 to June 1947 are suggested in the prices of dairy products and in butterfat subsidy payments on a national basis, and in the prices of fluid milk and cream in New York milkshed, and comparisons are made with the period April 1945 to June 1946.

Wilcox, Emery C. THE SEASONAL PATTERN OF MILK RECEIPTS FROM FARMERS AT WISCONSIN DAIRY PLANTS. Wis. State Dept. of Agr. Spec. Bul. No. 13, Feb. 1952.
1945-50 data, by months, by type of plant and area.

QUALITY, YIELD

Caparoon, C. D., V. C. Struck, and R. L. Packard. WISCONSIN'S QUALITY MILK SUPPLY. Wis. State Dept. of Agr. Spec. Bul. No. 67, 45 pp., June 1957.

Growth in Wisconsin's milk supply; progress towards higher quality; distribution of Grade A supplies; plant receipts of milk from farmers.

Clark, James C. ECONOMIC FACTORS AFFECTING SAMPLING AND TESTING OF PRODUCERS' MILK SHIPMENT FOR BUTTERFAT IN THE COLUMBUS MARKET. Ohio State Univ. M.S. thesis, 1949.

Feder, Ernest, Delbert F. Breazeale, and Richard Newberg. QUALITY ASPECTS OF BUTTER MARKETING IN SOUTH DAKOTA. S.Dak. Agr. Expt. Sta. Bul. 443, 32 pp., Aug. 1955.

Measures of quality of South Dakota butter and of factors affecting quality; sales agreements and returns to creameries. 1950-51.

Feder, Ernest and Fred C. Andrews. MEASUREMENT OF BUTTER QUALITY BY CHEMICAL AND FLAVOR TESTS. Jour. Farm Econ. XXXVIII (1): 113-125, Feb. 1956.

Relationships between various methods of quality determination.

- Graf, Truman. THE WEIGHT AND BUTTERFAT CONTENT OF WISCONSIN ICE CREAM AND ECONOMIC IMPLICATIONS TO FIRMS WHICH MANUFACTURE IT. Wis. Agr. Expt. Sta. Agr. Econ. 36, 14 pp., Nov. 1963.
Ice cream weights and weight compliance, 1950-61; firms in business and out of business and underweight and overweight; butterfat content of ice cream, 1950-59.
- Grigsby, R. M. PRE-COOLING FLUID MILK ON FARMS IN THE NEW ORLEANS MILKSHED. La. Agr. Expt. Sta. Mimeo. Cir. 55, 7 pp., Feb. 1946.
- Hammer, B. W. and A. J. Hauser. STUDIES ON THE MARKET MILK OF IOWA. Iowa State Col. Bul. 164, pp. 310-380, Apr. 1916.
Quality of milk in 12 different cities.
- Hermann, Louis F. INDIRECT ESTIMATES OF THE SOLIDS-NOT-FAT CONTENT OF MILK: THE BASIS FOR AND HISTORY OF, PUBLISHED METHODS AND EQUATIONS. U.S. Dept. Agr., Agr. Mktg. Serv. AMS-92, 44 pp., Revised Mar. 1956.
A review of published research dealing with the relationship between the solids-not-fat, the fat and the specific gravity of milk. Lists 75 equations and discusses their derivation and factors affecting their accuracy.
- Herrmann, Louis F., Elsie D. Anderson, and Frank A. Bele. ESTIMATING THE SOLIDS-NOT-FAT CONTENT OF MILK. U.S. Dept. Agr. Mktg. Res. Rpt. 65, 13 pp., May 1954.
At 16 Midwestern and Western plants it was found that solids-not-fat percentages in milk could be estimated within 0.2 percent for 2 out of 3 samples using the Babcock test and the Quevenne lactometer. Using the butterfat test above the solids-not-fat could be estimated to within 0.3 percent in 2 out of 3 samples.
- Herrmann, Louis F., W. G. Byran, and Elsie D. Anderson. SAMPLING ROUTINES AND THE ACCURACY OF PATRON'S BUTTERFAT TEST. U.S. Dept. Agr., Mkt. Res. Rpt. 66, 23 pp., May 1954.
Presents statistical analyses not previously applied to the problem of sampling and testing milk delivered by producers. Composite samples are compared with fresh samples, and the numbers of fresh samples equal in accuracy to composite samples in various respects are shown.
- Hintzman, Arthur J. and Emery C. Wilcox. MILK EQUIVALENTS OF WISCONSIN CHEESE AND RELATED DATA. Wis. State. Dept. of Agr. Spec. Bul. No. 8, Jan. 1952.
From summaries of dairy plant operations required by law in Wis. Get yield of milk in cheese plants. Monthly data, 1949-50.
- Jacobson, M. S. BUTTERFAT AND TOTAL SOLIDS IN NEW ENGLAND FARMERS MILK AS DELIVERED TO PROCESSING PLANTS. Jour. Dairy Sci. 19: 171-176, Mar. 1936.
Results of analysis over a 16-month period of more than 100,000 samples of milk from Massachusetts, New Hampshire, Vermont, Maine, Connecticut, and Rhode Island producers. Samples represented all breeds and grades of cows.
- Jongeward, M. and C. H. Mergens. A MILK SURVEY OF SEVERAL NORTH DAKOTA CITIES. N.Dak. State Food Commr. and Chem. Bul. 6, 29 pp., 1924.
Includes milk standards.
- Kristjanson, R. L. A DESCRIPTION OF CREAM MARKETING IN NEBRASKA WITH SPECIAL REFERENCE TO CREAM QUALITY. Univ. Nebr. M.S. thesis, June 1952.
- Manhart, V. C. EFFECT OF A MILK PLANT QUALITY PROGRAM ON THE PRICE PAID TO PRODUCERS FOR MILK. Purdue Univ. Agr. Expt. Sta. Bul. 404, 12 pp., Mar. 1936.
A study of a milk quality program in an Indiana milk plant to determine the equitableness of the program to the producers, including grading and costs.
- Manhart, V. C. and A. V. Moore. MILK QUALITY IMPROVEMENT EFFECTED AT THE FARM BY A PLANT PROGRAM. Purdue Univ. Agr. Expt. Sta. Bul. 405, 16 pp., Mar. 1936.
A simple, inexpensive milk quality program requiring no skilled technician or special laboratory was put into effect by an Indiana dairy plant. Milk purchases were made on the basis of three grades--premium, regular, and low--as determined by flavor, methylene blue and sediment tests. Benefits were: (1) the milk plant received a better quality milk which sold as fluid milk at more than 1 cent per quart higher than the prevailing price for milk; (2) the consumer received a safe, good-quality milk; (3) the producer of premium milk received a premium of about 4.5 cents per pound of milk fat--an increase of more than 17 percent over the prevailing price.

- Mathis, Anthony G., Robert W. Johnson and Elsie D. Anderson. SELECTED PROBLEMS IN BUTTERFAT SAMPLING AND TESTING. U.S. Dept. Agr., Mktg. Res. Rpt. 482, 34 pp., 1961.
Report of 8 studies to determine how and to what extent the use of different techniques in sampling and testing butterfat may affect test results.
- Mathis, A. G. and E. D. Anderson. YIELD OF NONFAT DRY MILK SOLIDS FROM A UNIT OF MILK. U.S. Dept. Agr., Mktg. Res. Rpt. 126, 18 pp., June 1956.
Yield of nonfat dry milk solids can be estimated from the butterfat content of the whole milk, when the test of the cream separated from the milk is known. On the average, each change of 1 percent in whole milk butterfat content is accompanied by a 0.4863 pound change in nonfat milk solids recovered from 100 pounds of liquid skim milk.
- Misner, E. G. ECONOMIC ASPECTS OF QUALITY IN MARKET MILK. Cornell Univ. Agr. Expt. Sta. A.E. 531, 29 pp., 1945.
The consensus of replies from 40 State agricultural colleges and experiment stations was about equally divided as to whether composition or food value deserves consideration in evaluating the quality of market milk. Brief statements are presented from each source.
- Mullaly, John. THE MILK TRADE IN NEW YORK AND VICINITY. 118 pp., 1853. New York.
"An account of the sale of pure and adulterated milk--the daily and yearly consumption--the amount of property invested in the business--the milk-dealers and dairymen of Orange and other countries--injurious effects of impure milk on children--advice to country dairymen."
- Preston, Homer J. DEVELOPING BUTTERFAT SAMPLING AND TESTING PROGRAMS. U.S. Farmer Co-op. Serv. FCS Bul. 5, 52 pp., Nov. 1954.
Describes variations in butterfat tests of individual producers to help cooperatives select the best sampling program at a minimum cost.
- Preston, Homer J. BUTTERFAT SAMPLING IN BULK HANDLING AND COMPARATIVE MILK SOLIDS LOSSES. U.S. Farmer Co-op. Serv. Gen. Rpt. 10, 32 pp., 1955.
Evaluates butterfat sampling procedures used in the bulk handling of milk, and compares losses of milk solids with bulk and conventional can system.
- Preston, Homer J. SELECTING A PROGRAM FOR BUTTERFAT SAMPLING. U.S. Farmer Co-op. Serv. FCS Cir. 11, 18 pp., Nov. 1956.
Condenses conclusions derived from a more detailed study on butterfat sampling and testing programs and is pointed to the less technical audience.
- Sprague, G. W., G. Foelsch, and E. Small. A SURVEY OF QUALITY OF SELECTED BRANDS OF BUTTER SOLD IN ONE POUND CARTONS AT RETAIL IN N.Y. AND CHICAGO. U.S. Dept. Agr. Bur of Agr. Econ. 20 pp., 1939.
Actual grades as determined by Government graders of butter purchased in retail stores were compared with the grade stated on the certificate of quality, if any, or with claims made on the carton. Brands carrying certificates of quality were found to be of higher average quality and more uniformly standardized than butter sold without these certificates.
- Stein, Fred, A. G. Mathis, and L. F. Herrmann. COSTS OF BUTTERFAT SAMPLING AND TESTING PROGRAMS. U.S. Dept. Agr., Agr. Mktg. Serv. AMS-212, 19 pp., Oct. 1957.
Relative costs of testing programs for estimating the average monthly butterfat content of producer milk shipments.
- Struck, Vernon C. WISCONSIN SWISS CHEESE. MARKET SUPPLY BY TYPES AND QUALITY. Wis. State Dept. of Agr. Bul. 339, 56 pp., June 1957.
History of and trends in Wisconsin's Swiss cheese industry; production response to market demand for rindless block Swiss; quality Swiss--supplies and markets.
- Swartz, Donald M. ECONOMIC FACTORS AFFECTING SAMPLING AND TESTING OF MILK FOR BUTTERFAT IN EIGHT OHIO MARKETS. Ohio State Univ. M.S. thesis, 1947.
- Tracy, P. H. BOTTLED CONCENTRATED WHOLE MILK. Amer. Creamery and Poultry Prod. Rev. 82: 258-259, June 24, 1936.
Results of laboratory experiments on the bacterial qualities of concentrated milk, and of a study of consumer reaction to this milk.
- Trueman, J. M. MILK SUPPLY OF CHICAGO AND TWENTY-SIX OTHER CITIES. 111. Agr. Expt. Sta. Bul. 120, pp. 41-70, 1907.

U.S. Consumer and Marketing Service. FULL COMMITTEE REPORT OF STUDY CONDUCTED IN 13 FEDERAL MILK ORDER MARKETS ON VOLUME-WEIGHT CONVERSION FACTORS FOR MILK. U.S. Dept. of Agr. Supp. to Mktg. Res. Rpt. 701, 74 pp., June 1965.

Relationship of composition, temperature, and other factors to weight per gallon of milk.

Weese, S. J. and J. E. Fike. SOME ASPECTS OF EVERY-OTHER-DAY MILK DELIVERY. W. Va. Agr. Expt. Sta. Current Rpt. 5, 6 pp., Aug. 1953.

Flavor scores and bacteria counts on milk in 18 homes every other day is ok when used with reasonable care. After 5 days, milk begins to deteriorate rapidly.

Wilcox, Emery C. and A. J. Hintzman. THE SEASONAL PATTERN OF BUTTERFAT TEST OF MILK RECEIVED AT WISCONSIN DAIRY PLANTS. Wis. State Dept. of Agr. Crop Rptg. Serv. Bul. 32, U.S. Dept. Agr. coop., 38 pp., Mar. 1953.

Wilster, G. H. and Paul Carpenter. MARKETING OREGON BUTTER AND CHEESE. Oreg. Agr. Ext. Serv. Ext. Bul. 541, 56 pp., May 1940.

Quality improvement programs.

CONSUMPTION, DEMAND, PREFERENCES

Alfred Politz Research, Inc. PUBLIC ATTITUDES AND USES OF DAIRY PRODUCTS. Consumer study conducted for the Amer. Dairy Assoc., Fall 1953 to date.

Series of studies, approximately annually. Includes a survey of restaurant operators, Fall 1954.

Alfred, C. E. and J. C. Powell. CONSUMPTION OF DAIRY PRODUCTS AND EGGS IN RURAL TENNESSEE WITH REGIONAL COMPARISONS. Tenn. Agr. Expt. Sta. Rural Res. Ser. Monog. 19, 22 pp., Aug. 1936.

"The principal objectives of this study are to ascertain (1) the per capita consumption of dairy products and eggs among white farm owners in the different regions of Tennessee; (2) the main causes of the regional differences; and (3) the regional variations in amount sold and purchased for home consumption." Schedules completed by 663 farm owners form the basis for the results given in the study.

Bailey, Betty W. and Jessie J. Mize. MEATS, POULTRY, FISH, EGGS, MILK, MILK PRODUCTS, AND BEVERAGES USED BY EMPLOYED AND NONEMPLOYED HOMEMAKER FAMILIES.

Ga. Agr. Expt. Stas. Circ. N. S. 29, 14 pp., June 1962.

Survey of 141 families in Waycross, 1958, and 287 in Augusta, 1960.

Baum, E. L. and I. L. Corbridge. AN ECONOMIC STUDY OF DAIRY PRODUCTS CONSUMPTION, SEATTLE, WASHINGTON. Wash. Agr. Expt. Sta. Tech. Bul. 8, 32 pp., Jan. 1953.

Study September 1950. Household size, income, race, number of children. Desires for more of each dairy product, quantity and quality.

Blanford, C. J. RELATION OF FAMILY INCOME TO PRICES AND SALES OF FRESH MILK, CREAM, AND EVAPORATED MILK BY STORES IN THE N.Y. MARKET, JUNE 1938.

Cornell Univ., Farm Jour. 111: 2720-2723, Feb. 1939.

Store sales of grade B milk per family were greatest in the low-income areas of the city. The stores serving families in low-income areas sold fresh milk at lower prices than those in the medium and high-income areas. Sales were greatest in areas where average selling prices were lowest, with variations noted in prices of fresh and evaporated milk. Comparatively few families in low income areas were willing to pay any premium for milk in paper containers. Heavy cream sales were more than twice as great in the high-income areas as in the low and showed similar tendencies in respect to price.

Bymers, G. J. HOUSEHOLD INVENTORY AND USE OF SELECTED MILK FORMS IN TWO NEW YORK STATE COMMUNITIES. N.Y. (Cornell) Agr. Expt. Sta. Bul. 961, 24 pp., Dec. 1960.

Survey of 164 interviews in Ithaca and Syracuse, 1958. Inventory and purchase of various milk forms; household use; market awareness of price changes.

Cain, Dan W. FACTORS AFFECTING THE DEMAND AND USE OF MILK AND DAIRY PRODUCTS IN LOUISVILLE, KENTUCKY MARKETING AREA. Univ. Ky. M.S. thesis, 1960.

Coles, Jessie V. CONSUMPTION OF DAIRY PRODUCTS BY URBAN FAMILIES IN CALIFORNIA. Calif. Agr. Expt. Sta. Bul. 767, 141 pp., Apr. 1959.

Survey of 424 families in Oakland, 305 in Sacramento, and 513 in Los Angeles, 1952. Consumption per household and per person of individual dairy products, factors affecting consumption.

- Corty, Floyd L. and Joseph C. Purcell. CONSUMPTION AND DEMAND--FLUID MILK AND MILK SUBSTITUTES IN THE URBAN SOUTH. South. Co-op. Ser. Bul. 53, 40 pp., Oct. 1957. Analysis of milk purchasing practices and consumption and demand for fluid milk and substitutes, based on a survey of households in 12 cities in 1955.
- Cotton, Walter P. CONSUMPTION OF DAIRY PRODUCTS IN RURAL NORTH CAROLINA. N.C. Agr. Expt. Sta. Bul. 372, 30 pp., Oct. 1950. Survey of 390 families in 1949-50; cow ownership by rural families; factors affecting level of per capita consumption; sources.
- Cotton, W. P. CONSUMPTION OF DAIRY PRODUCTS IN URBAN NORTH CAROLINA. N.C. Agr. Expt. Sta. Bul. 371, 52 pp., Aug. 1950. Survey of 1,023 families, 1948; per capita consumption; effects of income, race, age and area; source of dairy products; consumer services offered by milk plants and distributors; estimated demand for dairy products.
- Cowden, T. K. and A. Sturges. THE CONSUMPTION OF FLUID MILK AND OTHER DAIRY PRODUCTS IN PHILADELPHIA, PENNSYLVANIA, JUNE 1934. Pa. Agr. Expt. Sta., Tech. Paper 659, U.S. Dept. Agr. coop., 45 pp., July 1934. Includes preliminary tabulation, analysis, and discussion of data gathered from 3,004 families within the city limits and 409 families in the suburbs of Philadelphia.
- Dean, Willamay T., Blanche C. Davis, and Ruth Jean Laity. MARKETING AND FAMILY USE OF DAIRY PRODUCTS. Va. Agr. Expt. Sta. Tech. Bul. 126, 40 pp., Dec. 1956. Survey of 750 households and 27 stores in Danville, winter 1955. Consumption and factors affecting; consumer opinions; availability in stores.
- Dean, Willamay T. and Blanche C. Davis. MARKETING AND FAMILY USE OF DAIRY PRODUCTS IN SELECTED AREAS OF THE SHENANDOAH VALLEY AND SOUTHWEST VIRGINIA. Va. Agr. Expt. Sta. Tech. Bul. 132, 56 pp., Feb. 1958. Survey of 750 families and 77 retail stores in urban and rural areas. No date given. Consumption and factors influencing; uses of different types of milk.
- Dickins, Dorothy. INCOME AND HOME USE OF DAIRY PRODUCTS. Jour. Farm Econ. XXXIX (3) pt. 1: 802-805, Aug. 1957. Choice of best measure of income to use in studying consumption of dairy products in the home; family income, per capita income based on economic family size, or per capita income on meal family size.
- Dickins, Dorothy and Virginia Ferguson. DAIRY PRODUCTS CONSUMPTION AND THE MARKET, FOUR MISSISSIPPI TOWNS. Miss. Agr. Expt. Sta. Bul. 542, 36 pp., Apr. 1956. Survey of 405 families in 4 towns--2 in the dairy area and 2 in the cotton area.
- Dickins, D. MILK, ICE CREAM, AND COMPETING BEVERAGES AND DESSERTS. Miss. Agr. Expt. Sta. Bul. 646, 24 pp., May 1962. Survey of 808 families in 4 Mississippi cities. Beverage use by family members; desserts used and preferences.
- Dickins, D. RESPONSES OF SOUTHERN URBAN HOMEMAKERS TO NEWER FORMS OF DAIRY PRODUCTS. South. Co-op. Ser. Bul. 82, 39 pp., Mar. 1962. Survey of 6,471 families in 110 cities in South, 1958-60. Use of instant dry milk; milk used most often in cooking; use of cottage cheese.
- Dickins, D. USE, KNOWLEDGE, AND ATTITUDES CONCERNING MILK PRODUCTS BY HOMEMAKERS. Miss. Agr. Expt. Sta. Bul. 642, 15 pp., Apr. 1962. Survey of 808 families in 4 towns in Miss., 1958. Consumption of milk products; knowledge of nutritive value of milk products.
- Dow, George F. CONSUMPTION AND MARKETING OF DAIRY PRODUCTS IN PORTLAND, MAINE. Maine Agr. Expt. Sta. Bul. 425, pp. 171-210, Feb. 1944. Based on data obtained in summer, 1942, from interviewing 966 consumers and 348 store managers in Portland, South Portland, and Westbrook. The data are analyzed for consumption of dairy products dealing with the average per capita consumption of different products, the effects of family income, size, and age on per capita consumption, etc.; competition of canned milk with fresh milk and cream; competition of farm butter, creamery butter and margarine; and store sales of dairy products.

- Dwoskin, Philip B. MILK PRODUCTS: CONSUMER PURCHASE PATTERNS AND USE, MEMPHIS, TENN. U.S. Dept. Agr. Mktg. Res. Rpt. 39, 68 pp., May 1953.
Part of the decline in sales of fresh fluid milk in the Memphis market between 1950 and 1952 resulted from substitution of nonfat dry milk for fresh milk products, although other factors also operated to reduce sales of the fresh products.
- Ellenberger, H. B. and J. T. Stearns. CONSUMPTION OF DAIRY PRODUCTS IN BURLINGTON. Vt. Agr. Expt. Sta. Bul. 433, 39 pp., May 1938.
Consumer preferences in the use of fresh milk, including the various grades thereof, canned milk, cream, butter and cheese. Based on a survey in 1935-36.
- Gazaway, H. P. and Charles F. Marsh. DELIVERY ROUTES SELL MORE MILK IN ANCHORAGE. Alaska Agr. Expt. Sta. Mimeo Cir. 25, 12 pp., Oct. 1960.
Survey of 160 household, 1958; consumer preferences and buying practices.
- Gilboy, E. W. STUDIES IN DEMAND: MILK AND BUTTER. Jour. Farm Econ. 46: 671-697, Aug. 1932.
Dealers' demand for butter in Boston, 1899-1926; milk in New York City, 1893-1925.
- Hobson, Asher and M. A. Shaars. CONSUMER PREFERENCES FOR CHEESE. Wis. Agr. Expt. Sta. Res. Bul. 128, 48 pp., 1935.
Consumers' preferences for different varieties and ages of cheese were obtained by testing a group of college students, rural people, doctors and nurses, from retail store sales, consumption in large hotels, and by interviews and housewives in various States.
- Howe, C. B. SALES OF FLUID MILK AND CREAM IN NEW JERSEY. Rutgers (N.J.) Univ. Agr. Expt. Sta., 1933.
- Howe, C. B. and W. C. Waite. THE CONSUMPTION OF DAIRY PRODUCTS IN SEVEN METROPOLITAN CITIES OF NEW JERSEY. N.J. Agr. Expt. Sta., U.S. Dept. Agr. Bur. Agr. Econ., coop., 124 pp., 1932.
This report, the third of a series (Buls. 506 and 515), contains the findings of a study of 2,184 urban families in the New Jersey portion of the New York metropolitan milk district, and the effects of such factors as race or nationality, length of residence in the United States, income and capital per capita, and size and composition of family on the per capita consumption of different dairy products.
- Lanahan, Thomas J., Jr. CONSUMPTION PATTERNS FOR DAIRY PRODUCTS, SPRING 1955 WITH INDICATIONS OF ANALYTICAL USES. U.S. Dept. Agr., Agr. Mktg. Serv. AMS-340(4), pp. 41-62, Sept. 1959.
Household Food Consumption Survey, 1955.
- LeBovitz, Corinne and Faith Clark. HOUSEHOLD PRACTICES IN THE USE OF FOODS. THREE CITIES, 1953. U.S. Dept. Agr. Agr. Inform. Bul. 146, 90 pp., Apr. 1956.
Surveys in Birmingham, Ala., Indianapolis, Ind., and Everett, Wash.: (1) how various forms of milk, butter and margarine, and other foods were used in the household and (2) how certain characteristics of the households affected the use.
- Lininger, F. F. and H. Metzger. THE CONSUMPTION OF DAIRY PRODUCTS BY 1370 FAMILIES IN PHILADELPHIA. Pa. Agr. Expt. Sta. U.S. Dept. Agr. Bur. Agr. Econ., coop., Bul. 245, 16 pp., 1930.
Based on data obtained in June 1929 from 76 wealthy, 131 well-to-do, 634 middle class and 529 poor families on 24 milk routes of 7 distributors in Philadelphia. Tables showed the relations of income, size of family, and nationality to milk consumption per family; the changes in consumption since 1924; consumption of other dairy products; results of different kinds of advertising; and reasons for using condensed or evaporated milk.
- Luebke, B. H., W. S. Rowan, and C. C. Mantle. CONSUMPTION OF DAIRY PRODUCTS IN KNOXVILLE. Tenn. Agr. Expt. Sta. Monog. 164, 34 pp., Jan. 1944.
During March 1943 records of the consumption of different dairy products were obtained for 199 white and 51 negro families. The samples for white families were obtained from four different rent-level groups, and those for negroes from the low- and medium-income groups. The first part of the report deals with the average amount of each product consumed per person for the city as a whole and the trends. The second section discusses the variation in consumption due to race, income, etc.

- Luke, H. Alan. CONSUMER USE OF DAIRY PRODUCTS IN PORTLAND, MAINE. *Maine Agr. Expt. Sta. Bul.* 477, 47 pp., Nov. 1949.
Survey of 700 households, April 1948; consumption of dairy products and factors affecting; uses of dairy products; influence of age, sex and income on use of milk for drinking; effect of price change on purchases of milk and cream; willingness of consumers to accept store purchase, less-frequent delivery.
- MacLeod, Alan, Leland Spencer, and R. K. Froker. WHAT MAKES THE MARKET FOR DAIRY PRODUCTS. *Wis. Agr. Expt. Sta. Bul.* 477, North Cent. Region. Pub. 10, Sept. 1948.
- Marsh, C. F. and H. P. Gazaway. HOUSEHOLD BUYING OF FRESH MILK AND DAIRY PRODUCTS IN ANCHORAGE, ALASKA. *Alaska Agr. Expt. Sta.* 16 pp., Apr. 1962.
Survey of 160 households in July 1958.
- Miles, James F. HOUSEHOLD BUYING PRACTICES FOR DAIRY PRODUCTS IN CHARLESTON AND COLUMBIA, SOUTH CAROLINA. *S.C. Agr. Expt. Sta. Cir.* 113, 18 pp., Oct. 1957.
Survey of 288 families, September and October 1955. Factors affecting purchases and consumption of dairy products.
- Mize, Jessie J., Doris W. Thompson, and Frankye E. Bland. CONSUMER MARKETING PRACTICES AND USES OF DAIRY PRODUCTS. *Ga. Agr. Expt. Stas. Bul.* N.S. 39, 36 pp., Jan. 1957.
Survey of 453 families in Walton county and 349 in Albany, Ga., 1954-56. Consumption, uses, buying practices.
- Pan-American Coffee Bureau. THE USE OF DAIRY PRODUCTS AND SUGAR IN COFFEE IN THE UNITED STATES, 1960. 5 pp., 1960.
The quantity and value of dairy products used as creaming agents in coffee. Survey of 6,000 persons, January and February 1960.
- Pearson, F. A., W. I. Myers and E. E. Vial. RETAIL PRICES AND CONSUMER EXPENDITURES FOR DAIRY PRODUCTS. *Farm Econ. Cornell Univ.* 194: 5087-5107, Mar. 1954.
U.S. per capita consumption, per capita expenditures, and prices of many dairy products. Trends over 25 years. Competition between products.
- Pierce, C. W. FLUID MILK VS. CANNED MILK. *Milk Dealers* 29(1): pp. 63-64, July 1940.
Preliminary results of a study on consumer preference in the use of evaporated and fresh milk made in the spring of 1939 at Johnstown, Pa.
- Purcell, Joseph C. ANALYSIS OF DEMAND FOR FLUID MILK AND FLUID MILK SUBSTITUTES IN THE URBAN SOUTH. *Ga. Agr. Expt. Stas. Tech. Bul.* N.S. 12, 70 pp., Oct. 1957.
Estimates of the effect of income, fluid milk prices, and race on the consumption of fluid milk and its substitutes in the urban Southeast; evaluation of geographic cross-sectional data in estimating price elasticities and cross elasticities of demand.
- Purcell, J. C. PROSPECTIVE DEMAND FOR MILK AND MILK PRODUCTS IN THE SOUTH. *South. Co-op. Ser. Bul.* 68, 79 pp., Oct. 1959.
Analysis of consumption of milk and milk products, trends in factors associated with consumption, and prospective demand to 1975.
- Rinear, E. H. CONSUMPTION OF MILK AND OF SOME OTHER DAIRY PRODUCTS IN METROPOLITAN NEW JERSEY. *N.J. Agr. Expt. Sta., Bul.* 702, 15 pp., 1942.
A total of 11,013 usable family records were obtained in a survey in the spring of 1941 in Highland Park, New Brunswick, Newark, and the Oranges. The data are analyzed by income ranges of \$500. The relationship between the consumption of fluid milk, evaporated milk, butter, and cream, and family income is analyzed and discussed.
- Roberts, John B. CONSUMPTION OF MILK AND DAIRY PRODUCTS IN KENTUCKY MARKETS. *Ky. Agr. Expt. Sta. Bul.* 660, 31 pp., June 1958.
Survey of 433 white and 104 Negro families in Paducah and Lexington, Ky., in 1955. Expenditures, consumption, factors influencing consumption; information sources.
- Rojko, Anthony S. AN APPLICATION OF THE USE OF ECONOMIC MODELS TO THE DAIRY INDUSTRY. *Jour. Farm Econ.* XXXV (5): 834-849, Dec. 1953.
- Rojko, Anthony S. THE DEMAND AND PRICE STRUCTURE FOR DAIRY PRODUCTS. *U.S. Dept. of Agr. Tech. Bul.* 1168, 252 pp., 1957.
"The major contribution of this bulletin is the formulation and statistical fitting of relations that describe the economic influences which affect prices and consumption of milk and dairy products."

- Shaffer, James D. CONSUMER PURCHASE PATTERNS FOR INDIVIDUAL DAIRY PRODUCTS, BEVERAGES, FATS AND OILS, MEATS, POULTRY, AND EGGS. MSU CONSUMER PANEL, 1952-1958. Mich. Agr. Expt. Sta. MSU Consumer Panel Bul. 7, 40 pp., 1962.
Yearly average expenditures; seasonal patterns; percent of families buying.
- Sheperd, Geoffrey. CHANGES IN THE DEMAND FOR MEAT AND DAIRY PRODUCTS IN THE UNITED STATES SINCE 1910. Iowa Agr. Expt. Sta. Res. Bul. 368, pp. 365-404, Nov. 1949.
Changes in demand for milk and butter, 1924-48.
- Siegel, Harriet S. THE APPLICATION OF MULTIPLE FACTOR ANALYSIS TO THE AGGREGATE DEMAND FOR DAIRY PRODUCTS. Mich. State Col. Ph.D. thesis, 1951.
- Steele, Howard L. USE OF PROJECTION IN FOOD MARKETING SURVEYS. Univ. Ky., Ph.D. thesis, 1961.
- Stiebeling, Hazel K., Sadye F. Adelson, and Ennis Blake. LOW-PRICED MILK AND THE CONSUMPTION OF DAIRY PRODUCTS AMONG LOW-INCOME FAMILIES, WASHINGTON, D.C., 1940. U.S. Dept. of Agr. Cir. No. 645, 28 pp., May 1942.
Study of "nickel milk" program of 1940. Survey of 1,101 families before the program began, 951 afterwards, including 624 in both interviews. Consumption before and after program. Consumption of families participating and not participating in the program.
- Stubbs, A. C. and J. H. Blackstone. NUTRITIONAL KNOWLEDGE AND CONSUMER USE OF DAIRY PRODUCTS IN URBAN AREAS OF THE SOUTH. South. Co-op. Ser. Bul. 87, 48 pp., July 1963.
Survey of 4,598 white and 1,873 Negro families in (11) cities in South, 1958-60. Use of dairy products by families; nutritional knowledge regarding dairy products; factors related to use of dairy products.
- Tompkins, Enoch H. MARKET FOR DAIRY PRODUCTS. A STUDY OF THREE VERMONT URBAN CENTERS. Vt. Agr. Expt. Sta. Bul. 600, 39 pp., June 1957.
Survey of 1,294 households in Burlington, Essex Junction, and Vergennes, in 1954-55. Consumption and preferences for milk and other products; preferences for milk and other products; preferences for marketing services; reaction to milk and cream prices.
- Trout, G. M. and G. G. Quackenbush. CONSUMER REACTION TO BOTTLED FRESH CONCENTRATED MILK. Mich. Agr. Expt. Sta. Quarterly Bul. Article 31-55, pp. 445-455, May 1949.
Consumer test of experimental concentrated milk.
- U.S. Department of Agriculture. DAIRY PRODUCTS IN CITY DIETS. Based on Food Consumption Surveys of 1948. U.S. Dept. Agr. Bur. Human Nutr. and Home Econ. Commod. Sum. 6, 17 pp., Feb. 1950.
- Waite, W. C. and C. B. Howe. THE CONSUMPTION OF DAIRY PRODUCTS IN SIX NEW JERSEY TOWNSHIPS. N.J. Agr. Expt. Sta., U.S. Dept. Agr. Bur. Agr. Econ. coop., Bul. 506, 47 pp., 1930.
This study was made to determine the consumption of fluid milk, cream, butter, cheese, and other dairy products by rural people in areas representative of different types of agriculture in New Jersey. The data used were from 1,391 questionnaires obtained by enumerators. The per capita consumption of milk, cream, butter, cheese, and condensed and evaporated milk by the families with and without cows, and by families of different sizes and composition in the six townships is discussed. The effects of income and nationality on per capita consumption of dairy products are also discussed.
- Waite, W. C. and R. W. Cox. A STUDY OF THE CONSUMPTION OF DAIRY PRODUCTS IN MINNEAPOLIS, 1934. Minn. Agr. Expt. Sta. Bul. 311, 28 pp., 1934.
This study was made to determine variations in consumption per family and per capita of dairy products and the reasons for such variations. Data were obtained from January 15 to February 12, 1934, for 2,187 families (8,783 persons) in 228 selected areas of the city.
- Ward, E. H. and H. L. Cook. CONCENTRATED MILK: SOME ASPECTS OF COSTS AND ACCEPTANCE FOR RETAIL DISTRIBUTION. Wis. Agr. Expt. Sta. Agr. Econ. 12, 40 pp., Sept. 1954.
Characteristics; costs; commercial tests; dealers' outlook.
- Wightman, Mildred R. KENTUCKY URBAN HOMEMAKER'S ATTITUDES, PREFERENCES, AND PRACTICES CONCERNING DAIRY PRODUCTS. Ky. Agr. Expt. Sta. Prog. Rpt. 123, 26 pp., 1963.
Survey of 572 Louisville homemakers, 1958. Knowledge of nutrition attitudes toward milk as a beverage, attitudes toward desserts, and new products and ideas.

Zawadzki, M I. FLUID, DRY AND EVAPORATED MILK CONSUMPTION IN RHODE ISLAND.
R.I. Agr. Expt. Sta. Bul. 350, 24 pp., June 1960.

Surveys in 1957-58 of 384 consumers in supermarkets. Purchases, acceptance, use of dry and evaporated milk; influence of household composition and income.

Zawadzki, M. I. and J. W. Mitchell. FLUID AND DRY MILK CONSUMPTION IN RHODE ISLAND.
R.I. Agr. Expt. Sta. Bul. 338, 21 pp., June 1957.

Aggregate consumption of fluid milk and dry skim milk in R.I., 1950-54; demand and substitution relationships.

Fluid Milk

Adams, Lawrence A. et al. CONSUMER DEMAND FOR MILK IN PHILADELPHIA. U.S. Dept. Agr. Bur. of Agr. Econ., Pa. Dept. of Agr., coop., 51 pp., Oct. 1924.

A preliminary report of a study of the effect of income, race, nationality and publicity upon milk consumption, based on 400 personal interviews and 141 mail questionnaires.

Anderson, E. O. et al. THE DEMAND FOR FLUID SKIM MILK. Storrs (Conn.) Agr. Expt. Sta. Bul. 325, May 1965.

4-year controlled-price experiment. Income-consumption relationship.

Baker, Donald J. and Charles H. Berry. THE PRICE ELASTICITY OF DEMAND FOR FLUID SKIM MILK. Jour. Farm Econ. pp., 124-129, Feb. 1953.

One study of retail sales and price differentials for skim milk in 34 Federal order markets, 1947-51. Gets price elasticity coefficients from -4.4 to -3.4 for various time periods within the overall period. For full period, gets average of -3.5. Controlled experiment with Univ. Dairy in Storrs - first year data only: gets -1.68 ± 1.63 . Lower value than for first study may be due to purchasing lags. Get higher elasticity for latter part of each 2-month period (of each price differential). Not much evidence of income effect.

Bartlett, Ronald. FLUID MILK SALES AS RELATED TO DEMAND ELASTICITIES. Jour. Dairy Sci. 47(12): 1313-21, Dec. 1964.

A long-run study of 55 markets relating price, income, and percentage of nonwhites to per capita milk consumption. In markets where the retail price was 20 cents per quart or over, the demand for milk was elastic.

Bartlett, R. W. PRICES AND CONSUMPTION OF MILK IN SPECIFIC CITIES AS RELATED TO INDUSTRIAL PAYROLLS AND OTHER ECONOMIC FACTORS. Ill. Agr. Expt. Sta. Bul 397, pp. 397-480, 1934.

Relations between wholesale prices of milk and prices of dairy rations in Illinois, 1910-33; income of nonagricultural consumers and retail expenditures for butter in the United States, 1920-33, payrolls 1929 and 1933 in specific industrial manufacturers in the United States and Illinois, 1923-33. The changes and trends in milk consumption in different cities of the United States and Illinois, the effects of declining population curve on the potential market for milk and cream, the possibility of increasing per capita consumption of milk, the land and labor necessary to supply an increased volume of milk, etc.

Berry, Charles H. et al. THE DEMAND FOR FLUID SKIM MILK. Storrs (Conn.) Agr. Expt. Sta. Bul. 325, 31 pp., May 1956.

Pricing experiment over 4 years to determine effects of various price relationships between whole and skim milk on consumption.

Black, John D. THE INCOME ELASTICITY OF MILK. Jour. Farm Econ. 28: 845-848, Aug. 1946.

This short discussion concerns the results of a study presented by R. F. Patzig and Gideon Hadary entitled "Relationship of Income to Milk Consumption" (J. F. E., Vol. 27, pp. 204-210, 1945), in which the authors concluded that income differences failed to account for the differences in family consumption of milk. The results of the Patzig-Hadary study, a Bureau of Labor Statistics study of "Money Disbursements of Wage Earners and Clerical Workers" made in 1934-36 (BLS Bul. 636), and the Consumer Purchases Study made by the Bureau of Home Economics in 1936 (U.S.D.A. Misc. Pub. 452), are compared and analyzed.

Blanford, C. J. THE DEMAND FOR MILK AND CREAM AS REVEALED BY CONSUMER PURCHASES AT RETAIL FOOD STORES IN NEW YORK CITY. Cornell Univ. Agr. Expt. Sta. Bul. 765, U.S. Dept. Agr. coop., 47 pp. 1941.

Since retail food stores in New York City distributed more than one-half the milk purchased for home consumption, a survey was made of the daily sales in June 1938, June 1939, and

April 1940 in approximately one-fourth of the 18,000 stores distributing milk in low-, medium-, and high-income areas. Information was obtained as to the demand for paper containers and for delivery service on the part of the families that purchased their milk principally at stores.

Brinegar, George K. EFFECT OF CHANGES IN INCOME AND PRICE ON MILK CONSUMPTION. Storrs (Conn.) Agr. Expt. Sta. Bul. 280, 27 pp., July 1951.
Study in an isolated community in eastern Connecticut, 1947-49.

Brinegar, George K. SHORT-RUN EFFECTS OF INCOME CHANGE ON EXPENDITURE. Jour. Farm Econ. XXXV (1): 99-109, Feb. 1953.

Evidence that households tend to maintain their bank balances in relation to their income level, not to changes in income. i.e., do not draw on savings to make up loss of income in times of sudden drop. On specific items consumers tend to overcompensate for income changes at first, then overcompensate in the other direction, and then settle down at a middle point, e.g., with income drop, milk consumption goes far down, comes up again, and then settles down at a lower level than before the income drop. A dampening of income fluctuations which decreases the short-period price variation, will permit the firm and household to operate more efficiently.

Brinegar, George K. and Stewart Johnson. THE MARKET FOR FLUID SKIM MILK. Conn. Bul. 303, 43 pp. July 1953.

Studies of selected Connecticut dealers, 1947-53; selected U.S. markets (Federal order markets, Bangor, Los Angeles, and San Francisco), 1947-53; Storrs market with latin-square design. Price elasticity (skim milk sales as percent of whole milk sales and skim milk price as percent of whole milk price): U.S. markets -3.9 (with 2.4 percent of sales as skim) Storrs -2.0 (with 5.8 percent of sales as skim).

Brown, George H. and Gideon Hadary. BEVERAGE PREFERENCE OF INDUSTRIAL WORKERS-- A Study In Consumer Preference Ratings. Jour. Business XVII(2): 111-117, Apr. 1944.
Survey of industrial workers in 2 communities in Chicago area on beverages consumed at lunch at work.

Bucchel, F. A. REPORT OF A SURVEY OF THE PER CAPITA CONSUMPTION OF FLUID MILK AND CREAM IN FAMILIES WITH CHILDREN IN THE JUNIOR HIGH SCHOOLS AND UPPER GRADE SCHOOLS IN WASHINGTON, D.C. U.S. Dept. Agr. Bur. Agr. Econ., 8 pp., June 1929.
Survey of 7,500 families, December 1928.

Bucchel, F. A. REPORT OF A SURVEY OF DAILY PER CAPITA CONSUMPTION OF MILK AND CREAM IN FAMILIES WITH CHILDREN IN THE FOURTH AND FIFTH GRADES OF THE ELEMENTARY SCHOOLS IN AUSTIN, TEXAS. Univ. Tex. Bur. Business Res. 7 pp., 1931.
Survey of children in 14 schools.

Buechel, F. A. CONSUMPTION OF MILK AND MILK PRODUCTS IN THE CITY OF AUSTIN AND TRAVIS COUNTRY, TEXAS. Univ. Tex. Bur. Business Res., Texas Relief Comm. coop., 32 pp., Nov. 1934.
Survey of milk consumption of families of children in grade schools.

Collins, W. E. FACTORS AFFECTING THE DEMAND FOR FLUID MILK. Ill. Agr. Expt. Sta. A.E. 2770, 25 pp., Dec. 1950.
Review of research work on effects of income, prices, store price differentials, racial background quality, age and family size, temperature, seasonality.

Cowden, T. K. and F. F. Lininger. THE CONSUMPTION OF MILK IN ALLEGHENY COUNTY, PENNSYLVANIA. Pa. Agr. Expt. Sta. Tech. Paper 569, 12 pp., 1932.
The first of a series on consumption of milk in different localities of Pennsylvania. Survey made in September 1932. The per capita consumption of and total use of milk, methods of sale of fluid milk and cream, number of dealers and their milk handling capacity, and the relative amounts of milk handled by organized and unorganized dealers are discussed.

Cowden, T. K. and C. G. Gifford. THE DISTRIBUTION AND CONSUMPTION OF MILK IN ALLEGHENY COUNTY, PENNSYLVANIA. Pa. Agr. Expt. Sta. Tech. Paper 664, 16 pp., 1934.
Study to determine the changes that had taken place from the previous study (Tech. Paper 569) to August 1923.

Cowden, T. K. DISTRIBUTION AND CONSUMPTION OF MILK IN READING, PENNSYLVANIA. Pa. Agr. Expt. Sta. Tech. Paper 614, 14 pp., 1933.

The source of milk supply, number of dealers, forms in which milk was used, per capita consumption, units of sale, daily and seasonal variations in sales, percentages of fluid milk sold wholesale and retail, and the effect of beer sales on sales of milk by dealers and restaurants are discussed.

Dickins, Dorothy. HOME CONSUMPTION OF MILK. Miss. Agr. Expt. Sta. Cir. 198, Sept. 10 pp., 1955.

Survey of 1,021 families in Mississippi, 1953-54. Consumption levels; factors related to consumption; uses of milk and cream.

Downen, M. L. A STUDY OF THE MILK MARKET OF MEMPHIS, TENNESSEE. Tenn. Agr. Expt. Sta. Bul. 242, 64 pp., May 1955.

Response of sales to price change, monthly data, 1946-52, for each type of milk and cream.

Drake, Phyllis and Florence E. Roach. USE OF MILK BY URBAN AND RURAL FAMILIES IN SOUTH CAROLINA. S.C. Agr. Expt. Sta. Bul. 437, 22 pp., May 1956.

Survey of 528 urban and 504 rural families, 1953-54; quantities of milk used and factors affecting use.

Dwoskin, Philip B., James A. Bayton, and William S. Hoofnagle. CHANGING PATTERNS OF MILK CONSUMPTION IN MEMPHIS, TENNESSEE. U.S. Dept. Agr. Mktg. Res. Rpt. 69, 77 pp., June 1954.

Current use patterns for dairy products and substitutes and changes, 1951-53; consumer knowledge and preferences.

Gibson, Duane L. and Charles R. Hoffer. AN ANALYSIS OF MILK CONSUMPTION AMONG URBAN FAMILIES. Mich. Agr. Expt. Sta. Quar. Bul. 39(1), 113-124, Article 39-14, August 1956.

Study of 424 families in Lansing, Mich., in 1950. Effects of education, income, and preferences on milk consumption.

Hamilton, A. B., S. H. DeVault, and W. H. Harper. THE CONSUMPTION OF FLUID MILK IN BALTIMORE. Md. Agr. Expt. Sta. Special Bul. 4, 1937, 8 pp.

This study was made in cooperation with the Baltimore Dairy Council, and is based on 2,375 usable schedules returned from a mailing in March 1937 of 12,400 schedules to residents of different districts of the city. Included are the daily per capita consumption of milk in the north and the south areas of the city; the number of families using more and less milk than the year before; the reasons for the changes; and the number of persons by age groups, number drinking milk, and the reasons for not drinking milk. One-third of the families felt they should use more milk.

Havlicek, Joseph. THE EFFECT OF FAMILY INCOME, FAMILY SIZE AND FAMILY AGE-GROUP COMPOSITION OF THE PER CAPITA CONSUMPTION OF MILK IN 8 SELECTED OHIO MILK MARKETS. Ohio State Univ. M.S. thesis, 1956.

Herrmann, Louis F. et al. ESTIMATING STATISTICS OF MILK CONSUMPTION IN RELATION TO TRENDS IN FLUID MILK MARKETING. U.S. Dept. Agr. Econ. Res. Serv. ERS-70, 12 pp., May 1962.

Review of development and status of milk consumption statistics published by the U.S. Department of Agriculture and their usefulness in evaluating developments in milk marketing.

Herrmann, Robert O. CHANGES IN POPULATION COMPOSITION AS AN EXPLANATION OF CHANGES IN THE DEMAND FOR FOOD: THE CASE OF FLUID MILK. Mich. State Univ. Dept. of Agr. Econ., Agr. Econ. 866, 10 pp., April 1962.

Inclusion of percentage of population under 20 years of age in time series analysis of milk consumption did not improve the results.

Hicks, J. W., H. M. Kellogg, and C. E. French. WHY CUSTOMERS CHOSE A BRAND OF MILK FOR HOME DELIVERY. Purdue Univ. Agr. Expt. Sta. Bul. 674, 7 pp., Mar. 1959.

Interviews with sales managers of dairies, routemen, and 197 customers as to why customers select a given brand of milk.

Hillman, J. S., J. W. Stull, and R. C. Angus. CONSUMER PREFERENCE AND ACCEPTANCE FOR MILK VARYING IN FAT AND SOLIDS-NOT-FAT. Ariz. Agr. Expt. Sta. Tech. Bul. 38, 38 pp., November 1952.

Taste discrimination tests; consumer and household preference; market test.

- Jeffrey, Arthur D. and E. Paul Feldman. CONSUMPTION RESPONSE TO A LARGE INCREASE IN THE RETAIL PRICE OF FLUID MILK. Cornell Univ. Agr. Expt. Sta. Bul. 951, 24 pp., June 1959.
Retail prices of milk in upstate New York rose about 3 cents per quart in August 1957; analysis of milk sales in Syracuse and Ithaca through February 1958.
- John, M. E. and Harrison Price. THE STORY OF ADOLESCENTS AND MILK. Pa. Agr. Expt. Sta. State Prog. Rpt. 204, 25 pp., June 1959.
- Jones, Edwin B. and E. W. Lamborn. LOWERED PRICE DOES NOT GREATLY INCREASE CONSUMPTION OF MILK. Utah Agr. Expt. Sta. Farm and Home Sci. 11 (3); 63-64, Sept. 1950.
Study of purchases of milk during a 2-week price war in Logan, Utah, during late fall 1949, by 405 families. Only 358 families knew of price war; all data for them included. Elasticity of demand was .25 for all families. Elasticity of demand for milk purchased at stores was .53--the elasticity of demand for store milk was more than 10 times that for delivered milk. Not much evidence of differences in elasticity by income groups. Slight tendency for families in \$1,000 - \$1,500 bracket to be more responsive. No differences in elasticity by size of family. Large families had higher per capita consumption all through. Before price-war: average purchases 13.6 qt. per week @17.7¢. During price-war: average purchases, 14.8 qt. per week @12.6¢.
- Link, Henry C., et al. A STUDY OF THE PSYCHOLOGICAL FACTORS INFLUENCING THE DRINKING OF PLAIN MILK BY ADULTS. Milk Res. Council, 71 pp., Jan. 1935.
Interviews with 2,000 adults in Greater New York. Habits; beliefs; effects of influences on people; personal factors including tastes; psychological interpretations and recommendations.
- Market Analysts, Inc. and Milk Research Council. HOUSEWIVES' ATTITUDES TOWARD THE MILK COMPANIES IN N.Y. CITY: A PRELIMINARY Survey. 38 pp., 1939.
Based on surveys of a low-income area in Manhattan, an average low-income area in Brooklyn, and an area mainly cooperatively housed, in the Bronx. Reports attitudes as to prices, propaganda against high prices, and Government control of the milk industry.
- Market Facts, Inc. MILK BEVERAGES CONSUMPTION PATTERNS. HIGHLIGHTS FROM THE NATIONAL CONSUMER BEVERAGE SURVEY, WINTER 1962. Amer. Dairy Assoc., 28 pp., 1962.
Survey of 3,919 households, January-March 1962. Drinking of each beverage during the past 24 hours reported.
- McBride, C. G. and R. G. McCort. A SURVEY OF MILK PURCHASING IN COSHOCTON, OHIO. Ohio Agr. Expt. Sta. Mimeo. Bul. No. 177, July 1944.
Data, gathered by the Junior Womens' Club in 3 surveys, on number of families purchasing on home delivery routes only, at stores only, and not using the products--milk, cream, and butter. Satisfaction with alternate-day deliveries and having a single grade of cream was also polled.
- McKain, W. C., E. G. Stockwell, and R. R. Nichols. MILK CONSUMPTION BY OLDER PERSONS. Storrs (Conn.) Agr. Expt. Sta. Bul. 339, 30 pp., Feb. 1958.
Survey of 900 persons over 65 in Hartford area, 1956. Factors related to attitudes and milk consumption.
- Metz, Joseph F., Jr. ACCURACY OF RESPONSE OBTAINED IN A MILK CONSUMPTION STUDY. Cornell Univ. Agr. Expt. Sta. Methods of Res. in Mktg. Paper no. 3, 14 pp., July 1956.
Comparison of reported purchases of milk with dealers' records in a central New York survey.
- Metz, Joseph Frank, Jr. EFFECTIVENESS OF MERCHANDISING PRACTICES OF MILK CONSUMPTION. Cornell Univ. Ph.D. thesis, 1956.
- Miles, J. F. SEASONALITY OF PURCHASES AND SALES OF MILK IN SOUTH CAROLINA. S. C. Expt. Sta. Bul. 400, 29 pp., June 1962.
Seasonality of milk produced and handled by distributors; surpluses; shortages; seasonal variation in sales by type of product; prices paid.
- Moede, Herbert H. and Betty Burnside. MARKET POTENTIAL FOR LOW-FAT MILK. U.S. Dept. Agr. Mktg. Res. Rpt. 709, 84 pp., May 1965.
Appraisal of market potential for 2-percent milk, using survey of plants and of households.

Montgomery, D. E. THE REACTION OF CONSUMERS TO CHANGES IN RETAIL PRICE OF MILK. U.S. Dept. Agr., Agr. Adjust. Admin. 11 pp., 1938.

Supplied little factual support for the generalization that demand for milk is inelastic. Opportunity for increasing consumption will be greatly enhanced when it is recognized that there is a large group of the population who do not consume milk because they cannot pay either for the milk or services. Possible means of supplying the low-income market are considered.

Mortenson, William P. COMPETITIVE MARKET FORCES AND THEIR EFFECT UPON FLUID MILK CONSUMPTION. Jour. Farm Econ. 19: 505-507, 1937.

A brief discussion of the consumption of fluid milk and cream, and evaporated milk. The substitution of evaporated milk for fluid milk and cream among low income families is discussed.

Ortego, Albert, Jr. and William H. Alexander. THE INFLUENCE OF SELECTED FACTORS ON MILK CONSUMPTION IN NEW ORLEANS. La. Agr. Expt. Sta. D.A.E. Cir. No. 212, 44 pp., Aug. 1957.

Survey of 142 households in New Orleans in 1956. Effects on milk consumption of price, income, size of family, consumption and price of substitutes. Explained only 13 percent of variance in per capita consumption.

Palmer, J. T. SOME EFFECTS OF MAINTAINING RETAIL PRICES OF WHOLE MILK AT ARTIFICIAL LEVELS. Jour. Farm Econ. 18: 759-761, Nov. 1936.

A study to determine the extent to which retail prices of whole milk in Boston, Chicago, New York City, Connecticut and the U.S. had been maintained at artificial levels from 1913 to 1935 and the effect of such control on the consumption of whole milk. High retail prices of whole milk in addition to causing increased consumption of canned milk and tending to reduce more milk sales, have encouraged new distributing agencies to enter a milk market. In the smaller markets, high retail prices have been accompanied by an increase in the number of producer-distributors.

Patzig, R. E. and Gideon Hadary. RELATIONSHIP OF INCOME TO MILK CONSUMPTION. Jour. Farm Econ. 27: 204-210, 1945.

This article analyzes data from 3 surveys conducted at the University of Wisconsin and the University of Chicago. Over 2,000 families were interviewed in Madison, Racine, and Kenosha, Wis., and South Bend and Mishawaka, Ind., between October 1940 and May 1942. Only people who purchased all their milk from dairies (home-delivery) were included, there being no price differential between delivered and store-purchased milk at that time. Records on the purchases of each family for a 2-month period were obtained from the dairies. Data on incomes were obtained from income tax records and credit bureaus. Complete consumption and income records were obtained for 601 families. Correlation analyses were made of the relationship between income and milk consumption per household; income and per capita consumption; and per capita income and per capita consumption. A multiple correlation analysis was made of the relationship between per capita consumption and (1) per capita income, and (2) number of children in the family. None of the correlation coefficients was statistically significant. The authors conclude that above a certain "breaking point" income has little or no influence on milk consumption.

Pierce, C. W. FLUID MILK AND FLUID CREAM SALES, ALLEGHENY COUNTY, 1934-44. Pa. Agr. Expt. Sta. Bul. 470, Feb. 1945.

Milk and cream sales in Pittsburgh. Per capita consumption increased 40 percent from 1939 to April 1944. From May 1939 to May 1944, an index of all payrolls of firms in Western Penn. (Univ. of Pittsburgh) increased 165 points. Each 10-point change in the index was consistently accompanied by a change in the value of milk sold of approximately \$2,000. Monthly estimates of milk and cream sales, November 1936, and May 1937-July 1944.

Pollock, Ronald Howard. AN ANALYSIS OF CHANGES IN CONSUMER MILK PURCHASES IN TWO OHIO METROPOLITAN AREAS. Ph.D. thesis, Ohio State Univ., 1954.

Potter, P.

WHAT CONSUMERS THINK ABOUT MILK AND THE MILK BUSINESS. Milk Plant Monthly 28 (4): 36-38, Apr. 1939.

A study of consumer and storekeeper attitudes in regard to the use and sale of milk.

Quackenbush, G. G. SOME DEMAND AND PRICE CHARACTERISTICS FOR MILK. Milk Agr. Expt. Sta., Agr. Econ. 788, M.S.U. Consumer Panel Report No. 58, 15 pp., Apr. 1959. Based on M.S.U. consumer panel, 1951-58. Response of milk purchase to price, income, family characteristics, and other factors.

Quackenbush, G. G. and J. D. Shaffer. COMPETITIVE RELATIONSHIPS OF FLUID SKIM MILK and FLUID WHOLE MILK. Mich. Quart. Bul. 38(1): 110-122, article 38-13, MSU Consumer Panel Report No. 15, Aug. 1955.

On short-term and intermediate-term bases, fluid skim milk purchases serve about 50 percent as net increase in total fluid milk and about 50 percent as a replacement for other items. Family characteristics of those buying fluid skim milk were not different from those not buying it, except that total milk purchases were higher.

Ross, H. A. THE DEMAND SIDE OF THE NEW YORK MILK MARKET. Cornell Univ. (Ithaca) Agr. Expt. Sta. Bul 459, 86 pp., 1927.

The results of a study of the sales records of 6 of the largest milk distributors of New York City for 1919-24, made to determine the factors affecting the demand for milk and their influence, to determine the demand for different products throughout the year, to formulate a method of forecasting sales of milk and cream, and to analyze quantitatively demand as a factor in milk prices.

Ross, H. A. SOME FACTORS AFFECTING THE DEMAND FOR MILK AND CREAM IN THE METROPOLITAN AREA OF NEW YORK. U.S. Dept. of Agr. Tech. Bul. 73, illus. 68 pp., 1928.

Detailed analysis of the quality of milk received, seasonal production, seasonal surplus, geographic production, production by freight zones, and production along various railroads. Using 1927 data and also data from 15,217 approved grade A and grade B farms for the period 1922-28, analysis of the seasonal variations in the fat content of milk sold to different types of plants and of that produced by summer, winter, and intermediate dairies. Using data for the years 1922-30 from 250 milk plants receiving delivery from approximately 15,000 farms and data for 1908-30 from 45 plants receiving approved grades A and B milk, production, both total and seasonal, is analyzed.

Schaars, Marvin A. and Gideon Hadary. CREAM PURCHASES BY URBAN CONSUMERS. Repr. from the Milk Dealer, 4 pp., July 1943.

Survey of families buying from routemen in Racine and Kenosha, Wis., 1941.

Scott, F. S., Jr., H. T. S. Lau, and W. Nakashima. CONSUMER DEMAND FOR MILK IN HONOLULU AND KAILUA. Hawaii Agr. Expt. Sta. Agr. Econ. Rpt. 41, 38 pp., Apr. 1960.

Survey of 1,150 families in Honolulu and 388 in Kailua winter 1958. Consumers and non-consumers; consumption of fresh and processed milk products; preferences; response to price; response to advertising and promotion; store vs. home deliveries; size of containers.

Spencer, L. and I. A. Parker. CONSUMPTION OF MILK AND CREAM IN THE NEW YORK CITY MARKET AND NORTHERN NEW JERSEY. Cornell Univ. Agr. Expt. Sta. Bul. 965, 80 pp., July 1961.

Improved data on consumption of milk and cream in New York City market and in Northern New Jersey and analysis of factors affecting consumption.

Steele, Howard L.

CONSUMER RESPONSE TO PACKAGE LABELING FOR FLUID MILK. S.C. Agr. Expt. Sta. A.E. 214, 19 pp., Sept. 1961.

Interviews with 662 households, 1960. Consumer attitudes about milk packaged in South Carolina, compared with that packaged out-of-State.

Stull, J. W. and J. S. Hillman. RELATION BETWEEN COMPOSITION AND CONSUMER ACCEPTANCE OF MILK BEVERAGES. Jour. Dairy Sci. 43 (7): 945-950, July 1960.

Consumer acceptance tests with milk of varying fat and solids-not-fat content.

Swope, Daniel A. FACTORS ASSOCIATED WITH LEVEL OF FLUID MILK CONSUMPTION. A SUMMARY OF THE LITERATURE OF RESEARCH FINDINGS. Pa. Agr. Expt. Sta. A.E. & R.S. 3, 32 pp., Mar. 1956.

Level of fluid milk consumption, by population groups; reasons for individual variations in milk consumption.

Swope, Daniel A. and Francena L. Nolan. BASIC APPEALS IN CONSUMER ACCEPTANCE OF MILK. Pa. Agr. Expt. Sta. Bul. 656, 27 pp., Aug. 1959.

Concepts and definitions of milk that served as appeals, and as obstacles, to milk drinking by adults. Differences between drinkers and nondrinkers of milk and between regular and occasional drinkers. Survey of 1,393 adults in Williamsport, Pa., 1956.

Taylor, Paul N., George K. Brinegar, and Stewart Johnson. THE RETAIL MARKET FOR FLUID CREAM. Storrs (Conn.) Agr. Expt. Sta. Bul. 333, 28 pp., Sept. 1957.

Postwar changes in sales of fluid cream in Connecticut and the United State; factors affecting sales of fluid cream.

The National Grange. BARRIERS TO INCREASED CONSUMPTION OF FLUID MILK. A special report by the National Grange, 124 pp., Jan. 1955.

Weak merchandising; complacency and resistance to change; lack of coordination; labor practices; misused sanitary regulations; wholesale and retail milk price control; Federal problems; concern about weight.

U.S. Department Agriculture. A SURVEY OF MILK CONSUMPTION IN 59 CITIES OF THE U.S. CONSUMERS' COUNSEL SERVICE. U.S. Dept. Agr., Agr. Adjust. Admin. Pub. 2, 33 pp., 1936.

This survey of purchases of whole and evaporated milk by 28,966 families during a single week in 1934 shows weekly per capita consumption to be 2.44 quarts. A satisfactory allowance, according to nutritionists, is between 3 to 5 quarts a person each week.

Vial, E. E. POPULATION AND CONSUMPTION OF MILK IN THE NEW YORK-NEW JERSEY MARKETING AREA, 1958-63. Milk Dealers' Assoc. of Metrop. N.Y. Membership Ltr. 138, 7 pp., Oct. 9, 1964.

Population, total consumption, per capita consumption, by districts in New York-New Jersey marketing area.

Waite, W. C. RESEARCH IN THE CONSUMPTION AND DEMAND FOR MILK. Jour. Farm Econ. 18: 330-337, 1936.

"There is undoubtedly more published data on the consumption and demand for dairy products than for any other agricultural commodity." Data available and studies made concerning various aspects of the subject are discussed.

Walters, Donna G. and Stanton P. Parry. CHANGING MILK PRODUCT CONSUMPTION PATTERNS IN MEMPHIS, TENNESSEE. Tenn. Agr. Expt. Sta. Bul. 380, 31 pp., Sept. 1964.

Survey of 480 households, 1961. Comparisons with 1953 study. Levels of consumption; type of product, container, and method of purchases; factors influencing consumption.

Wattel, Harold L. SURVEY OF MILK CONSUMPTION HABITS OF HOUSEHOLDS IN THE GREATER NEW YORK MILK MARKET, SEPTEMBER-OCTOBER 1955. Consumer Counsel to the Governor, State of New York, 28 pp., Jan. 1957.

Survey of 2,396 households in New York metropolitan area, 1955. Consumption of white, Negro, and Spanish-speaking families by various characteristics. Consumption by 3 different methods of estimating. Spanish-speaking families had the highest per capita consumption at every income level.

Waugh, F. V. THE CONSUMPTION OF MILK AND DAIRY PRODUCTS IN METROPOLITAN BOSTON IN DECEMBER 1930. Mass. Agr. Expt. Sta., N.H. Agr. Expt. Sta., Mass. Dept. of Agr., New England Dairy and Food Council, New England Res. Council of Mktg. and Food Supply, and U.S. Dept. Agr. Bur. Agr. Econ., 27 pp., Sept. 1931.

Records of 200 families from dealers' routebooks, 1929-30. Survey of 2,879 families, December 1930. Factors affecting consumption. Store vs. home delivery (67 percent home delivery).

Wightman, Mildred R. HOW MOTHERS FEEL ABOUT THE MILK-DRINKING HABITS OF THEIR TEENAGE DAUGHTERS. Ky. Agr. Expt. Sta. Prog. Rpt. 114, 11 pp., 1962.

Survey of 77 families, spring 1958.

Wilson, Lowell E. REVIEW OF STUDIES DEALING WITH THE EFFECT OF PRICE ON CONSUMPTION OF FLUID MILK. Ill. Agr. Econ. 1(2) 14-18, July 1961.

Short-term elasticities in response to small changes and large changes in price.

Services

Blakley, Leo V., L. D. McMullin, and Kenneth B. Boggs. CONSUMER PREFERENCES FOR DAIRY PRODUCTS AND SERVICES IN OKLAHOMA CITY. Okla. Agr. Expt. Sta. Bul. 464, 40 pp., Nov. 1955.

Survey of 821 households, March-April 1955. Consumption; opinions; place of purchase; frequency of purchase; type and size of container.

Blakely, Leo V., Carl E. Shafer, and Kenneth B. Boggs. CONSUMER PREFERENCES FOR DAIRY PRODUCTS AND SERVICES IN SMALL CITY MARKETS. Okla. Agr. Expt. Sta. Bul. B-497, 39 pp., Aug. 1957.

Survey of 533 households in Perry and Bristown, Okla. Consumption; preferences for services; type of container; size of container.

Bressler, R. G., Jr. EFFICIENCY OF MILK MARKETING IN CONN. 10. CONSUMER DEMANDS AND PREFERENCES IN MILK DELIVERY. Storrs (Conn.) Agr. Expt. Sta., Bul. 257, 51 pp., 1948.

Survey of 152 consumers in Willmantic and 449 consumers in the Hartford area. Consumer reactions to 4 programs for the reorganization of city milk marketing: (a) Alternate-day delivery--a comparison with daily delivery. (b) Exclusive delivery territories--the exchange of customers between dealers to eliminate the duplication of routes. Under such a system of zoning or allocating the market between dealers, all present dealers would remain in operation with approximately the same volume. (c) Central plant--a complete monopoly for each market. This could be owned and operated by the municipality, or privately under public utility status. (d) Store sales only--the elimination of home delivery routes.

Griffith, Sanford. COMPARATIVE STUDY OF ATTITUDES OF HOUSEWIVES, EXECUTIVES AND MILK-ROUTE MEN IN THE N.Y. CITY AREA. In Brown, E.F. Milk Papers. 1. Housewives. Milk Res. Council. 5 (97): 1-49, Jan.-May 1939.

Based on interviews with 1,025 housewives. Discusses milk buying and brand buying habits, reasons for brand selection, familiarity with the milk industry and factors influential in milk buying.

Johnson, Stewart. MILK-BUYING HABITS OF CONSUMERS IN THE HARTFORD, CONNECTICUT AREA IN JUNE 1960. Storrs (Conn.) Agr. Expt. Sta. 54 pp., Sept. 1960.

Preliminary report on survey of 479 consumers, sources of milk.

Johnston, John Ralph. THE EFFECTS OF CONTAINER TYPE AND SIZE UPON CONSUMER PURCHASES OF MILK WITHIN EIGHT SELECTED OHIO MILK MARKETS. Ohio State Univ. M.S. thesis, 1956.

Jones, C. F. and J. H. Blackstone. USE OF DAIRY PRODUCTS IN THE ANNISTON MARKET AREA. Ala. Agr. Expt. Sta. Bul. 307, 63 pp., June 1957.

Survey of 502 families, 1954. Buying practices; influence of family on purchases; influence of store offerings and retail services.

Jones, Edwin B. CONSUMER PREFERENCES FOR MILK. Utah Agr. Expt. Sta. Farm and Home Sci. 11 (3): 62-64, Sept. 1950.

Study of 405 families in Logan, Utah, fall 1949. Container preference: 47 percent, glass; 32 percent, paper; 21 percent, no preference. Strong preference for paper from stores. Preference for homogenized: 49 percent preferred homogenized; 38 percent, cream-line; 9 percent, no preference (At same price). Home delivery: 47 percent had home delivery for all milk, 35 percent brought all milk at store, 53 percent of total volume of milk delivered, 34 percent of total volume bought at store, 13 percent of total volume from "other" sources (producers and own cows).

Keith, K. M., and C. G. McBride. EFFECT OF EVERY-OTHER-DAY DELIVERY ON MILK PURCHASES. Ohio Agr. Expt. Sta. Dept. of Rural Econ. and Rural Sociology Mimeo. Bul. 162 (Columbus), 18 pp., Mimeo. Bul. 163, (Stark County), 18 pp., Mimeo. Bul. 164, (Dayton), 17 pp. 1943.

These studies of changes in milk deliveries are based on interviews with 505, 583, and 540 housewives; 75, 35 and 40 stores managers; and 9, 15 and 16 milk distributors in the respective areas.

Kettelle, D. I. and J. L. Tennant. EVERY-OTHER-DAY DELIVERY OF MILK. R.I. Agr. Expt. Sta. Misc. Pub. No. 15, 9 pp., Dec. 1942.

Reactions of consumers to change from daily to every-other-day delivery. Survey of 379 R. I. families, 1942. Consumption; reactions.

Lebrun, E. J. and A. L. Owens. MILK DISTRIBUTION IN PROVIDENCE, RHODE ISLAND. R.I. Agr. Expt. Sta. Bul. 294, Mar. 1945.

The study was made to obtain the attitudes of consumers and distributors toward possible changes in methods ultimately leading to more efficient milk distribution. It is based on a

survey of 39 dairies handling one-half of the fluid milk sales in the market area, 196 retail food stores, and four percent of the families in the Providence metropolitan area during 1943-44. The families interviewed were served by 112 milk distributors. The discussion includes the percentages of the families which had all milk used delivered at home, purchased at retail stores, and part delivered and part purchased; average daily consumption per person and per family; and attitudes on deliveries and store sales.

Metzger, H. B. CONSUMER MILK BUYING PRACTICES AND ATTITUDES TOWARD HOME DELIVERY SERVICES IN PORTLAND, MAINE, 1962. Maine Agr. Expt. Sta. Misc. Rpt. 105, 18 pp., July 1962.

Survey of 755 households in Portland, April 1962. Consumption; home vs. store; attitudes toward delivery services including frequency.

Metzger, H. B. MILK BUYING PRACTICES AND ATTITUDES OF CONSUMERS RECEIVING HOME DELIVERY OF MILK IN HOULTON AND PRESQUE ISLE, MAINE IN OCTOBER 1960. Maine Agr. Expt. Sta., 22 pp., Oct. 11, 1961.

Survey of 667 retail route customers to determine the feasibility of less frequent delivery on retail routes.

Metzger, H. B. and R. I. Taylor. CONSUMER REACTION TO REDUCING DELIVERIES ON RETAIL MILK ROUTES IN HOULTON AND PRESQUE ISLE, MAINE. Maine Agr. Expt. Sta. Misc. Rpt. 101, 22 pp., Oct. 1961.

Survey of 667 retail route customers to determine the feasibility of less frequent delivery on retail routes.

Milk Research Council. HOUSEWIVES' ATTITUDES ON MILK CONTAINERS IN MANHATTAN AND BROOKLYN. In Brown, E. F. Milk Papers 7(184), January-February 1940, 59 pp.

2,000 housewives were interviewed and gave opinions on milk-buying habits (place, grade and quantity bought) paper container vs. glass bottle (which is more sanitary and takes less room in the ice box); two-quart container (reasons for using or not using); store prices; and nationality and milk habits (Americans buy more Grade A than any other nationality).

Mitchell, Glen H. and Elmer F. Baumer. AN INTERIM REPORT ON MILK MARKETING DISTRIBUTION SYSTEMS IN OHIO. Ohio Agr. Expt. Sta. Res. Circ. 29, 14 pp., Mar. 1956.

Report of first year's findings in Akron, Cleveland, Dayton, and Ironton, in 1954-55, using household surveys. Consumption, preferences, source, type of container, prices.

Mitchell, Glen H. and Elmer F. Baumer. A PROGRESS REPORT ON SELECTED ASPECTS OF FOUR OHIO MILK DISTRIBUTION SYSTEMS. Ohio Agr. Expt. Sta. Res. Cir. 42, 12 pp., Mar. 1957.

Studies in Cincinnati, Toledo, Youngstown, and Canton, 1955-56. Consumption, source, type of container, prices.

Mitchell, G. H., D. W. Ware, and E. F. Baumer. MILK DISTRIBUTION SYSTEMS IN OHIO. Ohio Agr. Expt. Sta. Res. Bul. 855, 47 pp., June 1960.

Interviews with 7,413 families in 8 Ohio markets, 1954-56, and reinterviews in 2 markets in 1958-59. Consumption, purchasing practices, source, containers, prices.

Mitchell, Glen. CONSUMER PREFERENCE TOWARD VARIOUS MILK CONTAINERS IN EIGHT OHIO MARKETS. Ohio Agr. Expt. Sta. Dept. of Agr. Econ. and Rural Soc. Dept. Mimeo. Ser. A.E. 289, 17 pp., Apr. 1958.

Preference for container sizes and delivery method and actual containers and delivery methods in 8 Ohio markets, 1954-56.

Nairn, J., M. V. Waananen, and A. H. Harrington. HOME DELIVERY AND STORE PURCHASES OF DAIRY PRODUCTS IN SPOKANE, WASHINGTON. Wash. Agr. Expt. Sta. Bul. 590, 21 pp., Oct. 1958. Statis. Supp. Survey of 736 families in Spokane, 31 pp., June 1956.

Characteristics of families using home delivery and store purchases; differences in consumption; attitudes.

Ridenous, John Haven. CONSUMER PREFERENCE FOR MILK CONTAINERS IN EIGHT SELECTED OHIO CITIES. M.S. thesis, Ohio State Univ., 1958.

Spencer, Leland and H. Alan Luke. CONSUMERS' ATTITUDES TOWARD UNIFIED DELIVERY OF MILK AND THE PROPOSAL FOR A MUNICIPAL MILK PLANT IN JAMESTOWN, NEW YORK. Cornell Univ. Agr. Expt. Sta., A.E. 404, in coop. with City Council of Jamestown, 21 pp., Sept. 1942.

Consumer survey, July 1942, of 1,045 families in Jamestown, to show the quantities of milk, cream, and evaporated milk purchased and used by different groups of people, to record

consumers' experiences with every-other-day delivery of milk, and to ascertain attitudes towards reorganization of the delivery system.

Wessel, Kelso L. et al. CONSUMER RESPONSE TO PRICE DIFFERENTIALS ASSOCIATED WITH CONTAINER SIZE ON HOME-DELIVERY MILK ROUTES. Storrs (Conn.) Agr. Expt. Sta. Bul. 389, 35 pp., Apr. 1965.

Survey of 551 of households, June 1963, Hartford market, and similar survey in 1960. Containers purchased, preferences, reasons, response to price differentials.

Williams, John Rupert. CONSUMER ACCEPTANCE AND PRACTICES OF PURCHASING FLUID MILK IN GLASS BOTTLE AND PAPER CONTAINERS IN THE METROPOLITAN COLUMBUS AREA. Ohio State Univ. M.S. thesis, 1953.

Manufactured Products

American Dairy Association. THE HOUSEHOLD CHEESE MARKET, APRIL-SEPTEMBER 1960 WITH COMPARISONS. Amer. Dairy Assoc., 34 pp., 1961.

Purchases of natural and process cheese by various family characteristics, 1954, 1955, and 1960.

Baum, E. O. and C. M. Elkinton. PREFERENCE IN THE USE OF BUTTER AND OLEOMARGARINE IN SPOKANE, WASHINGTON. Wash. Agr. Expt. Sta., Cir. 187, 8 pp., May 1952.

Survey of 1,099 housewives in 4 chain stores in Spokane, Wash. 40.5 percent used butter only, 37 percent margarine only, and 22.5 percent both. Reasons included price advantage.

Brandow, G. E. and H. E. Allison. COMPETITION BETWEEN BUTTER AND MARGARINE IN PITTSBURGH, JUNE 1949. Pa. Agr. Expt. Sta., Bul. 528, June 1950.

Consumption study of 1296 families in Pittsburgh. Income, nationality, race, etc., related to consumption; also size of family (in consumption units). Price response in terms of expected response to different price relationships.

Carley, Dale H. CONSUMPTION AND DEMAND FOR ICE CREAM IN THE URBAN SOUTH. Southern Coop. Ser. Bul. 76, 31 pp., Jan. 1961.

Factors affecting ice cream consumption by households in 12 southern cities in 1955-56. Comparison of time-series and cross-section data on consumption.

Cook, Hugh L. and Harlow Halvorson. INDUSTRIAL USES AND REFERENCES FOR NONFAT DRY MILK SOLIDS. Wis. Agr. Expt. Sta. U.S. Dept. Agr. Bur. Agr. Econ. coop., Res. Bul. 169, 47 pp., Aug. 1950.

Analyzed the market for nonfat dry milk solids, the factors effecting the demand for nonfat dry milk solids for different kinds of users, and the substitution between milks and other ingredients for different users in terms of response to price and legal requirements. Recommended expanding bakery outlets for nonfat dry milk solids, stressing comparative advantages of nonfat dry milk solids, tailoring the product to specific needs of users, improving distribution, improving information, and changing standards of identity.

Cook, Hugh L. and R. W. Hoecker. RETAIL DISTRIBUTION AND CONSUMER ACCEPTANCE OF DRY MILKS IN HOUSTON, TEXAS. U.S. Dept. Agr. Bur. Agr. Econ., 44 pp., Aug. 1945.

Survey of consumers and grocery stores one year after introduction of dry whole and nonfat dry milk in Houston, Texas. Promotion; merchandising experience; housewives' experience; packaging.

Cook, Hugh L. and Dorothy L. Hussemann. CONSUMER ACCEPTANCE OF DRY MILK IN QUANTITY COOKERY. Wis. Agr. Expt. Sta. U.S. Bur. Agr. Econ. coop., Res. Bul. 164, 32 pp., Jan. 1950.

Developed formulas for using dry milk in preparation of certain food dishes and evaluated the dishes by taste panel technique. Use of dry milk may be increased in scalloped potatoes, baked custard, chocolate blancmange, and creamed salmon and peas without decreasing the preferences for the products. However, in no cases were preferences for these products increased by increasing milk solids content; the amount of nonfat solids that could be used was limited by an observed thickening effect.

Cooper, J. P. CONSUMER PREFERENCES FOR ICE CREAM AS AFFECTED BY CHANGES IN COMPOSITION OR IN CHOCOLATE FLAVOR. Ohio State Univ., M.S. thesis, 1954.

- Cox, Rex W. COMPETITION BETWEEN BUTTER AND MARGARINE, MINNEAPOLIS, 1952. Minn. Agr. Expt. Sta. Bul. 417, 16 pp., June 1953.
Survey of 1,179 families, March-April 1952. Family use and consumption rates; factors influencing consumption; responses to changes in price. Only uncolored margarine was legal in Minnesota at the time.
- Dobbins, C. E. EFFECT OF LOWER SUPPORT PRICE ON RETAIL PRICE AND SALES VOLUME OF BUTTER IN RICHMOND, VIRGINIA, JULY 1954. Va. Dept. of Agr., Div. of Mkts., 4 pp., 1954.
Weekly data in Richmond, March 13-May 15, 1954, when support price was reduced from 90 to 75 percent of parity. Butter prices dropped from 80¢ to 70¢. Margarine prices about steady at 30¢ or 29¢. Butter sales up from 100 percent (March sales) to 143 in 2nd week after price reduction, fell down to 108 percent in May. Margarine sales also up (to 104-107 percent) in April, fell off to 84-96 percent in May. Much more promotion of margarine.
- Feinberg, Daniel. CONSUMER PREFERENCE AND THE SUBSTITUTION OF MARGARINE FOR BUTTER. Jour. Farm Econ. XLIII(4): 927-934, Pt. I., Nov. 1961.
Based on his Ph.D. thesis, "A Case Study in Substitution: Butter and Margarine." NYU, 1961. Regression analysis of butter (and margarine consumption) related to prices and advertising expenditures.
- Jacobson, Robert E. and Roland W. Bartlett. THE ICE CREAM AND FROZEN DESSERT INDUSTRY-CHANGES AND CHALLENGES. Ill. Agr. Expt. Sta. Bul. 694, 24 pp., Apr. 1963.
The rise of new products; factors associated with higher per capita sales of frozen desserts; packages; outlets.
- Ladd, George W. and J. D. Jenkins. A STATISTICAL ANALYSIS OF CERTAIN INSTITUTIONAL VARIABLES IN THE BUTTER AND MARGARINE MARKET WITH A HISTORICAL SUMMARY OF SELECTED FEDERAL AND STATE OLEOMARGARINE LAWS, 1919-56. Iowa Agr. and Home Econ. Expt. Sta., Agr. Law Ctr. of State Univ. of Iowa, coop., Res. Bul. 474, pp. 639-664, Jan. 1960.
Statistical analysis of effects of margarine laws and taxes and consumption of margarine and butter, 1920-41 and 1947-49.
- McGrath, Edward J., Proctor Campbell, and Mardy Myers. COTTAGE CHEESE. ITS SALES POTENTIAL IN SELECTED MARKETS. U.S. Dept. Agr. Mktg. Res. Rpt. 391, 32 pp., Apr. 1960.
Analyses of sales in 7 test markets in the north central and southeastern areas.
- McGrath, Edward J. and Margaret Weidenhamer. SOUR CREAM. A STUDY OF ITS MARKET POTENTIAL IN DES MOINES, IOWA. U.S. Dept. Agr. Mktg. Res. Rpt. 368, 43 pp., Oct. 1959.
Response to an intensive promotional campaign of a uniform, high-quality cultured sour cream, conducted in Des Moines, Iowa, July 1957-April 1958.
- McGrath, E. J. THE MARKET FOR SOUR CREAM. U.S. Dept. Agr. Mktg. Res. Rpt. 448, 36 pp., Jan. 1961.
Trend of sour cream sales was upward. Sales of cultured sour cream in 1957, reported in a national mail survey, amounted to 73 million pounds. This quantity represented at least 90 percent of the U.S. total. Ninety-seven percent of the distributors and processors who returned the questionnaire said their volume was larger in 1957 than in 1956. Sales increased further in 1958 and 1959.
- Moore, Hugh L. et al. THE MARKET POTENTIAL OF PURDUE SWISS-TYPE CHEESE. Purdue Univ. Agr. Expt. Sta. Res. Bul. No. 741, 8 pp., May 1962.
Market acceptance test in 6 food stores in Indianapolis and Muncie, 1959-60.
- Morgan, James N. CONSUMER SUBSTITUTIONS BETWEEN BUTTER AND MARGARINE. Econometrica XIX: 18-39, Jan. 1951.
Consumer response to shifts in the prices of butter and margarine for 108 weeks, starting in November 1946, in Rhode Island.
- Oldenstadt, D. and S. K. Christensen. RETAIL SALES OF NONFAT DRY MILK: 1. CHARACTERISTICS OF CONSUMER PURCHASES AND USE; 2. RELATIONSHIP BETWEEN NON-FAT DRY MILK AND FLUID MILK PURCHASES. Oreg. Agr. Expt. Sta. Tech. Bul. 48, 32 pp., Aug. 1959.
Survey of 871 urban households in Portland, Salem, Albany, and Corvallis, Oreg., June 1957. Retail purchases and use of dry milk products; impacts on fluid milk; purchases and use by family characteristics.

- Olson, H. C. and Dorothy Strozier. CONSUMER PREFERENCE STUDIES ON COTTAGE CHEESE. Okla. Agr. Expt. Sta. Bul. B-555, 23 pp., June 1960.
Consumer preferences for salt content, rate of creaming, size of curd, and pH.
- Pabst, W. R., Jr. BUTTER AND OLEOMARGARINE. AN ANALYSIS OF COMPETING COMMODITIES. Columbia Univ. Press, 112 pp., 1937.
Development of the industries; restraint of competition between butter and margarine; demand and price relationships between butter and margarine; the question of further taxation of margarine.
- Pauls, D. E. and M. V. Waananen. POSSIBILITIES OF INCREASING THE USE OF NONFAT DRY MILK BY BAKERS. Wash. Agr. Expt. Sta. Bul. 637, 25 pp., May 1962.
Use of nonfat dry milk by bakers; practices; reasons.
- Quackenbush, G. G. SOME RECENT TRENDS IN THE MICHIGAN ICE CREAM INDUSTRY. Mich. Agr. Expt. Sta. Quart. Bul. 41(3): 630-635, Art. 41-67, Feb. 1959.
Production; factors affecting home consumption; from M.S.U. consumer panel.
- Quackenbush, G. G. and J. D. Shaffer. FACTORS AFFECTING PURCHASES OF ICE CREAM FOR HOME USE. Mich. Agr. Expt. Sta. Tech. Bul. 249, M.S.C. Consumer Panel Bul. No. 2, 28 pp., Apr. 1955.
Effect of changes in temperature, income, and price upon purchases, 1951-53; factors affecting differences in purchases among families; buying patterns and characteristics of families with high and low purchases.
- Reid, W. H. E., R. J. Drew, and W. S. Arbuckle. THE EFFECT OF COMPOSITION AND SERVING TEMPERATURE UPON CONSUMER ACCEPTANCE AND DISPENSING QUALITIES OF ICE CREAM. Mo. Agr. Expt. Sta. Res. Bul. 303, 44 pp., July 1939.
A serving temperature of 10° F. was considered most desirable from the consumer's viewpoint. Ice cream containing 14 percent fat, 13 percent serum solids, 14 percent sugar and 0.3 percent gelatin was preferred in the series of mixes studied. As the serving temperature was increased the vanilla flavor was more pronounced, the ice creams were sweeter, the highfat ice creams were criticized less for being buttery and were considered to be more desirable. Considers also crystalline structure, stability, dripping, and keeping qualities of ice cream.
- Roberts, John B. SOME FACTORS AFFECTING BUTTER CONSUMPTION. Jour. Farm Econ. 17: 735-738, 1935.
This short discussion is based on a study "made to isolate and measure the factors that are more important in affecting butter consumption in the United States. The retail price of butter, factory payrolls, cost of living, retail price, and per capita consumption of butter were studied."
- Rollag, Norman L. CONSUMPTION AND PREFERENCE FOR BUTTER AND MARGARINE IN TWO SOUTH DAKOTA CITIES. S. Dak. Agr. Expt. Sta. Agr. Econ. Pam. 76, 48 pp., Oct. 1956.
Consumption of butter and margarine and reasons for preference.
- Shaffer, J. D. and G. G. Quackenbush. CONSUMER PURCHASES OF BUTTER AND OLEOMARGARINE. M.S.C. Consumer Panel Bul. No. 1, Mich. Agr. Expt. Sta. Tech. Bul. 248, 32 pp., Apr. 1955.
Consumption data from Michigan consumer panel for 2 years; consumer attitude surveys in 1949, 1950, and 1954.
- Spencer, L. CONSUMPTION AND PRICES OF CANNED MILK AS RELATED TO THE DEMAND FOR FRESH MILK. Cornell Univ. Agr. Expt. Sta. A.E. 303, 25 pp., May 1940.
Reports a steady upward trend in per capita consumption of canned milk in the U.S., mainly because it has become much cheaper than fresh milk.
- Van Dress, M. G. and Mardy Myers. EFFECT OF CONSUMER PURCHASES OF NONFAT DRY MILK ON PURCHASES OF FRESH, EVAPORATED, AND FILLED MILK. U.S. Dept. Agr. Mktg. Res. Rpt. 372, 32 pp., Nov. 1959.
Families purchasing nonfat dry milk consume more milk products than families not using nonfat dry milk. Patterns of milk purchases of 477 families in a consumer panel in the Chicago area were studied for 3 years.

Vial, E. E. PRODUCTION AND CONSUMPTION OF MANUFACTURED DAIRY PRODUCTS. U.S. Dept. of Agr. Tech. Bul. 722, 76 pp., Apr. 1940.

Shows changes in production and consumption, and relationships between production, foreign trade, and consumption of the individual products, as well as all combined. Products are butter, cheese, concentrated milks, ice cream, malted milk, dried or powdered whole milk and cream, skim milk, and buttermilk. Uses for skim milk are discussed.

Whitted, Stephen F. DAIRY SUBSTITUTES IN MISSOURI. Mo. Agr. Expt. Sta. Bul. 656, 17 pp., July 1955.

Principally mellorine. Reasons for growth of substitutes, effects on dairy industry, price differentials; consumer attitudes.

PRICES, PRICING, PRICE-REPORTING

Allred, Wells M. and Edward H. Ward. COSTS, QUALITY AND PRICES OF FLUID MILK IN RURAL AND URBAN AREAS OF UTAH AND MONTANA. Utah Agr. Expt. Sta. Bul. 365, 40 pp., Dec. 1953.

An analysis of the operating costs of 33 fluid milk processing plants in Utah and 9 in Montana. Discusses the reasons for low unit operating cost, the pricing pattern for fluid milk products in Utah, and the quality of fluid milk supplied Utah communities.

Backman, Jules. FLEXIBILITY OF CHEESE PRICES. Jour. Polit. Econ. 48: 579-582, Aug. 1940.

The evidence "indicates that the price of cheese is relatively flexible rather than inflexible as suggested by William H. Nicholls in "Post-war Concentration in the Cheese Industry."

Bartlett, R. W. A PRICE PLAN FOR SELLING MILK BY COLLECTIVE BARGAINING ORGANIZATIONS. Pa. Agr. Expt. Sta. Bul. 251, 32 pp., 1930.

A study of various factors concerning the production, distribution, and consumption of milk and the relation of these factors to a milk-marketing plan, such as is now operative in the Pittsburgh territory. Basic facts pertaining to milk production and consumption, different price plans, and principles fundamental to price-determining. The new plan known as the Pittsburgh equalizing value price plan which was put into operation October 1, 1928, is described. The basis for sale to distributors under this plan is "the sale of milk for each use at a price based upon its market value in each use."

Bartlett, R. W. MILK MARKETING IN PENNSYLVANIA, MILK MARKETING PLANS. Pa. Agr. Expt. Sta. Bul. 208, 39 pp., 1926.

Transition from the use of milk in butter and cheese to its sale in fluid form; milk marketing plans--including the New York classified price plan, the Pittsburgh classified price plan, the Philadelphia basic-surplus plan, and the Connecticut combination price plan.

Bartlett, R. W. PRICE PLANS FOR MARKETING MILK. Ill. Agr. Expt. Sta. Cir. 358, 19 pp., July 1930.

The classification or use milk marketing plan used in the New York market, the basic-surplus plan used in the Philadelphia market, and the equalizing value plan used in the Pittsburgh market are described and compared.

Bartlett, R. W. PRINCIPLES FOR PRICING MARKET MILK. Jour. Farm Econ. 31: 438-441, 1949; also, Ill. Farm Econ., No. 161: 719-743, 1948.

Four basic principles for determining the price of fluid milk: (1) milk and cream should be produced in areas where production costs plus transportation costs are lowest, (2) the price should fluctuate with some dynamic factor, such as the price of some manufactured dairy product, (3) prices should be just high enough above manufacturing milk prices to draw forth the desired supply, and (4) prices should vary seasonally to encourage more even production, and should be adjusted annually to meet the market needs. A suggested annual adjustment method, based on the "Boston principle," for the St. Louis milk market is explained.

Bartlett, R. W. THE PRICE OF MILK. 171 pp., 1941. The Interstate Printers and Publishers, Danville, Ill.

The milk problem; monopoly, coercion, and unfair practice; price systems that have failed; proposed government remedies; a price system that works; increasing milk consumption by lowering cost; quality control and the price of milk; and antitrust enforcement. Effects of price upon the consumption of milk; home-delivery and store margins in 83 cities; consent decree entered in the Chicago milk case.

- Battles, Ralph U. SOME FACTORS INFLUENCING MILK PRICE FLUCTUATIONS ON CLEVELAND AND PITTSBURGH MARKETS. Ohio State Univ. M.S. thesis, 35 pp., 1928.
Determination of the extent to which fluid milk prices fluctuate with butter prices; trend and seasonality.
- Bressler, Raymond G., Jr. PRICING RAW PRODUCT IN COMPLEX MILK MARKETS. Agr. Econ. Res. 10(4): 113-130, Oct. 1958.
The dairy industry is based on the production of a raw product that is nearly homogeneous--whole milk--on farms geographically scattered, and the disposal of this raw product in alternative forms--fluid milk, cream, manufactured products--to alternative metropolitan markets. This study develops models which suggest principles of efficient pricing and utilization, within the constraint of a classified system of discriminatory prices.
- Brown, C. A. FUTURES TRADING IN BUTTER AND EGGS. Jour. Farm Econ. 15: 670-675, 1933.
The history and value of futures trading in the United States, the benefits from hedging, the problem of "Squeezes," and the effect of futures trading on prices are discussed, with special reference to butter and eggs.
- Caparoon, C. D. WISCONSIN FARM MILK PRICES BY MARKETS. Wis. Dept. Agr. and Fed.-State Crop Rptg. Serv., coop., Spec. Bul. 6, May 1951.
Problems in measuring milk prices; new Wisconsin price series: (most series 5-year average 1910-49, annual 1935-51) all milk; fluid-market milk; inspected fluid-market milk; Federal-order markets; regular fluid markets; creamery plants; cheese factories; (all cheese; American, brick and Munster, Swiss, Limburger Italian, and other cheese) condensery plants; all manufactured milk; varied manufacturing plants; prices of butter at Chicago, American cheese on Wisconsin cheese exchange, Swiss cheese at Monroe. Factors affecting Wisconsin milk marketing structure; high production; quality standard variation between marketings; seasonal variation in production affects plant costs.
- Cassels, J. M. A STUDY OF FLUID MILK PRICES. Harvard Econ. Studies 54, 303 pp., 1937.
Deals with factors affecting supply and demand; price plans and bargaining methods; consumption of milk and milk products; dealers margins and chain-store differentials; transportation rates and services; production responses; market areas and product zones; and a case study of Boston-New York price relations.
- Cotton, W. P. MILK MARKETING PROBLEMS IN NORTH CAROLINA. N.C. Agr. Expt. Sta. Bul. 370, 97 pp., June 1950.
Milk marketing system in North Carolina; trends in annual supplies and sales; economic adjustments of Class I price level; equitable methods of paying for fluid milk; problem of uneven seasonal production.
- Cowden, T. K. SOME CURRENT PROBLEMS IN THE PHILADELPHIA MILK MARKET. Pa. Agr. Expt. Sta. Tech. Paper 595, 32 pp., May 1933.
Survey of 100 producers in March 1933. Producers' knowledge and opinions.
- Farr, Charles L. ECONOMIC ANALYSIS OF ALTERNATIVE METHODS OF MILK PRICING IN SELECTED NEBRASKA MARKETS. Univ. Nebr. M.S. thesis, Aug 1953.
- Hedrick, W. O. and A. C. Anderson. THE DETROIT COMMISSION PLAN OF CITY MILK ADMINISTRATION. Mich. Agr. Expt. Sta. Spec. Bul. 99, 30 pp., 1919.
Demand, supply, inspection, prices, war and milk production, the Michigan Milk Producers' Association, the Detroit Milk Commission, the just milk price, milk surplus, and uniform milk price.
- Hook, Ralph C., Jr. A STUDY OF THE GREATER KANSAS CITY FLUID MILK MARKET. Univ. Mo. M.A. thesis, 158 pp., 1948.
Factors affecting supply and demand; margins and prices. Store Differential: 1 cent October 1947. There has been a store differential since 1935 (first data); about 1 cent since mid-1937. Chains had differential of 2 cents in 1947.
- Irwin, H. S. IMPRESSIONS OF TRADING IN BUTTER AND EGG FUTURES. U.S. Dept. Agr. Commod. Exch. Admin. CEA-21, 28 pp., 1940.
Tables give volume of futures trading, 1927-38, and maximum aggregates of open contracts, 1928-38. Charts show average weekly spreads between cash and futures prices of butter in Chicago, 1932-37, and the relation between storage holdings and open futures contracts in Chicago on the first day of May-April 1931-38. Effects of futures trading on butter prices are considered.

Irwin, H. S. SURVEY OF BUTTER FUTURES AS OF AUGUST 31, 1939. U.S. Dept. Agr. Commod. Admin. CEA-22, 36 pp., 1940.

Most traders in butter futures were engaged in the butter, egg-and poultry business. Short selling" was almost negligible. Hedging was highly concentrated at Chicago, where almost three-fifths of the storage butter was hedged, compared with less than one-twentieth of the butter stored elsewhere. In contrast to the concentration among the hedgers, speculative long positions were widely scattered throughout the country, and most of them were small concerns accounted for 60 percent of the long positions and for 99 percent of the short positions. Most longs showed paper losses and most shorts paper profits, but this situation was reversed quickly by the rise in prices occasioned by the outbreak of war.

Jones, E. B. and G. G. Quackenbush. A TWO-PRICE PLAN TO SELL MORE MILK. Mich. Agr. Expt. Sta. Quart. Bul. Article 37-7, pp. 60-71, Aug. 1954.

Seasonal price plan to consumers: buy usual quantity and get additional at a lower price.

Latimer, Robert G. CONDENSERY MILK PRICES. Cornell Univ. Agr. Expt. Sta. U.S. Dept. Agr. coop., A.E. 374, 77 pp., 1942.

A continuous and comparable series of monthly prices paid farmers for milk at midwestern condenseries, and a similar series of prices paid for condensery milk in New York and the relationships between the prices and those for other commodities.

Lininger, F. F. and T. K. Cowden. MARKETING MILK. Pa. Agr. Expt. Sta. Bul. 352, 23 pp., Oct. 1937.

Shows the percentages of pasteurized milk in the Philadelphia and Pittsburgh milksheds and the Pennsylvania area of the New York City milkshed sold as fluid milk, and the maximum range in milk prices within a county.

Mathis, Anthony G. MARKET NEWS REPORTING OF BUTTER PRICES RECEIVED BY CREAMERIES. U.S. Dept. Agr. Prod. and Mktg. Admin., 37 pp., Mar. 1952.

Experimental reporting of prices received by creameries; new information from the report; uses made of the report; problems in gathering information.

Mathis, Anthony G. DESCRIPTION AND ANALYSIS OF THE IOWA-MINNESOTA-WISCONSIN BUTTER REPORT. U.S. Dept. Agr. Mktg. Res. Rpt. 468, 24 pp., Apr. 1961.

Description of the report of the USDA Market News Service of net prices received by midwestern creameries for butter. Analysis of the number of plants and the amount of butter covered by the report, the relationship of prices in each State to those in other States, and the reasons for the range in net prices.

Mathis, A. G. PROBLEMS IN INITIATING A REPORT OF PRICES RECEIVED FOR BUTTER BY MIDWESTERN CREAMERIES. U.S. Dept. Agr. Agr. Mktg. Serv. AMS-292, 22 pp., Feb. 1959.

A study of 38 Iowa creameries shows that it is feasible to report average weekly net prices based on a sample of creameries. These prices can be expected to show changes from one week to another, within one-half cent of the true change in the average price, in 95 percent of repeated trials. This degree of accuracy is possible because transportation and other charges per pound of butter, paid by individual creameries for shipping butter, usually fall close to the average of these charges paid by all creameries.

McIsaac, A. M. THE STEPPED PRICE SCHEDULE FOR FLUID MILK. Jour. Farm Econ. 17: 386-390, May 1935.

Method designed to increase milk consumption by "the use of a stepped price schedule for retail sales of milk similar to that employed by public utility companies to encourage the increased use of electric power in the home."

Miles, James F. MILK PRICES AND PRICING PRACTICES IN THE CHARLESTON, COLUMBIA, AND GREENVILLE MARKETS. S.C. Agr. Expt. Sta. Bul. 395, 36 pp., June 1951.

Prices paid to producers, delivered to homes, and to stores; comparison of milk pricing systems and possible revisions.

Miles, James F. A REVIEW OF MILK-PRICING PLANS. S.C. Agr. Expt. Sta. Bul. 438, 42 pp., June 1956.

Brings together in easy-to-understand form a careful consideration of the basic features of various milk pricing plans and evaluates their effectiveness.

- Morris, Charles G. WHAT SHOULD BE THE PRICE OF MILK? The Olsen Publishing Co., Milwaukee, Wis. 190 pp., 1940.
- The class price plan of buying milk; milk cooperatives; cut-price milk; milk control by boards or officials; milk strikes--their cause; the grades of milk; the milk dealers; the milk producer's and the milk dealer's tools; business mortality; maps of milksheds; the price of publicity.
- Paarlberg, Don. PRICES OF BUTTER, LARD AND COTTONSEED OIL. Cornell Univ. Agr. Expt. Sta. Mem. 281, 59 pp., Oct. 1948.
- Analysis 1921-1940; two-thirds of variability in price of butter explained by changes in supply, stocks, price level.
- Pearson, F. A. PRINCIPLES INVOLVED IN FIXING THE PRICE OF MILK. Jour. Farm Econ. 1: 89-96, Oct. 1919.
- The fixing of milk prices during World War I by the War Food Administration. A brief summary of the historical aspects of price fixing and the milk industry is followed by a discussion of the factors on which milk prices may be based: (1) Supply and demand, (2) price of butter and cheese, (3) price of butter and corn, (4) competitive commodity prices, (5) year ratios of feed and labor. The first four factors are criticized and rejected as inadequate. The author maintains that milk prices should be based on costs of production.
- Potts, Roy C. REPORT OF INVESTIGATION OF THE MILK MARKETING PROBLEM AT OKLAHOMA CITY. U.S. Dept. Agr. Bur. Agr. Econ., 10 pp., 1923.
- Pricing and pooling.
- Preston, Homer J., Alexander Swantz, and Louis F. Herrmann. THE MARKETING AND PRICING STRUCTURE FOR SKIM MILK PRODUCTS IN KANSAS, MISSOURI, AND OKLAHOMA MARKETS. U.S. Dept. Agr. Mktg. Res. Rpt. 166, 30 pp., April 1957.
- Analyzes the marketing and pricing structure of plain condensed skim milk and of spray and roller process nonfat dry milk solids in 1951-54. Also, provides information about the prices received by handlers and nonhandlers for the major products manufactured from surplus milk.
- Rojko, Anthony S. ECONOMETRIC MODELS FOR THE DAIRY INDUSTRY. Jour. Farm Econ. XXXIX(2): 323-338, May 1957.
- Determination of which structural relations can be specified with single equation and simultaneous equations.
- Smith, William J. J. MILK PRICE DIFFERENTIALS IN THE SOUTHEAST. Jour. Farm Econ. XXVIII 742-755, 1946.
- This paper, based largely on data gathered by the Atlanta Regional Office of OPA, is concerned with price structures in the milk markets of the southeastern States. Intramarket and intracounty variations in prices and the reasons for these differences are analyzed and discussed. The effects of the general freezing of prices in 1942, changes in feed prices and demand, and population shifts on the milk situation in the southeastern States is also discussed.
- Spencer, Leland. MILK DISTRIBUTION IN THE LARGER CITIES OF THE UNITED STATES. Cornell Univ. Agr. Ext. Serv. Farm Econ. 74: 1706-1708, Feb. 1932.
- Chainstore price differentials, 79 markets, 1931.
- Spencer, Leland. A REVISED SERIES OF MILK PRICES FOR NEW YORK. Cornell Univ. Agr. Ext. Serv. Farm Econ. 111: 2707-2710, Feb. 1939.
- Average of net prices paid by Dairymen's League and Sheffield Farms for 3.7 percent grade B milk at the 201-210 mile zone, 1910-1938; seasonal variation in the farm price of milk in New York, 1912-1936; index numbers of the farm price of milk in New York, 1910-1938; and prices of milk and basic commodities, 1910-1938.
- Spencer, Leland and Stewart Johnson. MILK PRICES AND PRICE CEILINGS IN POUGHKEEPSIE, NEW YORK, AND COMPETING MARKETS. Cornell Univ. Agr. Expt. Sta. A.E. 469, 21 pp., Jan. 1944.
- Number of distributors, 1940; milk supply and utilization; movement; sources; competitive prices; retail prices and price relationships; ceiling prices; margins.
- Steele, Howard L. and Clyde E. Woodall. PRICES AND PRICE RELATIONSHIPS FOR MILK IN SOUTH CAROLINA. S.C. Agr. Expt. Sta. Bul. 462, 34 pp., July 1958.
- Whole milk prices since 1920; grade A milk prices and price relationships; intermarket prices.

- Stein, Fred. AN EVALUATION OF SURPLUS MILK PRICES THROUGH FINANCIAL ANALYSIS. Ohio State Univ., M.S. thesis, 1953.
- Stepp, J. M. THE ECONOMICS OF PRICE IN THE MILK INDUSTRY. Univ. Va. Bur. of Pub. Admin. Serv. Bul. 9, 154 pp., 1942.
A theoretical analysis of price-making forces in the milk industry.
- Swantz, Alexander. THE MARKETING AND PRICING STRUCTURE FOR BULK SWEET CREAM IN KANSAS, MISSOURI, AND OKLAHOMA MARKETS. U.S. Dept. Agr. Mktg. Res. Rpt. 74, 58 pp., Nov. 1954.
Organization of the market, characteristics of buyers and sellers, average prices, price structure, in 1951-53.
- Swantz, Alexander. PRICES AND OTHER PAYMENTS FOR MILK BY MANUFACTURERS IN KANSAS, MISSOURI, AND OKLAHOMA MARKETS. U.S. Dept. Agr. Mktg. Res. Rpt. 81, 40 pp., March 1955.
Analysis of the level and structures of prices announced as paid and prices plus other payments actually made for ungraded whole milk at unregulated milk processing plants, 1951-53. Part of a study of pricing of surplus milk.
- Tetro, Robert C., J. R. Hanson, and P. L. Miller. STATEMENT CONCERNING THE LOUISVILLE MILK MARKET AND A PROPOSED MARKETING AGREEMENT AND ORDER. U.S. Dept. Agr. Div. of Mktg. and Mktg. Agreements Dairy Sect., 147 pp., Jan. 1940.
Prices and margins, 1922-1939. Store Differential: First introduced in 1930; 0-2 cents, 1930-32; 0-1 cent, 1933-39; organization of market; classification; price levels; supply conditions; utilization of milk June 34-1939.
- Tinley, J. M. FACTORS AFFECTING THE PRICE OF MARKET MILK IN SAN FRANCISCO. Calif. Agr. Expt. Sta. Mimeo. Rpt. 43, 31 pp., 1935.
A statement for the hearings on September 30, 1935, on the proposed stabilization and marketing plan for fluid milk in the San Francisco marketing area.
- Tinley, J. M. PRICE FACTORS IN THE LOS ANGELES MILK MARKET. Calif. Agr. Expt. Sta. Giannini Found. Mimeo. Rpt. 48, 41 pp., 1936.
A supplement to and extension of Calif. Agr. Expt. Sta. Bul. 513, 1931, which brings up to date some of the more significant tables and figures related to producer prices and analyzes the economic effects of some recent developments in the Los Angeles milk market.
- Tinley, J. M. ECONOMIC CONSIDERATIONS IN MILK-STABILIZATION PLANS. Calif. Agr. Expt. Sta. Mimeo. Rpt. 62, 6 pp., 1937.
This paper, presented at the 70th Fruit Growers and Farmers Convention at San Jose, California, 1937, includes discussion of the California milk control legislation and some of the dangers of price fixing in the market milk industry.
- Tinley, J. M. SUPPLEMENTARY REPORT ON THE LOS ANGELES MILK MARKET. Calif. Agr. Expt. Sta. Giannini Found. Mimeo. Rpt. 51, 3 pp., Aug. 1936.
Supplements preceding item.
- Tinley, J. M. PRICE FACTORS IN THE SAN DIEGO MILK MARKET. Calif. Agr. Expt. Sta. Giannini Found. Mimeo. Rpt. 54, 25 pp., 1936.
Includes material on milk prices and cost factors of production, 1929-1936.
- Vial, E. E. MILK PRICES AND HANDLING CHARGES IN THE SPOT MARKET. Milk Dealers' Assoc. of Metrop. N.Y., Inc. Membership Ltr. 69, Dec. 17, 1952.
The spot market for milk in New York City. Monthly series of spot milk prices 1948-52. Sales made through brokers for delivery within 1 week.
- Vial, E. E. PRICES AND RECEIPTS OF MILK AT UNREGULATED MARKETS IN UPSTATE NEW YORK VS. POOL PRICES AND POOL RECEIPTS. Milk Dealers' Assoc. of Metrop. N.Y., Inc. Membership Ltr. 72, 18 pp., June 29, 1953.
Comparison of prices and receipts in unregulated markets upstate (Schenectady, Troy, Rennselaer, Albany, etc.) with nearby pool plants. Unregulated plants may pay pool price plus premiums and get much more even production seasonally than pool plants.
- Vial, E. E. MARGIN BETWEEN BUTTER AND NONFAT DRY MILK SOLIDS PRICES AND THE ORDER PRICE OF MILK FOR BUTTER. Milk Dealers' Assoc. of Metrop. N.Y., Inc. Membership Ltr. 83, 13 pp., Aug. 6, 1954.
Calculated margins, 1939-1954.

- Vial, E. E. HANDLING CHARGES IN THE SPOT MARKET, 1948-61. THE VIEW FROM JANUARY 1962. Milk Dealers' Assoc. of Metrop. N.Y., Inc. Membership Ltr. 125, 9 pp., January 17, 1962.
Spot price of milk vs. Class I-A price, monthly, 1948-61. Variability; seasonality; trends; number of months with handling charges at various levels.
- Vial, E. E. THE PRICE OF BUTTERFAT IN CREAM VS. THE PRICE OF BUTTERFAT IN BUTTER. Milk Dealers' Assoc. of Metrop. N.Y., Inc. Membership Ltr. 126, 14 pp., April 6, 1962.
Comparison of price in butterfat in cream (from Boston weighted average cream price and southeast Pennsylvania cream price) and price of butterfat in butter from Producers' Price-Current, 1946-62. Utilization of fat in butter, fluid cream, and ice cream.
- Vial, E. E. PREMIUMS IN THE COUNTRY. Milk Dealers' Asso. of Metrop. N.Y., Inc., Membership Ltr. 129, 14 pp., Oct. 12, 1962.
Differences between weighted average prices paid to producers, including all premiums or deductions, and the order price, by counties, New York State, 1940-61. Relationships between premiums and handling charges on spot milk.
- Vial, E. E. HANDLING CHARGES ON THE SPOT MARKET NEW YORK CITY, 1953-64. Milk Dealers' Assoc. of Metrop. N.Y., Inc. Membership Ltr. 139, 10 pp., Feb. 1965.
Margins between spot price and Class I-A price plus freight, administrative assessment and extra butterfat, monthly 1951-64. Also, butter-powder and cream-powder margins.
- Walker, Scott A. PRICING MILK TO FARMERS AT BUTTER-NONFAT DRY MILK PLANTS. Agr. Econ. Res. V (4): 85-87, Oct. 1953.
Describes and analyzes an improved pricing plan developed from a detailed analysis of physical and monetary input-output relationships in specialized butter-powder plants in the Pacific Northwest.
- ### Geographic Price Structure
- Babb, Emerson M. INTERMARKET MILK PRICE RELATIONSHIPS AND IMPLICATIONS. Jour. Farm Econ. XLIV (5): 1567-1571, Dec. 1962.
- Babb, E. M. INTERMARKET MILK PRICE RELATIONSHIPS. Purdue Univ. Agr. Expt. Sta. Res. Bul. 760, 23 pp., Jan. 1963.
Price structure among fluid milk markets analyzed by regression, 1947-60.
- Babb, E. M. INTERMARKET MILK PRICE RELATIONSHIPS, 1961-1964. Purdue Univ. Agr. Expt. Sta. Res. Prog. 197, 22 pp., July 1965.
- Bowring, J. R. SUPPLY AND PRICE RELATIONSHIPS FOR NEW HAMPSHIRE FLUID MILK MARKETS. N.H. Agr. Expt. Sta. Bul. 389, 15 pp., Apr. 1952.
Delineates market boundaries for New Hampshire milksheds designed to minimize the distance milk must be transported.
- Bredo, William and Anthony S. Rojko. PRICES AND MILKSHEDS OF NORTHEASTERN MARKETS. Mass. Agr. Expt. Sta. Bul. 470, Northeast Reg. Pub. 9, New England Res. Council and U.S. Dept. Agr. Bur. Agr. Econ. coop., 103 pp., August 1952.
Develops a set of intermarket and interproduct prices and milk and cream supply areas that would minimize costs of marketing for selected supply and consumption relationships. Develops the basic principles that determine the efficient price relationships for milk products among northeastern markets.
- Butz, William T. GEOGRAPHIC STRUCTURE OF MILK PRICES., 1960-61. U.S. Dept. Agr. Econ. Res. Serv. ERS-71, 11 pp., Aug. 1962.
Analysis of the relationship between dealers' buying prices for milk in markets throughout the country and the distance from the geographical center of milk production in the Midwest in 1960-61, with comparisons for 1957-58 and 1953-54.
- Dubov, I. MANUFACTURING MILK PRICES IN TENNESSEE AND OTHER AREAS. Tenn. Agr. Expt. Sta. Bul. 317, 33 pp., Aug. 1960.
Comparison of prices paid by manufacturing plants in Tennessee, Kentucky, Wisconsin, and California; net advantage of plants in selected areas; comparisons of prices paid by condenseries, cheese plants; comparisons of gross margins between regions for evaporated milk plants.

Gailius, K. THE PRICE AND SUPPLY INTERRELATIONSHIPS FOR NEW ENGLAND MILK MARKETS. Univ. Conn., M.S. thesis, 1941.

Hammerberg, D. O., L. W. Parker, and R. G. Bressler, Jr. EFFICIENCY OF MILK MARKETING IN CONNECTICUT. I. SUPPLY AND PRICE INTERRELATIONSHIPS FOR FLUID MILK MARKETS. Storrs (Conn.) Agr. Expt. Sta. Bul. 237, 53 pp., Feb. 1942.

It was found possible to allocate producing areas to milk markets in a manner that would minimize the cost of moving milk from farms to markets. More efficient transportation and assembly of milk would result in an average of about 2 cents per hundredweight for the wholesale milk production of the State. An additional cent could be had by other economies--more country separating plants and the better utilization of skim milk. This is equivalent to increased returns of \$100,000 per year to the wholesale milk producers of the 14 markets considered. With efficient truck organization the economies would be even greater.

Hassler, James B. PRICING EFFICIENCY IN THE MANUFACTURED DAIRY PRODUCTS INDUSTRY. Calif. Agr. Expt. Sta. Hilgardia 22 (8): 99, Aug. 1953.

A report of an investigation evaluating the price results of the U.S. dairy products industry from plant to wholesale. Emphasis is placed on intermarket product prices in some major cities, on relative net prices of products for processing plants, and the connection between the latter values and the producer prices for milk.

Hellegas, William B. AN ANALYSIS OF MILK PRICE RELATIONSHIPS INVOLVED IN DELINEATING SUPPLY AREAS FOR MILK MARKETS IN LOWER MICHIGAN. Univ. Mich. M.S. thesis, 1961.

Herrmann, Louis F. and Helen V. Smith. GEOGRAPHIC STRUCTURE OF MILK PRICES, 1957-58. U.S. Dept. Agr. Agr. Mktg. Serv. AMS-328, 4 pp., July 1959.

Analysis of relationship between dealers' buying prices for fluid milk in markets throughout the country and the distance from the geographical center of milk production in the Midwest in 1957-58.

Johnson, Stewart. MILK PRICES IN COMPETITIVE AREAS OF THE CONNECTICUT, RHODE ISLAND, AND NEW YORK MILKSHEDS. Storrs (Conn.) Agr. Expt. Sta. Inf. 16, 79 pp., June 1950.

Surveys of 52 producers in an area selling both to Connecticut and Rhode Island markets and of 112 producers in an area selling both to Connecticut and New York markets. Price and nonprice factors related to choice of market.

Lasley, Floyd A. GEOGRAPHIC STRUCTURE OF MILK PRICES, 1964-65. U.S. Dept. Agr. Econ. Res. Serv. ERS-258, 7 pp., Sept. 1965.

Intermarket price structure, Class I and blend prices, 1964-65, and changes since 1953-54.

MacLeod, Alan. THE LOCAL STRUCTURE OF MILK PRICES IN NEW HAMPSHIRE MARKETS. N.Y. Agr. Expt. Sta. Bul. 332, 60 pp., June 1941.

Price relationships within and between markets; producers' response to price; prices and price differentials.

Metzger, Homer B. MILK SUPPLY AREAS AND PRODUCER PRICE RELATIONSHIPS IN MAINE MARKETS. Maine Agr. Expt. Sta. Bul. 503, 124 pp., May 1952.

Intermarket price relationships. Theoretical vs. actual milk supply areas and prices.

Pierce, C. W. MILK PRICE RELATIONSHIPS BETWEEN THE SCRANTON-WILKES-BARRE AND NEW YORK CITY MARKETS. Pa. Agr. Expt. Sta. Paper 1217, 17 pp., Feb. 1944.

This study was undertaken to determine what, if any, changes are needed in Scranton-Wilkes-Barre prices to restore the market to its normal competitive position in the New York milkshed.

Spindler, Herbert G. WHAT PRICE IN ADJOINING MARKETS AND MILKSHEDS? Mass. Agr. Expt. Sta. Bul. 502, 59 pp., 1959.

Actual and theoretical milksheds in Massachusetts; determination of equilibrium intermarket prices; factors affecting relative market and farm prices; effect of use or disregard of location principles in pricing.

Order Pricing

Adams, Jed A. INTERMARKET PRODUCER PRICE RELATIONSHIPS FOR FLUID MILK IN CALIFORNIA. Univ. Calif. Ph. D. thesis, 1962.

- Alexander, W. H. THE PRICING OF SURPLUS MILK IN THE NEW ORLEANS MARKETING AREA. La. Agr. Expt. Sta. Mimeo. Cir. 156, 25 pp., Jan. 1954.
Problems encountered in marketing surplus milk; alternative methods of pricing: (1) cost of handling and processing, (2) competitive prices at manufacturing plants.
- Alexander, W. H. and J. N. Efferson. ANALYSIS OF MILK PRICES UNDER THE FEDERAL-STATE MILK MARKETING ORDER FOR THE NEW ORLEANS AREA AND OF THE EFFECT OF CERTAIN PROPOSED CHANGES IN THE ORDER ON MILK PRICES IN THE AREA. La. Agr. Expt. Sta. Mimeo. Cir. 65, 1946, 26 pp.
- Alexander, W. H. and Jerry M. Law. FORMULA PRICING OF CLASS I MILK IN THE NEW ORLEANS MILKSHED. La. Agr. Expt. Sta. Mimeo. Cir. 89, 41 pp., Feb. 1949.
An adaptation of the Boston economic formula to New Orleans.
- Baum, E. L. THE PRICING OF CLASS I MILK IN THE PUGET SOUND, WASHINGTON, MILK MARKETING AREA. Wash. Agr. Expt. Sta. Cir. 178, 76 pp., Jan. 1952.
- Baum, E. L. and R. E. Jorgensen. SOME ECONOMIC ASPECTS OF MILK PRODUCTION AND PRICING IN THE SEATTLE MILK SUPPLY AREA, 1949-1950. Wash. Agr. Expt. Sta. Cir. 127, 26 pp., Dec. 1950.
Number and location of producers shipping to Seattle; seasonality of production; costs and returns in Grade A milk production, 1949 and 1950; base-rating price plan in the Seattle market.
- Baumer, E. F. and C. G. McBride. FORMULAS FOR PRICING MILK TO PRODUCERS IN OHIO. Ohio Agr. Expt. Sta. Res. Bul. 739, 26 pp., Jan. 1954.
- Boston Class II Price Committee. PRICING CLASS II MILK IN THE BOSTON MARKET. 158 pp., Feb. 1951.
Objectives and principles of a Class II milk pricing program; history of Class II pricing in Boston; alternative pricing bases; relationship to prices in other markets; adequacy of market price quotations for manufactured dairy products; costs and profits, receiving stations and manufacturing plants; yields and shrinkage; proposed formula for pricing Class II milk.
- Boston Milkshed Price Committee. A RECOMMENDED BASIS OF PRICING CLASS I MILK IN THE BOSTON MARKET. September 1947, 58 pp. plus 24 tables.
Examination of alternative methods of determining Class I prices and development of a recommended formula.
- Boston Milkshed Price Committee. CONSUMER INCOME AS A FACTOR IN PRICING FLUID MILK IN THE BOSTON MARKET. The Boston Milkshed Price Com., 31 pp., Nov. 1951.
Recommends substitution of per capita spendable income for department store sales as a measure of demand in the Class I price formula.
- Brooks, Neil. THE PRICING OF MILK UNDER FEDERAL MARKETING ORDERS. The George Washington Law Rev. 26(2): 181-213, Jan. 1957.
Congressional enactments; constitutionality; procedure in issuing an order and amending it; Federal-State orders; suspension of termination; adjudicatory proceedings; enforcement actions.
- Cassells, John M. THE FLUID-MILK PROGRAM OF THE AGRICULTURAL ADJUSTMENT ADMINISTRATION. Jour. Polit. Econ. XLIII (4): 482-505, Aug. 1935.
Analysis of the effects of price-raising methods adopted by AAA, centered in the Boston market. Theoretical analysis of discriminatory pricing.
- Clarke, D. A., Jr. PRICING INTERMARKET TRANSFERS OF BULK GRADE A CREAM AND SKIM MILK. Calif. Agr. Expt. Sta. Bul. 732, 30 pp., 1952.
Survey of utilization and prices at country and city plants, 1950-51. Skim and butterfat components of market milk should be priced separately.
- Clarke, D. A., Jr., C. E. McAllister, and D. B. Agnew. CLASS III MILK IN THE NEW YORK MILKSHED. II. AN ECONOMIC DESCRIPTION OF THE MANUFACTURED DAIRY PRODUCTS INDUSTRY. U.S. Dept. Agr. Mktg. Res. Rpt. 396, 28 pp., Apr. 1960.
In the New York-New Jersey milkshed, nearly 40 percent of milk receipts during 1958 were used for purposes other than fluid milk or cream. Disposing of these Class III supplies is difficult because flow of milk varies throughout the year. For the market as a whole, 2.5 times more milk is available for manufacture in May than in November.

Clarke, D. A., Jr., and L. F. Herrmann. CLASS III MILK IN THE NEW YORK MILKSHED. VI. ECONOMIC ANALYSIS OF CLASS III PRICING. U.S. Dept. Agr. Mktg. Res. Rpt. 466, 52 pp., 1961.

Discusses principles of efficient pricing in fluid milk markets under perfect competition, and how these principles might be modified to fit conditions of seasonally fluctuating milk supplies and a system of pricing according to use.

Clarke, D. A., Jr., Olan D. Forker, and Aaron C. Johnson, Jr. PRICING MILK FOR MANUFACTURING PURPOSES IN CALIFORNIA. Calif. Agr. Expt. Sta. Bul. 801, 134 pp., June 1964.

Partial net margins for alternative manufactured dairy products in California; producer prices for manufacturing purposes in other areas; costs of alternative ingredients from sources other than California; significance of comparisons of manufacturing milk prices; the use of formulas in establishing prices for milk for manufacturing uses.

Clarke, D. A., Jr. and R. G. Bressler, Jr. THE HUNDREDWEIGHT PLAN FOR PRICING FLUID MILK IN CALIFORNIA. Calif. Agr. Expt. Sta. Giannini Found. Agr. Econ., 13 pp., Dec. 22, 1949.

Basis for payment for fluid milk, valuing butterfat and nonfat solids at market values, plus a Grade A differential.

Cobb, Fields W., Jr., and D. A. Clarke, Jr. CLASS III MILK IN THE NEW YORK MILKSHED. I. MANUFACTURING OPERATIONS. U.S. Dept. Agr. Mktg. Res. Rpt. 379, 36 pp., Jan. 1960.

A summary description in graphic form of the manufactured dairy products industry in this area, including types and location of products manufactured, interregional plant shipments of milk for manufacturing purposes and of manufactured dairy products, and regional production patterns for both pool plants and nonpool plants.

Cook, Hugh L. and Truman Graf. SOME ASPECTS OF THE 70-CENT PENALTY PROVISION IN FEDERAL MILK MARKETING ORDER NO. 41. Wis. Agr. Expt. Sta. Agr. Econ. 7, 31 pp., 1953.

Information for evaluating the provision for adding 70 cents per hundredweight to the price of milk sold out-of-area during September-November.

Gaumnitz, E. W. and O. M. Reed. SOME PROBLEMS INVOLVED IN ESTABLISHING MILK PRICES. U.S. Dept. Agr., Agr. Adjust. Admin. Mktg. Inf. Ser. DM-2, 227 pp., Sept. 1937.

Trends in production, farm utilization, production of manufactured dairy products, and farm prices of dairy products; aspects of fluid milk markets, including descriptive material relative to the demand for and supply of milk; the development of the general theory of milk prices (simple markets and more complex phases of milk markets); problems in pricing milk, and those encountered in prorating among producers the proceeds of sales to distributors; and public policy and the milk trade.

Gaumnitz, E. W. and O. M. Reed. THE PRICE STRUCTURE FOR MILK. U.S. Dept. Agr., Agr. Adjust. Admin. Tech. Paper 1, 81 pp.

Discusses the situation for the country as a whole and within a milkshed, and the utilization of milk in a market as influenced by the demand.

Harness, Vernon L. and J. Homer Blackston. A FORMULA METHOD OF PRICING FLUID MILK IN ALABAMA. Ala. Agr. Expt. Sta. 40 pp., Nov. 1959.

Adapting an economic formula to Alabama conditions.

Harris, Edmond S. CLASSIFIED PRICING OF MILK. SOME THEORETICAL ASPECTS. U.S. Dept. Agr. Tech. Bul. 1184, 106 pp., Apr. 1958.

Classified pricing of milk is the prevalent system by which farmers sell milk to handlers in city markets; handlers pay different prices for milk according to the way they use it. This report goes into the functions and economic consequences of classified pricing and studies some of the conflicting interests involved. Special emphasis is given to the long-period effects of attempts to use classified pricing as a device for enhancing returns to dairy farmers.

Harris, Edmond S. and Irwin R. Hedges. FORMULA PRICING OF MILK FOR FLUID USE. U.S. Dept. Agr. Farm Credit Admin. Misc. Rpt. 127, 34 pp., Dec. 1948.

Development and use of and experience with formula pricing; considerations in devising formulas; pricing policies of cooperatives in fluid milk markets.

Herrmann, L. F., D. B. Agnew, and D. A. Clarke, Jr. CLASS III MILK IN THE NEW YORK MILKSHED. V. PROCESSORS' DECISIONS ON UTILIZATION. U.S. Dept. Agr., Mktg. Res. Rpt. 462, 28 pp., March 1961.

This report deals with the extent to which changes in output of the major products of Class III milk were associated with change in margins for these products in the 5 or 10 years ending with 1957. It also gives results of interviews with officials of many of the firms that handled Class III milk. These officials were asked what considerations affected their decisions on how they use Class III milk.

Hill, F. F., Chairman. REPORT OF THE NEW YORK MILKSHED PRICE COMMITTEE. Transmitted to the Mkt. Admin., New York Metrop. Milk Mktg. Area, 213 pp., Feb. 1949.

Review and analysis of administrative pricing; milk consumption and demand; milk production and supply; utilization; price relationships; recommendations for pricing.

Johnson, Stewart. FORMULA PRICING CLASS I MILK UNDER MARKET ORDERS. Jour. Farm Econ. 21: 428-433, 1949.

Intermarket price differentials among Federal order markets using Class I milk pricing formulas. The author criticizes the use of such factors as manufactured products price indexes, local production cost indexes, and department store sales indexes in price formulas for related markets. He suggests the use of measures of "changes in actual supplies, and in actual fluid milk consumption from these supplies" as "an alternative method of automatically adjusting inter-market differentials among (competing) Federal order markets."

Krause, Stanley F. PRICING MILK ACCORDING TO USE. U.S. Dept. Agr. Farmer Co-op. Serv. Bul. 6, 50 pp., 1955.

Discusses objectives of class pricing, bases for grouping products, and number of classes necessary. Also reviews some marketing problems and special implications of class pricing for cooperatives.

MacLeod, Alan. IMPORTANT CONSIDERATIONS IN DETERMINING A FAIR PRICE FOR FLUID MILK. Jour. Farm Econ. XXXIV (1): 315-319, Feb. 1942.

March, Robert W. THE PRICING OF SURPLUS MILK IN THE CHICAGO MARKET. U.S. Dept. Agr. Prod. and Mktg. Admin., 79 pp., Nov. 1949.

A report of research which led to a change in the minimum price required to be paid by handlers under the Chicago order for milk used in the manufacture of butter and cheese. The pricing formula developed in this research report incorporated notable refinements of yield and cost factors.

Mathis, A. G., G. B. McIntire, and J. Toomey. GOVERNMENT'S ROLE IN PRICING FLUID MILK IN THE UNITED STATES. U.S. Dept. Agr. Econ. Res. Serv. ERS-239, pp. 36-74, May 1965.

Federal orders; State milk control programs; major court decisions affecting fluid milk regulations; trade practice regulation.

McBride, Glynn and Robert L. Beck. PRICING CLASS I MILK IN LOWER MICHIGAN. Quart. Bul. Mich. Agr. Expt. Sta. 44(2): Article 44-37, 375-389, Nov. 1961.

Development of a formula.

Miller, Robert H. ANALYSIS OF THE FEASIBILITY OF AREAS FEDERAL MILK ORDER PRICING IN SOUTHERN WISCONSIN. Univ. Wis. M.S. thesis, 1958.

Moore, Hugh L. ADJUSTMENTS TO BULK PROCUREMENT IN FEDERAL ORDER PRICING FOR CHICAGO. Univ. Wis. Ph. D. thesis, 1958.

Peterson, Everett E. ADMINISTERED PRICING OF FLUID MILK. Univ. Chicago Ph. D. thesis, 1952.

Philadelphia Class I Milk Price Committee. THE PRICING OF CLASS I MILK IN THE PHILADELPHIA MARKET. 48 pp., June 1949.

Pierce, C. W. PRICING CLASS I MILK UNDER FEDERAL ORDERS. Jour. Farm Econ. 31: 434-437, 1949.

Collective bargaining, public hearings in Federal order markets, formulas based on prices of manufactured dairy products, the Boston formula, and the problems facing the Philadelphia Committee are discussed. The author does not believe that any of the pricing devices will work more than briefly.

- Pierce, C. W. and Edward F. Johnston. COUNTRY PLANT DIFFERENTIALS IN THE PITTSBURGH MILKSHED. Pa. Agr. Expt. Sta. A.E. & R.S. 1, 20 pp., Jan. 1956.
Costs of country plants, 1952-53; costs of transportation to city plants; appropriate price differentials for country plants.
- Pritchard, Norris T. PRODUCER BUTTERFAT DIFFERENTIALS IN FLUID MILK MARKETS. Jour. Farm Econ., pp. 251-5, May 1951.
Advocates simple percentage of producer price as being equitable and easy method of computing butterfat differentials.
- Purcell, J. C., J. C. Elrod, and N. M. Penny. A FORMULA BASIS OF PRICING FLUID MILK IN GEORGIA. Ga. Agr. Expt. Sta. Bul. N.S. 21, 38 pp., Mar. 1956.
- Purcell, J. C., J. C. Elrod, and N. M. Penny. THE FORMULA BASIS OF PRICING FLUID MILK IN GEORGIA. EVALUATION AND RECOMMENDATIONS. Ga. Agr. Expt. Sta. Mimeo. Ser. N.S. 99, 45 pp., Apr. 1960.
Development of a formula to determine dealer margins.
- Purcell, Margaret R. and Louis F. Herrmann. EXPERIENCE WITH CLASSIFICATION OF MILK IN FEDERAL ORDER MARKETS. U.S. Dept. Agr. Mktg. Res. Rpt. 288, 78 pp., Dec. 1958.
Reviews the experience with classified pricing in 68 fluid milk markets under Federal regulation at the end of 1957, including the number of classes and reasons therefor, the bases for classification of (1) established and (2) new products, and reclassification to meet changed market conditions of special situations.
- Roberts, John B. and Grant Grayson. FORMULA PRICING OF FLUID MILK. Ky. Agr. Expt. Sta. Bul. 558, 56 pp., Nov. 1950.
New types of formulas; formula pricing in theory and practice; Kentucky applications.
- Spencer, Leland. MILK PRICES IN NEW YORK UNDER FEDERAL AND STATE ORDERS. Cornell Univ. Agr. Expt. Sta. A.E. 234, 19 pp., 1938.
A study of the price control program which became effective September 1, 1938, dealing with the classification and prices of milk for September 1938 as announced by the market administrator; the effect of the reduction of freight differentials on returns to farmers near New York City and those in the most distant counties; retail prices of grade B milk and evaporated milk at grocery stores in New York City, 1925-October 1938; and the probable duration of improvement in milk prices resulting from the Federal-State control program.
- Spencer, Leland. CHANGES IN THE CLASSIFICATION AND PRICES OF MILK UNDER FEDERAL AND STATE ORDERS FOR THE NEW YORK MARKET, AUGUST 1940 TO AUGUST 1941. Cornell Univ. Agr. Expt. Sta. A.E. 359, 3 pp., Sept. 1941.
Changes under New York order following the order amendments of July 1, 1941. See also A.E. 364, October 1941, and A.E. 367, November 1941.
- Spencer, Leland. SOME ASPECTS OF FEDERAL AND STATE REGULATION OF MILK PRICES. Cornell Univ. Agr. Expt. Sta. Bul. A.E. 727, 42 pp., Jan. 1951.
Development and nature of Federal and State milk control programs; price-raising effects of public control under different conditions; effects on production and utilization of milk; other effects.
- Spencer, Leland. PROBLEMS OF MILK PRICING IN THE NEW YORK MILKSHED AND POSSIBLE SOLUTIONS (WITH SPECIAL ATTENTION TO THE ALLOCATION OF RETURNS FOR FLUID AND NONFLUID USES). Cornell Univ. Agr. Expt. Sta. Bul. A.E. 1058, 37 pp., April 1957.
Possible solutions to pricing problems under New York order.
- Stitts, T. G. et al. RELATIVE PRICES TO PRODUCERS UNDER SELECTED TYPES OF MILK POOLS. U.S. Farm Credit Admin. Bul. 253, 127 pp., June 1938.
On the basis of a study made in 1937, the authors discuss pooling procedure and analyze some of the specific factors involved in setting up pooling plants for distributing the sales returns among different producer groups in the milk-supply area. The analytical portions treat entirely of conditions in the milkshed and marketing area of Boston, Mass. Information collected in the administration of Federal programs regulating the handling of milk in this market forms the basis of most of the statistical analyses included.
- Sylvest, Thomas A. A FORMULA FOR PRICING CLASS I MILK IN THE SHREVEPORT MARKETING AREA. La. Agr. Expt. Sta. Mimeo. Cir. 137, 39 pp., June 1952.

U.S. Department of Agriculture. GOVERNMENT'S ROLE IN PRICING FLUID MILK IN THE UNITED STATES. U.S. Dept. Agr., Econ. Res. Serv., ERS-63, 30 pp., Sept. 1962.

- Vial, E. E. NORTHEAST ORDER AMENDMENTS EFFECTIVE JANUARY 1, 1964. DIFFERENCES BETWEEN CLASS I PRICES IN NORTHEASTERN MARKETS. Milk Dealers' Assoc. of Metrop. N.Y. Membership Letter 135, 10 pp., Dec. 26, 1963.
Boston vs. New York; Washington-Upper Chesapeake Bay vs. New York; seasonal variation in price differences; Philadelphia vs. New York.
- Vial, E. E., W. I. Myers, and F. A. Pearson. THE FORMULA PRICING OF CLASS I MILK. Jour. Farm Econ. 157: 4038-4059, Oct. 1947.
Basic principles of butter-powder formula; interclass differentials; utilization; how to price milk in the New York market.
- Ward, E. H. A FORMULA FOR PRICING MONTANA MILK. Mont. Agr. Expt. Sta. Bul. 569, 20 pp., May 1962.
Development of an economic formula for Class I prices.
- Weeks, E. E. and Associates. LOCATION DIFFERENTIALS IN THE PUGET SOUND MILK-SHED. Wash. Agr. Expt. Sta. Bul. 577, 45 pp., Dec. 1957.
Location adjustments and their application in Puget Sound area; principles regarding the effect of location adjustments and pricing provisions of Federal milk orders.
- Welden, W. C. FORMULA PRICING OF CLASS I MILK UNDER MARKET ORDERS. Jour. Farm Econ. 31: 420-427, 1949.
Discussion of the Boston milk price formula, adopted on April 1, 1948. The development and major provisions of the formula are explained, and the basic factors which make up the formula: (a) the index of wholesale commodity prices in the United States, (b) in index of department store sales in New England, and (c) a joint index of dairy feed and labor costs in New England are discussed.
- Williams, Sheldon W. et al. THE MECHANICS OF SUPPLY-DEMAND ADJUSTERS FOR MID-WESTERN MILK MARKETS. N. Cent. Region Pub. 134, Ill. Agr. Expt. Sta. Bul. 684, 62 pp., Apr. 1962.
Describes the various types of supply-demand adjusters used in Federal milk marketing orders, relates the characteristics of an adjuster to its behavior, and discusses specifications for an adjuster.
- Seasonal Pricing
- Alexander, W. H. AN ECONOMIC ANALYSIS OF A BASE RATING PLAN FOR PRICING MILK IN THE NEW ORLEANS MILKSHED. La. Agr. Expt. Sta. Mimeo. Cir. 96, 35 pp., July 1949.
Proposal for a base rating plan for seasonal milk pricing.
- Andes, J. PROBLEMS IN THE BASIC-SURPLUS PLAN IN THE PHILADELPHIA MILKSHED. Univ. Penn. Ph. D. thesis, 166 pp., 1937.
Factors that determine the price of milk under unrestricted competition are analyzed and the need and reasons for artificial control over production are shown. The basic-surplus, or base-rating, plan is stated to be one which distributes to producers the proceeds from the sale of milk at various prices according to the market value of the milk contributed by each dairyman. Development and operation of the plan in Philadelphia are treated in detail and objections to the plan are noted.
- Bartlett, R. W. THE USE OF A 'CLOSED' BASE CONTRASTED TO AN 'OPEN' BASE IN THE BASIC SURPLUS PLAN FOR CONTROLLING THE PRODUCTION OF MILK. Jour. Farm Econ. XIV: 157-159, 1932.
The "open" base plan has been widely used and it has been successful, in many larger markets, in evening the seasonal production of milk. However, it has an unstabilizing effect on the market because the base is so easy to change. The purpose of the "closed" base plan seems to be the restriction of production to control the supply. It is unsound economically and may be considered a restraint of trade. The suggested alternative is a 3-year moving base.
- Battles, Ralph U. SOME FACTORS INFLUENCING MILK PRICE FLUCTUATIONS OF CLEVELAND AND PITTSBURGH MARKETS. Ohio State Univ. M.S. thesis, 1928.

- Blakley, Leo V., Elton O. Brooks, and Kenneth B. Boggs. SEASONAL PRICING PLANS FOR CLASS I MILK IN OKLAHOMA. Okla. Agr. Expt. Sta. Bul. B-602, 47 pp., Dec. 1962.
Seasonal pricing plans; adjustments by sample producers; analysis of incentives to change patterns under alternative pricing plans.
- Downen, M. L. OPERATION OF THE FALL SEASON PRODUCTION INCENTIVE PLAN IN THE NASHVILLE, TENNESSEE MILK MARKETING AREA, 1949. Tenn. Agr. Expt. Sta. Rural Res. Ser. Monog. 253, 20 pp., Apr. 1950.
Effects of seasonality and put-take plan on local producers.
- Foelsch, Gertrude G. SEASONALITY OF MILK PRODUCTION UNDER THE LOUISVILLE FALL PREMIUM PLAN. U.S. Dept. Agr., Mktg. Res. Rpt. 63, 47 pp., May 1954.
The seasonal pattern of production and turnover among producers in the Louisville market under the influence of the fall premium plan are the principal subjects of this report. It covers the 9 years since the plan was adopted.
- Herrmann, L. F. and W. C. Welden. USE OF THE LEVEL PRODUCTION PLAN IN MILK MARKETING. U.S. Farm Credit Admin. Misc. Rpt. 57, 23 pp., Aug. 1942.
The Chicago base plan of purchasing milk for the Chicago market was discontinued in 1939, and the level production, or quota, plan adopted in the Jansville, Wis., market in 1940 was developed to encourage seasonal uniformity of production. "The present study compares the effect of both plans of producers' income and analyzes producers' own appraisals of the new plan. Personal visits to more than 50 of the producers supplying the Janesville market afforded a broad cross-section of producers' attitudes. Complete data on five years' milk deliveries of the 72 producers on the market in June 1941 were obtained from association records. The brief experience of the Janesville market is supplemented with conclusions drawn from 10 to 5 years' use of similar plans in Chattanooga, Tennessee, and Hartford, Connecticut markets."
- Hirsch, Hans G. and Irwin R. Hedges. AN ANALYSIS OF THE BASE-QUOTA PLAN IN THE MEMPHIS MILKSHED. U.S. Farm Credit Admin. Misc. Rpt. 131, 43 pp., Mar. 1949. Supp. notes, 18 pp., Mar. 1950.
Study of the base quota and penalty plan of Mid-South Milk Producers Assoc. in a seasonal-deficit market history and description of the cooperative. Effect on seasonality of production.
- Jenkins, L. P. and W. W. Moffett, Jr. A STUDY OF FLUID MILK PRICING PLANS IN MISSISSIPPI AND THEIR EFFECT ON THE SEASONALITY OF PRODUCTION. Miss. Agr. Expt. Sta. Tech. Bul. 38, 34 pp., Aug. 1953.
Study of 32 plants in 9 market areas, 1950-51. Methods of determining prices paid producers; pricing plans in use.
- Kelley, P. L., John McCoy, and H. Tucker. SEASONAL VARIATIONS IN PRICES, SALES, AND SUPPLIES OF MILK AND FEEDS. Kansas Agr. Expt. Sta. Cir. 309, 24 pp., June 1954.
Indexes of production, sales, and prices of milk for the Greater Kansas City and Wichita milk markets; feed grain, feed stuff, and alfalfa hay prices.
- Krause, Stanley F. SEASONAL MILK PRICING PLANS. U.S. Farmers Co-op, Serv. Bul. 12, 53 pp., Nov. 1958.
Describes plans used to even out deliveries--base-excess plans, fall premium plans, seasonal variations in class prices, and seasonal incentive of other price provisions.
- Magleby, Richard S. and C. W. Pierce. A STUDY COMPARING LEVEL PRODUCTION PAYMENT PLAN WITH THE CONVENTIONAL BLEND PAYMENT SYSTEM. Pa. Agr. Expt. Sta. A.E. & R.S. 43, 44 pp., Aug. 1963.
Comparison of returns which producers delivering to 5 Pennsylvania dealers in 1950-61 would have received under a proposed level production payment plan with those actually received under the present blend pricing system.
- Moffett, W. W., Jr., et. al. THE EFFECT OF METHODS OF PAYING FARMERS FOR MILK ON SEASONALITY OF PRODUCTION IN SELECTED SOUTHERN MARKETS. Southern Co-op. Ser. Bul. 38, 22 pp., June 1954.
Describes pricing and other regulations in the South and the kinds of pricing plans used in the South to pay farmers for milk. Analyzes the plans by determining the price incentive offered for uniform production and shows the seasonality of deliveries experienced in southern markets under various plans. Emphasizes the relationship between pricing plans and seasonality of production.

Pollard, A. J. SEASONAL VARIATION IN PRODUCTION IN THE NEW YORK MILKSHED, AND ITS RELATION TO PRODUCTION-ADJUSTMENT PLANS. Cornell Univ. Agr. Expt. Sta. Bul. 783, 62 pp., 1942.

The purposes of this study were "first, to measure the differences in seasonal and in total deliveries of milk by various groups of producers in the New York milkshed, and in the butterfat content of milk delivered by these groups; and, second, to determine how the price returns to these different groups would be affected by certain modifications in the method of paying producers designed to adjust the supply of milk either seasonally or annually."

Pritchard, Norris T. FALL PREMIUM MILK PRICING PLANS. Reprinted as U.S. Dept. Agr. Farmer Co-op. Serv. FCS Circ. 4, 39 pp., Apr. 1954.

Describes fall premium plans for pricing milk, evaluates these plans, and gives basic preliminary problems in designing fall premium plans.

Quackenbush, G. G. and H. A. Homme. SEASONAL PRICE INCENTIVES OF THE BASE AND EXCESS PLAN IN THE DETROIT MILK MARKET. Mich. Agr. Expt. Sta., U.S. Farm Credit Admin. coop., Tech. Bul. 228, 41 pp., Mar. 1952.

Comparison of seasonal price incentives of the base-excess plan in Detroit with other seasonal pricing plans; effects on seasonality of production.

Roberts, J. B. THE LOUISVILLE FALL-PREMIUM PLAN FOR SEASONAL MILK PRICING. Ky. Agr. Expt. Sta. Bul. 510, 74 pp., Nov. 1947.

Production; the Louisville fluid milk-market; pricing graded milk; supply and demand relationships; the fall-premium plan; principles applied and seasonal pricing; the Louisville plan vs. other price plans; analysis of the Louisville plan.

Roberts, J. B. and Grant Grayson. A RE-APPRAISAL OF THE FALL-PREMIUM PLAN OF MILK PRICING IN THE LOUISVILLE MARKET, 1944-1952. Ky. Agr. Expt. Sta. Bul. 602, 48 pp., Sept. 1953.

Appraisal of producer responses; general attitude of producers toward plan; factors influencing producers' responses and production patterns.

Sherman, R. W. and C. G. McBride. TEN YEARS OF FARM SALES OF MILK IN FOUR OHIO MARKETS. Ohio Agr. Expt. Sta. Bul. 609, 38 pp., Dec. 1939.

The introduction and use of base and surplus plans have been the greatest changes in marketing practices in the major markets of Ohio during 1925-36.

Spencer, Leland. THE PROPOSED TWO-PRICE BASE PLAN FOR MILK. CRITICISMS AND COMMENTS. Cornell Univ. Agr. Expt. Sta. A.E. Res. 58, 11 pp., Jan. 1961.

Two-price base plan developed by committee appointed by the National Milk Producers Federation.

Stocker, Noel G. and Irwin R. Hedges. BASE-SURPLUS PLAN IN THE MADISON, WIS., MILK MARKET. U.S. Farm Credit Admin. Misc. Rpt. 136, 24 pp., December 1949.

History of milk marketing in Madison; the Madison Milk Producers Coop. Assn.; analysis of base-surplus plan; individual producer response and freshening schedules; economic consequences of adjusting to more level production.

Welden, William C. and Louis F. Herrmann. BASE ALLOTMENT OR QUOTA PLANS USED BY FARMERS' COOPERATIVE MILK ASSOCIATIONS. U.S. Farm Credit Admin. Misc. Rpt. No. 23, 41 pp., May 1940.

Development, variation, results.

Butterfat Differentials, Nonfat Solids Pricing

Clarke, D. A., Jr. and J. B. Hassler. PRICING FAT AND SKIM COMPONENTS OF MILK. Calif. Agr. Expt. Sta. Bul. 737, 34 pp., Aug. 1953.

Based on study by Calif. Dairy Dept. on relationship of fat and nonfat solids content of milk in California. Formulas for pricing whole milk on basis of regression relationship between fat and nonfat components.

Forker, Olan D. THE CALIFORNIA SOLIDS-NONFAT PRICING PLAN. Calif. Agr. Ext. Serv., 7 pp., April 1962.

Description of three-price plan for pricing market milk adopted in California, April 1, 1962.

- Froker, Rudolph K. and Clifford M. Hardin. PAYING PRODUCERS FOR FAT AND SOLIDS-NOT-FAT IN MILK. Wis. Agr. Expt. Sta. and Agr. Ext. Serv. Res. Bul. 143, 48 pp., Dec. 1942.
Developing an equitable method of pricing fat and solids-not-fat in milk as it is delivered from producers and used for various purposes, including butter, cheese, evaporated milk, and fluid milk.
- Gaines, W. L. A PRICE DIFFERENTIAL FOR WHOLE MILK BASED ON FAT TEST AND FEED COST OF PRODUCTION. Ill. Agr. Expt. Sta. Cir. 318, 8 pp., rev. April 1930.
A butterfat differential based on the cost of producing additional fat at current feed prices.
- Hartley, M. L. FAT-SKIM AND SOLIDS-NOT-FAT PRICING PLANS FOR MILK. Nev. Agr. Expt. Sta. Bul. 230, 17 pp., July 1963.
Comparison of direct ratio butterfat and the 3-price method of milk pricing; average processor and producer blend prices.
- Hyre, F. M. BUTTERFAT PRICE DIFFERENTIALS FOR FLUID MILK. R.I. Agr. Expt. Sta. Bul. 248, 18 pp., Jan. 1935.
Relationships between butterfat differentials and base prices.
- Misner, E. G. SOME METHODS OF COMPUTING BUTTERFAT PRICE DIFFERENTIALS. Cornell Univ. Agr. Expt. Sta. A.E. 459, 95 pp., Oct. 1943.
- Pierce, C. W., et al. A RECOMMENDATION OF BUTTERFAT DIFFERENTIALS FOR THE PHILADELPHIA MILK MARKET.
By a Committee Representing the Schools of Agr. of Univ. of Del., Md., Penn. State, Rutgers, presented to the Board of Directors, Inter-State Milk Producers' Cooperative, Philadelphia, Pa., May 27, 1952.
- Pritchard, Norris T. AN IMPROVED METHOD OF PRICING FAT AND NONFAT SOLIDS IN MILK. U.S. Dept. Agr., Agr. Mktg. Serv., 23 pp., July 1954.
Reviews pricing plans designed to take account of the nonfat solids content of milk as well as fat solids content. Presents a recommended plan based on national market values of butter and nonfat dry milk solids and physical relationships in the solids content of milk. Develops milk fat price differentials applicable to prices paid by handlers (use-class prices) and to blend prices paid to producers. Evaluates the recommended plan.
- Russell, Sargent and Stanley N. Gaunt. MULTIPLE COMPONENT PRICING OF MILK. Mass. Agr. Expt. Sta. Bul. 536, 59 pp., Apr. 1963.
Methods of pricing on the basis of butterfat content and nonfat, protein or another component.
- Spencer, Leland and Stewart Johnson. PRICE DIFFERENTIALS FOR BUTTERFAT IN MARKET MILK. Cornell Univ. Agr. Expt. Sta. A.E. 457, 64 pp. Sept. 1943.
Basic principles determining price differentials for butterfat; variations in the composition of milk; producer butterfat differentials; differentials pertaining to classified prices; effect of milk standardization on butterfat differentials.

Quantity Discounts

- Christensen, S. K. and J. R. Moore. QUANTITY-DISCOUNT PRICING ON RETAIL MILK ROUTES IN NEW YORK STATE. Cornell Univ. Agr. Expt. Sta. Bul. A.E. 985, 41 pp., June 1955.
Types of plans used; effects on sales; reactions by customers and drivers.
- Clarke, D. A. COST AND PRICING PROBLEMS IN WHOLESALE MILK DELIVERY IN THE LOS ANGELES MARKET. Calif. Agr. Expt. Sta. Giannini Found. Agr. Econ., 29 pp., Feb. 1951.
The nature of delivery costs was explored, and the results summarized in terms of cost curves showing the tendency of average costs to decline with increases in volume per customer. This cost relationship has been used to emphasize the inadequacy and inequity of the existing system of flat pricing. Detailed stopwatch records were made for each operation performed by the driver on each route during 2,897 individual customer stops.
- Clarke, D. A. MILK DELIVERY COSTS AND VOLUME PRICING PROCEDURES IN CALIFORNIA. Calif. Agr. Expt. Sta. Bul. 757, 77 pp., Dec. 1956.
One objective of the study was to determine the nature and effect of savings that might be made by the reorganization of milk deliveries. Studies were made of cost-volume relationships, truck-operating expenses, labor costs per stop, relations of costs and prices, time and labor requirements for alternate types of delivery services, both retail and wholesale. Appendix A gives instructions to timers for wholesale and for retail route studies.

Clarke, D. A., Jr. PRICING MILK IN RELATION TO DELIVERY VOLUME. Calif. Agr. Expt. Sta. 15 pp., July 1952.

Delivery costs in relation to volume and appropriate price differentials.

Forker, Olan D. and D. A. Clarke, Jr. CHANGES IN MILK DELIVERY COSTS AND VOLUME-PRICING PROCEDURES IN CALIFORNIA. Calif. Agr. Expt. Sta. Giannini Found. Agr. Econ. Mimeo. Rpt. 236, 42 pp., Nov. 1960.

Costs on wholesale routes in the Los Angeles area, 1959; effectiveness of existing pricing schedules in reflecting differential costs; the impact of volume pricing on wholesale milk delivery operations in California markets.

Helmberger, John D. and E. Fred Koller. QUANTITY DISCOUNT PRICING OF FLUID MILK. Minn. Agr. Expt. Sta. Dept. Agr. Econ. Rpt. No. 507, 32 pp., Oct. 1955.

Quantity discounts of the service-charge type; quantity discounts on wholesale routes; appraisal.

Plumb, C. H. and W. T. Butz. MILK HANDLERS' OPINIONS TOWARD QUANTITY DISCOUNTS. Pa. Agr. Expt. Sta. Prog. Rpt. 203, 6 pp., May 1959.

Effects of various factors on opinions of handlers toward quantity discount pricing.

Plumb, Clayton and F. Webster. INCREASING THE CONSUMPTION OF MILK THROUGH VOLUME DISCOUNTS. Vt. Agr. Expt. Sta. Misc. Pub. 6, 14 pp., Oct. 1956.

A store survey including interviews with managers plus household interviews to determine consumer reaction to price discounts for milk in single or multiple-quart containers.

Simmons, Richard L. WHOLESALE MILK DISTRIBUTION PRACTICES, COSTS AND PRICING IN NORTH CAROLINA. N.C. Agr. Expt. Sta. A.E. Inf. Ser. 88, 38 pp., Feb. 1962.

Intensive study of 19 wholesale routes of 5 distributors in 5 N.C. cities. Labor and truck costs related to volume and services; volume discounts.

Price-Making and Price-Reporting

Ashmen, Roy. A STUDY OF COLLECTING AND REPORTING WHOLESALE BUTTER PRICES AT CHICAGO BY THE USDA, 1938-1939. Northwest. Univ. Sum. Doctoral Diss. 18: 191-196, June/September 1950.

Blum, Joel L. and Robert W. March. THE "18 CONDENSERY" MILK PRICE SERIES. U.S. Dept. Agr. Prod. and Mktg. Admin., 19 pp., Oct. 1952.

Concerns a price series widely used in computing minimum prices under Federal milk marketing orders. Describes the plants and their pricing and milk procurement practices.

Cook, Hugh L. HOW GOOD IS THE 18 CONDENSERY PAY PRICE? East. Milk Prod. Co-op. Assoc., Inc., 34 pp., May 1956.

A study supporting the validity of the Midwestern Condensery Price Series in connection with the pricing of all milk used for manufacturing purposes.

Cook, Hugh L., et al. BUTTER PRICING AND MARKETING AT COUNTRY POINTS IN THE NORTH CENTRAL REGION. Minn. Agr. Expt. Sta. Tech. Bul. 203, N. Cent. Region. Pub. 26, 59 pp., June 1952.

Summarizes research on butter pricing and marketing at country points which undertook to test the hypothesis that central market quotations underquote the butter market and that many creameries suffer a disadvantage of selling butter due to a lack of market information. The report deals with packaging butter, destination of shipped butter, marketing channels, sales agreements used, decisions on where to sell butter, conditions of sale, pricing butter to patrons and local trade, and an analysis of price differences of shipped butter.

Gilbert, B. D. THE CHEESE INDUSTRY OF THE STATE OF NEW YORK. U.S. Dept. Agr. Bur. Anim. Indus. Bul. 15, 54 pp., 1896.

Includes development and methods of sale and shipment by dairy boards of trade in New York.

Hibbard, B. H. and Asher Hobson. THE MARKETING OF WISCONSIN BUTTER. Wis. Agr. Expt. Sta. U.S. Off. Mkts. and Rural Organ. coop., Bul. 270, 69 pp., June 1916.

Costs and margins for butter; organization of creameries; price-quality relationships; price-making.

- Krause, Stanley. THE MARKETING AND PRICING OF MINNESOTA CREAMERY BUTTER. Minn. Univ. Ph.D. thesis 1952.
Part of regional project. Survey of Minnesota creameries. Sales: pricing practices (use of sales agreements).
- Krause, Stanley F. and E. Fred Koller. MARKETS FOR MINNESOTA BUTTER. Farm Business Notes, pp. 1-3. July 31, 1951. St. Paul.
Part of regional project. Preliminary report. 109 creameries in Minn. Covers 1949. Sales of butter: (1) shipped and local (2) by type of buyer. Basis of pricing (N.Y. or Chicago quotation; differential).
- Lampard, Eric. E. THE RISE OF THE DAIRY INDUSTRY IN WISCONSIN: A STUDY IN AGRICULTURAL CHANGE, 1820-1920. 466 pp., 1963. Wis. State Hist. Soc., Madison.
- Leffler, R. W. THE WISCONSIN CHEESE EXCHANGE. Jour. Dairy Sci. XXXVII(7) 909-912, July 1954.
History; membership; trading rules.
- March, R. W., E. D. Anderson, and J. E. Klein. ANALYSIS OF SHORT-TIME CHANGES IN THE PRICE OF BUTTER AT CHICAGO. U.S. Dept. Agr. Mktg. Res. Rpt. 194, 67 pp., Aug. 1957.
Since World War II the price of butter has tended to fluctuate erratically when it was not being actively supported by Government purchases. It was found that relatively little of the day-to-day changes in price could be associated with published indicators of short-time changes in supply and demand. This study evaluates the fluctuations, relationship between price and demand, and analyzes factors affecting price.
- March, Robert W. and Louis F. Herrmann. THE ESTABLISHMENT OF CENTRAL MARKET BUTTER PRICES IN CHICAGO AND NEW YORK. U.S. Dept. of Agr. Mktg. Res. Rpt. 53, 86 pp., June 1953.
How butter prices are established. The major criticisms of central market butter prices are examined, with particular attention to the volume of trading in wholesale bulk butter on the exchanges, and outside the exchanges. Recommendations are made, which might increase the volume of trading on the spot butter boards of the Chicago and New York mercantile exchange and thereby broaden the basis for establishing butter values.
- Mathis, A. G. and Donald E. Hirsch. BUTTER PRICING BY IOWA CREAMERIES. U.S. Farm Credit Admin. Cir. C-136, 38 pp., May 1950.
Methods of pricing butter by more than 70 creameries in Iowa and outlines factors involved in determining prices paid by individual creameries.
- Miller, Arthur H. PRICING AMERICAN CHEESE AT WISCONSIN FACTORIES. Wis. Agr. Expt. Sta. Res. Bul. 163, 31 pp., Aug. 1949.
Early cheese boards; development of the Plymouth boards; recent operations of the exchange; factory settlement prices.
- Potts, Roy C. and H. F. Meyer. MARKETING CREAMERY BUTTER. U.S. Dept. Agr. Bul. No. 456, 37 pp., Feb. 1917.
Uniformity of quality; packages; transportation facilities; market grades; inspection; butter quotations; market distribution; marketing practices; margins of distributors (typical); storage, rates, financing; brands and trademarks.
- Quintus, P. E. WHOLESALE BUTTER PRICES AND PREMIUMS. Jour. Farm Econ. 21: 595-605, August 1939.
The emergence of premiums appears to be the result of two closely interrelated peculiarities of the market: the nature of the receivers' business, and the manner in which the quotations are made. Growing out of the system of outright purchases, premium payments became, in effect, a competitive device developed by buyers in an effort to insure themselves particular marks of butter. The author traces the development to the stage when price stabilization purchases counteracted the system. The relationship between the settlement price and the type of bulk packages is included in the discussion.
- Sprague, Gordon W. BUTTER PRICE QUOTATIONS IN CHICAGO. Univ. Minn. Ph.D. thesis. 159 pp., Mar. 1940.
Problems of quoting the wholesale butter market; Chicago price quotations; purchasing and marketing practices of creameries; costs of marketing butter; purchasing and selling practices of Chicago wholesale receivers; proposals for improving existing price quotations.

Taylor, H. C., W. A. Schoenfeld, and G. S. Wehrwein. THE MARKETING OF WISCONSIN CHEESE. Wis. Agr. Expt. Sta. Bul. 231, 46 pp., Apr. 1913.

Selling methods; price-making; functions of cheese dealers; profits of dealers; packers' functions.

Warber, G. P. A STUDY OF PRICES AND QUALITY OF CREAMERY BUTTER. U.S. Dept. Agr. Bul. 682, 22 pp., July 1918.

Wholesale quotations on which creamery butter prices are based. Relation of quotations to standards and grades. Relation of wholesale prices to jobbing and retail prices. Retail price levels; margins. Effect of packaging under established brands. Effect of differences in type of retailers.

REGULATION (EXCEPT PRICES)

Anderson, E. F. MILK PRICE CONTROL IN THE UNITED STATES, JANUARY 1, 1938. Pa. Agr. Expt. Sta. Jour. Ser. Paper 894, 7 pp., 1939.

Benning, Leonard and Robert L. Beck. TRADE PRACTICES IN SOUTH DAKOTA'S DAIRY INDUSTRY. IMPACT OF STRUCTURAL CHANGE. REGULATION. S.Dak. Agr. Ext. Serv. Ext. Cir. 644, 23 pp., 1964.

Changes in market structure; impact on processors, producers, consumers. Regulation of trade practices; history, unfair trade practices reported in South Dakota, economic implications.

Bond, M. C. THE OUTLOOK FOR FUTURE DEVELOPMENT IN MILK CONTROL. Jour. Farm Econ. 17: 144-148, 1935.

The breakdown in the general price structure which led to milk control, and the future outlook for milk control.

Bronson, Wesley H. OUTLOOK FOR FUTURE DEVELOPMENT FOR MILK CONTROL. Jour. Farm Econ. 140-143, 1935.

Cassels, J. M. THE FUTURE OF MILK CONTROL. Jour. Farm Econ. 20: 188-195, Feb. 1938.

A discussion of the general trend toward more conscious social control over all economic activities; the special case that can be made for control over the milk industry; the long-run objectives of milk control; and the practical problems of actual administration in this field.

Christensen, R. A. MILK BASES IN THE GREAT BASIN AREA AND FACTORS AFFECTING THEIR VALUE. Utah Agr. Expt. Sta. Bul. 430, 18 pp., Nov. 1961.

Purchases and sales of base in 1958 and 1959. Factors affecting the value of base.

Corbett, R. B. MILK CONTROL EXPERIENCE--RESULTS AND PROBLEMS OF FEDERAL AND STATE REGULATIONS. Jour. Farm Econ. 17: 109-121, 1935.

Experience with Federal and State milk control discussed from three viewpoints: (1) legal--concerning the results of various court cases; (2) administrative--concerning the problems and experiences in milk market administration; and (3) economic--concerning the economic effects of milk market control.

DeLoach, D. B. CONSIDERATIONS RELATING TO STATE AND FEDERAL REGULATION OF FLUID MILK PRICES IN OREGON. Oreg. Agr. Expt. Sta. Cir. of Inf. 313, 10 pp., May 1943.

History of fluid milk price control in Oregon, State and Federal (OPA); wartime price ceilings.

Foote, Richard J. WARTIME DAIRY POLICIES. Jour. Farm Econ. 29: 679-690, 1947.

"This paper deals particularly with the way in which production adjustments in the dairy industry were achieved from 1941 through 1946, and with the methods adopted to obtain products needed to meet military and Lend-Lease requirements." It is discussed under the headings of background material; production adjustments in 1941-42; price ceilings for manufactured dairy products; allocation, limitation and set-aside orders on manufactured dairy products (butter, American cheese, nonfat dry milk solids, condensed and evaporated milk, ice cream, dried milk products, and cheese other than cheddar); rationing programs; limitation orders on fluid milk and cream; programs to stimulate total milk production; and other programs.

- Gaumitz, E. W. THE OUTLOOK FOR FUTURE DEVELOPMENTS IN MILK CONTROL. Jour. Farm Econ. 17: 133-143, Feb. 1935.
Discussion of the legal aspects of milk control; "some of the landmarks by which future milk policy may have to be guided."
- Graf, Truman F. and Robert H. Miller. TRUCK WEIGHT REGULATIONS IN WISCONSIN AND THEIR EFFECT ON THE DAIRY INDUSTRY. Wis. Agr. Expt. Sta. Agr. Econ. 32, 28 pp., June 1961.
Development of Wisconsin regulations; weight regulations and types of road surfaces; pickup or delivery provisions; seasonal weight restrictions; compliance problems; weight reductions needed for bulk tank truck compliance.
- Grant, H. C. PUBLIC UTILITY CONTROL OF MILK IN WINNIPEG. Jour. Farm Econ. 17, p. 588, Aug. 1935.
In May 1932, the government of the Province of Manitoba passed an act "to control the marketing of milk in the City of Winnipeg by the device of declaring as a public utility, 'any plant, premises, equipment, service or organization for the production, handling, bottling, furnishing, delivery, keeping for sale, or the sale of milk, including products thereof in a liquid form.'" This article describes the causes and events leading to, the method and theory of, and the results of this control.
- Hamann, Daryl F., Allen Axelrod, and Ernest Feder. THE LAWS REGULATING THE PRODUCTION AND SALE OF MILK BY NEBRASKA FARMERS. Nebr. Agr. Expt. Manuscript Rpt. 5, Univ. Nebr. Col. of Law coop., 114 pp., Feb. 1960.
Federal, State and municipal regulations.
- Hannay, A. M. PRICE FIXING BY GOVERNMENT IN FOREIGN COUNTRIES, 1926-1939; A SELECTED LIST OF REFERENCES ON DIRECT PRICE FIXING OF AGRICULTURAL PRODUCTS BY FOREIGN GOVERNMENTS. U.S. Dept. Agr. Bur. Agr. Econ. Bibliog. 86, 631 pp., 1940.
Includes references to butter, casein, cheese, cream, milk, and dairy products.
- Hardin, Charles M. ARE STATE MARGARINE TAXES CONSTITUTIONALLY VULNERABLE? Jour. Farm Econ. 25: 677-683, 1943.
This discussion is concerned with the constitutionality of State taxes which have the effect of impeding interstate commerce. A number of court decisions affecting such taxes are discussed.
- Hardin, Charles M. POLITICAL AND INSTITUTIONAL BARRIERS TO TRADE IN FLUID MILK. In Marketing Efficiency in a Changing Economy--A Report of the National Workshop on Agricultural Marketing, June 17--27, 1955, University of Kentucky. U.S. Dept. Agr., Agr. Mktg. Serv. AMS-60, pp. 132-166. Sept. 1955.
- Harris, Edmond S., Joseph B. Robinson and Eldwin A. Wilson. APPRAISAL OF FOOD DISTRIBUTION ORDERS 11 AND 13. A report based upon an investigation in 23 Northeastern cities conducted by the Program Analysis and Appraisal Div., Northeast Region, and the Program Analysis and Appraisal Br. of the Food Dist. Admin., August 20, 1943, 15 pp.
Appraisal of conservation orders, containers, delivery practices, etc.
- Herrmann, Louis F. et al. REGULATIONS AFFECTING THE MOVEMENT AND MERCHANDISING OF MILK. A STUDY OF THE IMPACT OF SANITARY REQUIREMENTS, FEDERAL ORDERS, STATE MILK CONTROL LAWS, AND TRUCK LAWS ON PRICE, SUPPLY AND CONSUMPTION. U.S. Dept. Agr. Mktg. Res. Rpt. 98, 124 pp., June 1955.
Study to determine whether and how much various types of laws and regulations interfere with, burden, or obstruct the movement of milk; whether and how much they interfere with the adoption of less costly or more effective marketing methods; and to measure, where possible, the effect of regulations on prices, production and consumption.
- MacDonald, Malcolm H. A SUPPLY CONTROL PROGRAM FOR THE DAIRY INDUSTRY. Cornell Univ. Ph.D. thesis, 1961.
- McBride, C. G. POSSIBILITIES AND LIMITATIONS OF PUBLIC CONTROL OF MILK MARKETING. Jour. Farm Econ. 19: 494-496, 1937.
A brief discussion of the problems existing with and without public control of milk marketing. The author concludes that "there is a pressing demand for reasonable stabilization of prices and protection to those engaged in the production and marketing of fluid milk."

Mickle, W. T. MARGARINE LEGISLATION. Jour. Farm Econ. 23: 567-583, 1941.

In this article, the author reviews and discusses the history of margarine--its invention, introduction into the United States, early State margarine legislation, Federal legislation, recent State tax legislation, and the question of the justification of special margarine legislation. According to the author groups favoring margarine legislation are: (1) those who wish to prevent adulteration and contamination of the product, (2) the butter interests who wish to eliminate competition from margarine, and (3) those who wish to prevent margarine being sold as butter. He concludes that the first and third groups should be content with the pure food laws, and the second group has no justification for its position.

Morrissey, Frederick W. PRICE CONTROL IN THE FLUID MILK INDUSTRY, 1950-52. Univ. Calif. Ph.D. thesis, 1955.

Mortenson, William P. DISTRIBUTION OF MILK UNDER PUBLIC UTILITY REGULATION. Amer. Econ. Rev. 26: 23-40, 1936.

Distributors' margins, the effect of a reduction of such margins on prices paid farmers, the developments leading to present inefficiencies in milk distribution and experiences in and the legal and economic features of public control of milk distribution are discussed.

Mortenson, William P. LEGAL POSSIBILITIES AND LIMITATIONS OF MILK DISTRIBUTION AS A PUBLIC UTILITY. Jour. Land and Pub. Util. Econ. Nov. 1939-Feb. 1940.

Although the U.S. Supreme Court had not ruled upon the question, sufficient legal support existed for the position that the legislatures have power either to grant exclusive franchise to a private corporation to process and distribute milk, or to delegate to the city or municipality the ownership. Conjectures were made on the possibilities of Court action in this direction and on what degree of success public utility control operating as a unified system of milk distribution would have.

Mortenson, William P. MILK DISTRIBUTION AS A PUBLIC UTILITY. Univ. Chicago Press, 221 pp., 1940.

If the functions of processing and of distributing fluid milk were operated as an efficient unified system, the possible economies and resultant savings might be considerable, provided that the general public accepts this different approach to the milk distribution problem. The subject is in 5 parts: history and background of fluid milk regulation; costs and profits of distributing milk and savings through unification; legal aspects of milk control; methods and difficulties of public utility control of milk distribution; and economic effects of such control.

Polikoff, Harry. STATE REGULATION OF TRADE PRACTICES IN THE MILK INDUSTRY. Report to the Metrop. Dairy Inst., Inc., 67 pp., 1960. New York, N.Y.

Rada, Edward L. and D. B. DeLoach. AN ANALYSIS OF STATE LAWS DESIGNED TO EFFECT ECONOMIC CONTROL OF THE MARKET MILK INDUSTRY. Oreg. State Col. Monog., Studies in Econ. 2, 72 pp., Dec. 1941.

Legal aspects of sanitary regulations; development of State control laws; organization of control agencies; powers; price regulations; enforcement provisions, administrative problems.

Robinson, K. L. and M. H. MacDonald. PRICES OF NEGOTIABLE MARKETING CERTIFICATES FOR MILK. Jour. Farm Econ. XLIV (3): 781-795, Aug. 1962.

Analysis of potential demand and supply schedules for rights to ship milk under proposed quota plans and the prices at which the exchange of such rights might take place under conditions approximating those of a free market.

Small, E. and F. E. Fenton. A SUMMARY OF LAWS AND REGULATIONS AFFECTING THE CHEESE INDUSTRY. U.S. Dept. Agr., Agr. Handb. 265, 51 pp., Jan. 1964.

Smith, Mildred B. THE HISTORY OF MILK PRICING IN NEW ENGLAND UNDER THE OFFICE OF PRICE ADMINISTRATION, 1942-1946. Office of Temporary Controls, OPA, Region 1, Boston, Mass., Jan. 1947.

Spencer, Leland. MILK PRODUCTION CONTROL. Cornell Univ. Agr. Expt. Sta. A.E. 304, 18 pp., 1940.

The milk supply and price situation, New York State, and prices under the monthly quota and basic-surplus plans.

Spencer, Leland. A DISCUSSION OF PROPOSALS FOR ADJUSTING OR CONTROLLING THE MILK SUPPLY WITH PARTICULAR REFERENCE TO THE NEW YORK MARKET. Cornell Univ. Agr. Expt. Sta. A.E. 316, 22 pp., 1940.

Milk supply and price situation, and different types of control measures.

Till, Irene. MILK--THE POLITICS OF AN INDUSTRY. In Price and Price Policies, pp. 431-524, Walter H. Hamilton and Associates, McGraw-Hill Book Co., Inc., 1938. New York and London:

The milk industry as a big business between two petty economies, the farm and the household; demand, desire, and nutritional value of milk; milk production; characteristics of dairy farming; cost of production; distribution; pasteurization; cost of the middleman; the sheltered market for fluid milk; public regulation; sanitary inspection of dairies; politics in health regulations and administration; multiple prices; combination to control prices; agreements between dealers' and producers' organizations; collective bargaining; dealers' practices concerning payments, transportation charges, etc.; classified price and basic-surplus plans; public regulation of milk marketing; the "public interest", milk control boards; court cases and judicial opinions; the Agricultural Adjustment Administration and its regulations; consumption; grades; prices; cost of delivery, bottles, etc.; milk distribution as a public utility; consumer cooperation; inspection of dairy farms versus other methods of sanitary control; and the possibilities of a national inspection system.

Tinley, J. M. LESSONS FROM PUBLIC CONTROL IN MILK MARKETING. Jour. Farm Econ. 20: 807-822, Nov. 1938.

Since 1933 the Federal and many State legislatures passed laws for the regulation of some or all phases of milk marketing. These laws have been reviewed by various State supreme courts and by the U.S. Supreme Court. These decisions make possible certain tentative conclusions, which are enumerated. The State laws generally provide only for the support of minimum (not maximum) prices to producers, or, in addition, provide for regulation of minimum resale prices. California milk control legislation is used as an illustration.

U.S. Department of Agriculture. FEDERAL AND STATE STANDARDS FOR THE COMPOSITION OF MILK PRODUCTS (AND CERTAIN NON-MILKFAT PRODUCTS) AS OF JANUARY 1, 1965. U.S. Dept. Agr., Agr. Handb. 51, 27 pp., Rev. Sept. 1965.

Waite, W. C. ECONOMIC BASES AND OBJECTIVES OF PUBLIC REGULATION OF THE MILK INDUSTRY. Jour. Farm Econ. 17: 101-108, Feb. 1935.

Discussion of market regulation, price discrimination, monopoly, etc., in fluid-milk marketing.

Welden, William C. WARTIME MANAGEMENT OF DAIRY FOODS. Harvard Univ. Ph.D. thesis, 1952.

Wilson, T. A. and E. F. Baumer. TRADE PRACTICE REGULATIONS WITH SPECIAL REFERENCE TO THE DAIRY INDUSTRY. Ohio Agr. Expt. Sta. Res. Bul. 816, 45 pp., June 1958.

Concepts and definition of unfair trade practices; economic effects of using unfair trade practices in merchandising dairy products; experience with State control of unfair trade practices.

Barriers

Burtis, E. L. BARRIERS AND THE MILK INDUSTRY. Ind. Law Jour. 16: 203, Dec. 1940.

Discusses public health measures and economic stabilization measures as trade barriers. Suggests that amelioration would result if sanitary requirements were more reasonably uniform from State to State and if all grounds for suspicion of the reliability of inspections could be removed.

Hillman, J. S. and J. D. ROWELL. A SUMMARY OF LAWS RELATING TO THE INTERSTATE MOVEMENT OF AGRICULTURAL PRODUCTS IN THE ELEVEN WESTERN STATES. Ariz. Agr. Expt. Sta. Rpt. 109, 105 pp., May 1952.

Summaries of motor truck regulations, inspection and licensing, and restrictions affecting interstate trade in dairy products and margarine.

Hillman, J. S., J. D. Rowell and V. L. Israelsen. BARRIERS TO THE INTERSTATE MOVEMENT OF MILK AND DAIRY PRODUCTS IN THE ELEVEN WESTERN STATES. Western Reg. Pub. Ariz. Agr. Expt. Sta. Bul. 255, 69 pp., April 1954.

Analysis of laws, regulations, ordinances, and other barriers to free movement of milk and dairy products in the West and their impacts on producers, distributors and consumers.

Howell, L. D. INTERNAL TRADE BARRIERS FOR MARGARINE. Jour. Farm Econ. 25: 793-806, 1943.

Discussion and analysis of the characteristics of margarine; restrictions on the manufacture and sale of margarine, including regulations to prevent fraud, excise taxes and license fees; benefits and costs of restrictions on margarine; effects on consumers and producers of margarine; and taxes on margarine as a protection for the dairy industry, are presented. Some of the more important conclusions drawn are (1) restrictions on the manufacture and sale of margarine tend to raise the prices of butter and margarine to the disadvantage of consumers and the advantage of butter producers, (2) the revenues raised from taxes and licenses on margarine are less than the consequent cost to consumers plus losses to margarine producers, (3) the increases in net incomes to butter producers resulting from margarine restrictions are less than the consequent additional costs to consumers of butter, (4) the effects of margarine taxes are strongly regressive, (5) net farm incomes for typical family-operated dairy farms average much greater than those for typical family-operated cotton farms--margarine taxes benefit the dairy farmer at the expense of the cotton farmer, and (6) direct subsidies to butter producers are more desirable than restrictions on margarine.

Pabst, W. R., Jr. BUTTER AND OLEOMARGARINE: AN ANALYSIS OF COMPETING COMMODITIES. 112 pp., 1937. Columbia Univ. Press, New York.

Discusses the development of the industries, restraint of competition between butter and oleomargarine, the relationship of these commodities in the light of recent theoretical work and through the application of modern statistical technique, and the question of further taxation of oleomargarine.

Parry, S. P. et al. INSTITUTIONAL ARRANGEMENTS INFLUENCING THE MOVEMENT OF MILK IN THE SOUTH. South. Co-op. Ser. Bul. 104, 43 pp., Apr. 1965.

Possible institutional restrictions on milk movement in the south. Probable effect of sanitary regulations, State milk orders, State fair trade laws, Federal milk orders, and transportation regulations.

Taylor, G. R., E. L. Burtis, and F. V. Waugh. BARRIERS TO INTERNAL TRADE IN FARM PRODUCTS. U.S. Dept. Agr. Bur. Agr. Econ., 1939.

In the section on dairy products it is pointed out that dairy legislation of the past 10 or 15 years, while designed primarily to protect the health of consumers and to stabilize the dairy industry and to increase the purchasing power of dairy farmers, has caused serious interference with interstate and also intrastate commerce.

U.S. Marketing Laws Survey. COMPARATIVE CHARTS OF STATE STATUTES ILLUSTRATING BARRIERS TO TRADE BETWEEN STATES. 88 pp., 1939. Washington.

Selected Dairy Laws, pp. 21-29, analyze legislation relating to licensing, inspection, price-fixing, and other restrictive features affecting the interstate market in dairy products.

U.S. Marketing Laws Survey. A DIGEST OF STATE LAWS RELATING TO THE PROBLEM OF INTERSTATE TRADE BARRIERS FOR STATES WHOSE LEGISLATURES CONVENE IN 1940. Prepared...at the request of the U.S. Dept. Commerce and the Interdepartmental Committee on Interstate Trade Barriers, Washington, 1940.

A series of 32 charts covering the States of Ky., La., Miss., Nebr., New Jersey, New York, R.I., S.C., and Va., presenting a digest of marketing legislation in certain categories. Milk and dairy is one of the categories included.

Federal Orders

Alexander, W. H. and C. D. Chapman. AN ANALYSIS OF PROPOSED AMENDMENTS TO THE FEDERAL ORDER REGULATING THE HANDLING OF MILK IN THE NEW ORLEANS MARKETING AREA. La. Agr. Expt. Sta. Mimeo. Cir. 177, 61 pp., Apr. 1955.

History of pooling provisions under New Orleans order; equalization payments; expansion of marketing area.

Alexander, W. H. and A. J. Ortego. AN ANALYSIS OF PROPOSED AMENDMENTS TO THE FEDERAL ORDER REGULATING THE HANDLING OF MILK IN THE SHREVEPORT MARKETING AREA. La. Agr. Expt. Sta. Mimeo. Cir. 183, 41 pp., Dec. 1955.

Proposed expansion of marketing area; price of Class I milk; supply-demand adjustment.

Alexander, W. H. and E. Dunham Chapman. AN APPRAISAL AND RECOMMENDATION WITH RESPECT TO THE PROPOSED FEDERAL ORDER FOR THE SHREVEPORT MARKETING AREA. La. Agr. Expt. Sta. Mimeo. Cir. 162, 66 pp., June 1954.

Consideration of each provision of proposed order.

Baker, Burton A. THE EVAPORATED MILK INDUSTRY UNDER FEDEPAL MARKETING AGREEMENTS. Jour. Farm Econ. 27: 704-707, 1945.

Concerns the conditions in the evaporated milk industry which led to government regulation, the effects of the marketing agreement on the industry, and the problems created by such regulation. Lack of competition under the marketing agreement resulted in lack of incentive in the industry to pass increased returns on to the producers.

Baker, Burton A. and Rudolph K. Froker. THE EVAPORATED MILK INDUSTRY UNDER FEDERAL MARKETING AGREEMENTS. Wis. Agr. Expt. Sta. Res. Bul. 156, 91 pp., Sept. 1945.

The industry; market structure, size of plants, channels of distribution; economic and legal basis for regulation; producer prices under regulation; regulation of manufacturers' selling prices; regulation of trade practices; administration.

Bartlett, R. W. and W. H. Alexander. THE PRACTICE OF ESTABLISHING FEDERAL ORDER MARKETING AREAS AS RELATED TO ECONOMIC THEORY. Ill. Agr. Expt. Sta. A.E. 2957, 56 pp., Aug. 1953.

Economic theories of areas; analysis of 45 areas with Federal milk orders: quality, population, source of supply, geography, and military camps as influences on economic marketing area. Relationship between the population of a marketing area and unit costs for administering Federal orders.

Bartlett, Roland W. and Stephen F. Whitted. AN ECONOMIC ANALYSIS OF FEDERAL REGULATION OF THE ST. LOUIS MILK MARKETING AREA. Mo. Agr. Expt. Sta. Res. Bul. 684, 83 pp., Jan. 1959.

Baum, E. L. AN ANALYSIS OF THE PROPOSED ORDER REGULATING THE HANDLING OF MILK IN THE PUGET SOUND, WASHINGTON, MARKETING AREA. Wash. Agr. Expt. Stas. Cir. 137, 34 pp., Mar. 1951.

Conditions leading up to the proposed marketing order for the Puget Sound marketing area: discussion and analysis of the main provisions of the order.

Cladakis, N. J. and Anson J. Pollard. SOME ECONOMIC PROBLEMS ENCOUNTERED IN MILK CONTROL ADMINISTRATION. Jour. Farm Econ. 24: 326-332, 1942.

A discussion of the problems of market administration, based on the authors' experiences in both the Chicago and New York markets. The problems of diversion payments and bootlegged milk are given primary attention.

Foelsch, G. G. and H. L. Cook. AN ANALYSIS OF FEDERAL COURT DECISIONS RELATING TO THE MARKETING OF FLUID MILK. Wis. Agr. Expt. Sta., Agr. Mktg. Serv. coop., Res. Bul. 200, 100 pp., Jan. 1957.

How Supreme Court decisions led to changes in the basic enabling legislation and sometimes to amendments in the provisions of milk orders. How essential approval and legal directions of the Court was, and is, to the attainment of orderly marketing under the milk order program.

Foelsch, Gertrude G. FEDERAL MILK MARKETING ORDERS AND DAIRY PROGRAMS IN WORLD WAR II. U.S. Dept. Agr. Agr. Monog. 12, 65 pp., Aug. 1951.

"This report tells when each measure came into effect and what it was terminated . . . the major reasons for the action . . ." The regulations that were most important in the Federal order and agreement program: ceiling prices of fluid milk and dairy products. Limitations on sales of fluid milk.

Foelsch, Gertrude G. THE MARKETING OF MILK IN THE LOUISVILLE AREA UNDER FEDERAL REGULATION. U.S. Dept. Agr. Mktg. Res. Rpt. 43, 323 pp., June 1953.

The evolution and functioning of Federal regulation in a specific milk marketing area are treated in principle and in detail. Complexities of milk marketing are illustrated in the discussion of such problems as: changes in the classification procedure; the reconciliation between receipts and utilization; the evolution of the pricing procedure, and attempts to influence seasonality of production.

Freeman, R. E. and E. M. Babb. MARKETING AREA AND RELATED ISSUES IN FEDERAL MILK ORDERS. Purdue Univ. Agr. Expt. Sta. Res. Bul. 782, 35 pp., June 1964.

Standards for determining the extent of marketing areas, location differentials, price relationships and intermarket movement.

- Graf, Truman F., Harlow W. Halvorson, and Robert H. Miller. THE USE OF FEDERAL MILK MARKETING ORDERS IN SOUTHERN WISCONSIN. Wis. Agr. Expt. Sta. Agr. Econ. 29, 36 pp., June 1959.
Milk production patterns and their evolution in southern Wisconsin; population and markets; processing and distribution; plant numbers; pricing milk under Federal orders; area Federal milk order considerations.
- Harris, Edmond S. EARLY DEVELOPMENT OF MILK MARKETING PLANS IN THE KANSAS CITY, MISSOURI, AREA. U.S. Dept. Agr. Mktg. Res. Rpt. 14, 99 pp., May 1952.
In the period of Federal regulation in the Kansas City milk market covered by this report, there were acute problems with respect to the role of local industry, freedom of entry for new producers, fixing of resale prices, and treatment of producer distributors.
- Harris, Edmond S. and Joel L. Blum. FEDERAL REGULATION OF MILK MARKETING IN THE DULUTH-SUPERIOR AREA. U.S. Dept. Agr. Agr. Inform. Bul. 68, 112 pp., Aug. 1951.
- Lauterbach, A. H. MARKETING AGREEMENTS FOR DAIRY PRODUCTS. Jour. Farm Econ. 17: 357-362, May 1935.
The writer discusses the history and development of dairy marketing agreements up to December 1, 1934. Milk price plans, problems in price fixing and the accomplishments of the dairy section of the Agricultural Adjustment Administration are considered.
- Martin, James C. PROBLEMS IN DEFINING THE SIZE AND SHAPE OF FLUID MILK MARKETING AREAS IN KENTUCKY. Univ. Ky. M.S. thesis, June 1961.
- Nourse, Edwin G., et al. REPORT TO THE SECRETARY OF AGRICULTURE BY THE FEDERAL MILK ORDER STUDY COMMITTEE. Produced through the facilities of the U.S. Department of Agr., 105 pp. Dec. 1962.
The classified pricing system; definition of marketing area; pooling and producer settlement; intermarket relationships; recommendations.
- Parry, Stanton. SOME PROBLEMS IN EXTENDING FEDERAL MILK ORDER REGULATION IN MICHIGAN. Mich. State Univ. Ph.D. thesis, 1958.
- Purcell, Margaret R. and Louis F. Herrmann. EXPERIENCE WITH CLASSIFICATION OF MILK IN FEDERAL ORDER MARKETS. U.S. Dept. Agr. Mktg. Res. Rpt. 288, 78 pp., Dec. 1958.
Reviews the experience with classified pricing in 68 fluid milk markets under Federal regulation at the end of 1957, including the number of classes and reasons therefor, the bases for classification of (1) established and (2) new products, and reclassification to meet changed market conditions of special situations.
- Spencer, Leland. DEVELOPMENT OF THE FEDERAL MILK ORDER SYSTEM AS RELATED TO NATIONAL SUPPLIES AND SURPLUSES OF MILK, 1947-1963. PART I OF AN ECONOMIC STUDY OF MILK SUPPLIES FOR MARKETS REGULATED BY FEDERAL ORDERS. Cornell Univ. Agr. Expt. Sta. in coop. with Agr. Mktg. Serv. and Mkt. Admin., N.Y.-N.J. Milk Mktg. Area, A.E. Res. 162, 29 pp., Jan. 1965.
Changes in receipts from producers at comparable Federal order markets; Federal orders and national surpluses; regional changes in milk production and farm sales of milk and cream to dealers and plants.
- Stelly, Randall. MARKETING MILK UNDER FEDERAL ORDERS IN TEXAS. Tex. Agr. Expt. Sta. Bul. 959, 18 pp., July 1960.
What marketing orders do and don't do.
- Swantz, Alexander. ECONOMIC EFFECTS OF FEDERAL REGULATION OF THE MINNEAPOLIS-ST. PAUL FLUID MILK MARKET. U.S. Dept. Agr. Mktg. Res. Rpt. 11, 218 pp., May 1952.
Analyzes distinctive features of the market, including the location in an intensive dairy area and competition among cooperatives for a share in the market as influenced by the terms of the regulations.
- Swantz, Alexander. FEDERAL REGULATION OF FLUID MILK MARKETING IN THE CLINTON, QUAD CITIES, AND DUBUQUE MARKETING AREAS. U.S. Dept. Agr. Mktg. Res. Rpt. 37, 165 pp., Apr. 1953.
The economic effects of past and present Federal milk regulatory programs on the marketing and pricing of fluid milk in these markets. Considers such problems as the regulation of a small market and the growth and eventual intermingling of the milk supply and distribution systems of adjacent markets.

Tator, Samuel W. EXPERIENCE IN MILK MARKETING CONTROL II, THE GREATER BOSTON MARKET. U.S. Dept. Agr., Agr. Adjust. Admin., 7 pp., 1935.
Federal and State controls in the Boston market during the 1930's.

State Controls

Aplin, Richard D. et al. ALTERNATIVE ECONOMIC REGULATORY PROGRAMS FOR THE NEW JERSEY MILK INDUSTRY. Report of an Advisory Comm. Econ. submitted to the Sec. Agr., N.J. 57 pp., Nov. 8, 1963.
Regulation of resale prices.

Arnold, Carl J. AN ANALYSIS OF VIRGINIA'S QUOTA PLAN FOR MILK. Va. Agr. Expt. Sta. Bul. 496, 52 pp., Dec. 1958.
Analysis of operation of base-surplus plan in Roanoke, Newport News, and Harrisonburg markets; attitudes and reactions of producers.

Bartlett, R. W. GOVERNMENTAL REGULATION OF THE SALE OF MILK. Ill. Agr. Expt. Sta. A.E. 1575, 48 pp., Feb. 1941.
Types of legislation affecting the sale of Illinois dairy products; methods of determining producer prices; case for and against fixing consumer prices.

Bartlett, Roland W. IS STATE CONTROL OF CONSUMER MILK PRICES IN THE PUBLIC INTEREST? Ill. Agr. Expt. Sta. Bul. 705, 34 pp., Jan. 1965.
History and effectiveness of State regulation of retail milk prices; distributors' gross margins in markets with and without State controls.

Bartlett, Roland W. MILK DISTRIBUTION MARGINS, PRICES, AND CONSUMPTION: STATE-CONTROLLED VERSUS COMPETITIVE MARKET. Ill. Agr. Econ. 5(2): 17-26, July 1965.
Analysis of milk distributors' margins in State controlled and other markets; case study of Pennsylvania and Ohio.

Bowring, James R. A STUDY OF THE HISTORY, ADMINISTRATION AND OPERATION OF RSA 183 RELATING TO MILK CONTROL. N.H. Agr. Expt. Sta. Agr. Econ. Res. Mimeo. 29, 44 pp., Oct. 1961.
Origin and development of milk price control in New Hampshire; Federal milk orders in New Hampshire; local market price differentials; intermarket price relationships; number of dealers, by size, 1950 and 1960; prices to consumers; dealer spreads.

Breen, John Joseph, Jr. AN ECONOMIC ANALYSIS OF THE REGULATION OF MILK BY THE STATE OF RHODE ISLAND. Clark Univ. Ph.D. thesis, 1957.

Butz, W. T., C. W. Pierce, and H. J. Preston. DISTRIBUTOR KNOWLEDGE AND OPINION OF STATE MILK CONTROL IN PENNSYLVANIA. Pa. Agr. Expt. Sta. Paper 1786, Jour. Ser. 35 pp., Feb. 1953.
Survey of 87 distributors, 1948; characteristics and opinions of milk distributors: knowledge and participation of distributors in pricing process.

Butz, W. T., C. W. Pierce, and H. J. Preston. CONSUMER KNOWLEDGE AND OPINION OF STATE MILK CONTROL IN PENNSYLVANIA. Pa. Agr. Expt. Sta. Paper 1807, Jour. Ser. 31 pp., July 1953.
Survey of 4,500 consumers. Twenty percent knew about State Milk Control.

Butz, W. T., C. W. Pierce, and H. J. Preston. PRODUCER KNOWLEDGE AND OPINION OF STATE MILK CONTROL IN PENNSYLVANIA. Pa. Agr. Expt. Sta. Paper 1796, Jour. Ser. 36 pp., Apr. 1953.
About half the producers surveyed knew about State milk control. about 3/4 of those who knew about it favored its continuation.

Carter, Clyde C. STATE REGULATION OF MILK IN THE SOUTHEAST. South. Econ. Jour. XXIV(1): 63-74, July 1957.
Interstate trade barriers; legal issues; reasons; results.

Christensen, S. Kent. A STUDY OF MILK CONTROL IN NEW YORK, 1933-1950. Cornell Univ. Ph. D. thesis, 1950.

- Clarke, D. A., Jr. ECONOMIC ASPECTS OF GOVERNMENT MILK PRICE REGULATION. Calif. Agr. Expt. Sta. Inf. Ser. in Agr. Econ. 63-4, 46 pp., Nov. 1963.
Price effects of the California milk stabilization program; changes affecting the fluid milk industry since 1935; major problem areas facing the fluid milk industry today.
- Clarke, D. A., et al. FLUID MILK PRICE CONTROL IN CALIFORNIA. Rpt. to Joint Legislative Committee on Agriculture and Livestock Problems. Calif. Agr. Expt. Sta., 1955, 191 pp.
Development of Government milk control and bases for Government action; producer price control; resale price control.
- Clarke, D. A., Jr. and Olan D. Forker. AN EVALUATION OF CALIFORNIA'S MILK PRICE STABILIZATION PROGRAM: A SUMMARY REPORT OF PROGRESS. Calif. Agr. Expt. Sta., 25 pp., Nov. 1964.
Comparisons of prices and margins; frequency and type of price wars and other disturbances; profit rates; analyses of prices and conduct; organization, procedures, legal and policy aspects.
- Conner, Maynard C. THE MILK MARKET CONTROL LAW IN VIRGINIA. Va. Agr. Expt. Sta. U.S. Bur. Agr. Econ. coop., Bul. 444, 49 pp., June 1951.
Outlines the administrative organization of the Milk Control Commission, states the powers and functions of the Commission, and analyzes the economic conditions which influenced the development of the law.
- Culver, D. C. AN ANALYSIS OF STATE MILK CONTROL LAWS. Calif. Univ. Bur. Pub. Admin. Leg. Prob. 1, 25 pp., Jan. 4, 1937.
A study of the composition of administering boards, the powers of boards, prices, license fees, records, funds, appeals and penalties, and the protection of producers. Emergency measures authorizing the establishment of control boards for the milk industry were enacted by 21 States between 1933 and 1936. Most of these laws were designed to insure a stable supply of milk at prices fair to consumer and producer. The U.S. Supreme Court and the highest courts of several States have upheld the constitutionality of milk control laws.
- Deloach, D. B. and W. A. West. SOME ECONOMIC IMPLICATIONS OF MILK CONTROL IN OREGON. Ore. Agr. Expt. Sta. Bul. 375 19 pp., 1940.
Purpose and procedures under the Milk Control Act of 1933, the customs and habits of the people affected by milk control, the uniform regulations introduced, the conditions essential to uniform State regulations, the concept of vested right developed under State regulation, the recommendations of the Station, the conditions under which the act can be justified, and the educational program and the economic information necessary for the proper administration of the act.
- Domike, A. L., Jr. STATE CONTROL OF THE RHODE ISLAND MILK MARKET--SUPPLY-USE BALANCE--MARKET STABILITY R.I. Agr. Expt. Sta. Bul. 345, 47 pp., June 1959.
Market supplies and use of milk, 1952-57.
- Pierce, C. W. and W. T. Butz. A REPORT ON ECONOMIC CONSIDERATIONS OF THE MARKET MILK SITUATION IN OHIO. Prepared for the Ohio Farm Bur. Fed., Inc., 45 pp., Jan. 1955.
Study of possible accomplishments of a State milk control agency and possible advantages of using an economic-index formula for Class I prices.
- Purcell, J. C. EVALUATION OF SUPPLY-CONTROL PLANS FOR GRADE A MILK IN GEORGIA. Ga. Agr. Expt. Sta. Mimeo. Ser. N.S. 151, 28 pp., July 1962.
Evaluation of alternative base and quota plans in Georgia.
- Spencer, Leland and S. Kent Christensen. MILK CONTROL PROGRAMS OF THE NORTHEASTERN STATES. PART I. FIXING OF PRICES PAID AND CHARGED BY DEALERS. N.E. Region Pub. 21, Cornell Univ. Agr. Expt. Sta. Bul. 908, 136 pp., Nov. 1954.
The origin and evolution of State milk control; standards and methods of fixing prices paid to producers and at wholesale and retail.
- Spencer, Leland and S. Kent Christensen. MILK CONTROL PROGRAMS OF THE NORTHEASTERN STATES. PART II. ADMINISTRATIVE AND LEGAL ASPECTS AND COORDINATION OF STATE AND FEDERAL REGULATION. N. E. Region Pub. 23, Cornell Univ. Agr. Expt. Sta. Bul. 918 128 pp., Nov. 1955.
Financing of milk control; licensing and bonding; enforcement; legal issues and court decisions; statistical and information service; and interstate and Federal-State cooperation.

- Sprague, Sherman K. MILK PRICE CONTROL IN VERMONT. Vt. Agr. Expt. Sta. M sc. Pub. 1, 19 pp., Jan. 1951.
Origin, organization, operation, powers and functions of Vermont Milk Control Board. Survey of 200 families in 10 towns to determine factors affecting milk consumption and consumer knowledge and opinions of milk pricing.
- Tinley, J. M. CALIFORNIA MILK CONTROL LEGISLATION. Jour. Mktg. 3: 175-177. Oct. 1938.
A discussion of the Young Act, amended 1937, providing for a determination and enforcement of producers' prices based upon the economic relation between prices of market milk and prices of manufacturing milk in the various marketing areas, and of the Desmond Act, effective August 27, 1937, extending the power of the Director of Agriculture to determine and establish minimum wholesale and retail prices as soon as possible in existing marketing areas and to put both producer and resale prices into effect in new areas.
- Tinley, J. M. PUBLIC REGULATION OF MILK MARKETING IN CALIFORNIA. Berkeley, Univ. Calif. Press, 213 pp., 1938.
Setting the stage for milk wars, collapse of milk marketing; public stabilization efforts before 1937; economic basis for regulating milk distribution; regulation of producer prices under the amended Young Act; resale price regulation under the Desmond Act; survey of distribution costs and store margins; allocation of costs between fluid milk and other products; and resale prices based on distribution costs. Concludes that "the present milk-stabilization legislation in California appears to be founded on sound economic principles..."
- Tobey, J. A. LEGAL ASPECTS OF MILK CONTROL. Internat. Assoc. of Milk Dealers, 102 pp., 1936.
A guide to the constitutional, administrative, public and private law in the United States as it applies to the production, handling, processing, and distribution of milk and dairy products. A table of court cases, arranged by States, is given on pp. 89-98.
- Tobey, J. A. FEDERAL AND STATE CONTROL OF MILK PRICES. Internat. Assoc. of Milk Dealers, 42 pp., 1937.
This book, which supplements The Legal Aspects of Milk Control, reviews "the constitutional status of laws fixing prices and regulating the production and distribution of milk, as shown by the numerous court decisions that had been reported in the Federal and State Courts at the beginning of 1937."
- Tobey, James A. STATE CONTROL OF MILK PRICES. Milk Indus. Found. 98 pp., 1955.
"An impartial and factual study of the legal aspects of State control of milk prices and trade practices, from an examination of the statutes and the decisions of the courts."
- Ward, Edward H. THE INFLUENCE OF TECHNOLOGICAL AND LEGAL CHANGES ON THE OPERATION OF THE MONTANA MILK CONTROL LAW. Mont. Agr. Expt. Sta. Mimeo. Cir. 90, 69 pp., July 1955.
Changes in the market structure since 1939; the marketing problem; suggested changes in the Montana milk control law.
- Warner, Earl. THE STATE MILK CONTROL AGENCIES IN NEW ENGLAND. Vt. Agr. Expt. Sta. Bul. 565, Northeast. Region. Pub. 6, 80 pp., June 1951.
Historical sketch; administrative organization; powers and functions; conditions influencing development; evaluation of milk control organizations and policies.
- Warner, Earl and C. W. Pierce. COURT DECISIONS RELATING OF PENNSYLVANIA MILK CONTROL. Pa. Agr. Expt. Sta. Prog. Rpt. 78, 28 pp., May 1952.
- Watson, J. S. THE STATUS OF MILK MARKETING AND STABILIZATION IN CALIFORNIA. Calif. Dept. Agr. Bul. 28, pp. 47-51, Jan. 1939.
The benefits derived from the enactment and operation of the California Milk Stabilization and Marketing Act are appraised. The background for the legislation and some of its important features are discussed.
- Wilson, L. E. and J. G. Pappanastos. PROCEDURES FOR CALCULATING PRODUCER QUOTAS AND PRICES FOR GRADE A MILK IN ALABAMA. Ala. Agr. Expt. Sta. Cir. 142, 11 pp., Nov. 1962.
Procedures for determining quotas; comparisons of quotas determined under each plan; allocation of producer receipts for a selected pay period.

Young, P. A. and R. W. Sherman. SUMMARY OF OHIO MILK MARKETING AGREEMENTS IN 55 AREAS IN OHIO. Ohio Agr. Expt. Sta. Mimeo. Bul. 70, 20 pp., 1934.

Prices and classes established by Ohio milk marketing agreements in 55 areas, 1934.

Sanitary Regulation

American Municipal Association. MILK CONTROL. GOVERNMENT REGULATION OF THE DAIRY INDUSTRY IN THE UNITED STATES. Public Admin. Serv. Pub. 57, 49 pp., 1937.

Mainly concerned with sanitation and health aspects of regulation by State and local agencies. Also includes a brief section on State milk control boards.

Bressler, R. G., Jr. LAWS AND REGULATIONS GOVERNING THE PRODUCTION OF GRADE B MILK IN NEW ENGLAND. New England Res. Council on Mktg. and Food Supply, 145 pp., June 1938.

These laws and regulations pertain to the registration and inspection of producers, health and cleanliness of cattle, construction and condition of stables and milk rooms, methods used in handling milk, health of employees, and quality of milk. Comparisons between the ordinances may provide some explanation of intermarket movements of milk and price differentials.

Corbett, R. B. MILK INSPECTION IN THE HEALTH DISTRICTS OF MASSACHUSETTS. New England Res. Council on Mktg. and Food Supply, 15 pp., 1937.

Organization and administration of the program; it has improved milk standards in the area.

Corbett, R. B. MILK INSPECTION IN NEW ENGLAND. New England Res. Council on Mktg. and Food Supply, 41 pp., 1937.

Covers for 1935 the relationships between the milk inspection work of State departments and that of towns and cities with 1,000 or more persons according to the 1930 census, and describes the work of each as separate groups. An appraisal of the quantity and quality of milk inspection.

Dahlberg, A. C. and H. S. Adams. SANITARY MILK AND ICE CREAM LEGISLATION IN THE UNITED STATES. Nat. Res. Council Bul. 121, 59 pp., July 1950.

Sanitary regulations on milk and ice cream in 48 States and 84 cities with populations of 100,000 or more.

Dahlberg, A. C., H. S. Adams, and M. E. Held. SANITARY MILK CONTROL AND ITS RELATION TO THE SANITARY, NUTRITIVE, AND OTHER QUALITIES OF MILK. Nat. Res. Council Pub. 250, 174 pp., 1953. Washington, D.C.

The final report of a comprehensive study of milk supplies and the sanitary regulations of 8 cities. A committee of the National Research Council carried out the project under a contract between the National Academy of Sciences and the USDA. The findings indicate the need for only a limited number of basic requirements in sanitation regulations to insure a whole-sale milk supply.

Fenzau, C. J. and R. N. Van Arsdall. MEETING DAIRY MARKET SANITATION REQUIREMENTS ECONOMICALLY. A PRELIMINARY REPORT. U.S. Dept. Agr. Mktg. Res. Rpt. 64, 26 pp., May 1954.

With good practices, milk of consistently high quality can be produced with a relatively low investment in buildings, and with less labor than commonly used. New dairy buildings and equipment for herds of 20 to 30 cows were provided for an investment at 1950 prices of about \$200 per cow.

Ford, H. F., V. C. Manhart and Charles E. French. FINANCING AND OPERATION OF LOCAL GRADE A MILK ORDINANCES IN INDIANA. Purdue Univ. Agr. Expt. Sta. Bul. 645, 24 pp., Jan. 1957.

Characteristics of milk ordinances; financing provisions; use of enforcement funds; sanitarians; benefits of milk ordinances.

Fowler, William. MUNICIPAL ORDINANCES AND REGULATIONS PERTAINING TO PUBLIC HEALTH, 1923-1926. U.S. Pub. Health Serv. Supp. No. 68 to Pub. Health Serv. Rpts., 237 pp., 1928.

Milk and milk products, pp. 164-201 (9 cities).

Frank, L. C. A NATIONAL PROGRAM FOR THE UNIFICATION OF MILK CONTROL. Pub. Health Rpts. 41: 1583-1616, 1926.

The Public Health Service uniform milk ordinance and the conditions which make it advisable.

Fuchs, A. W. and L. C. Frank. MILK SUPPLIES AND THEIR CONTROL IN AMERICAN URBAN COMMUNITIES OF OVER 1,000 POPULATION IN 1936. U.S. Pub. Health Serv. Bul. 245, 70 pp., 1939.

Based on a survey covering 2,654 municipalities representing 41 percent of the total number and 63 percent of the combined population of all municipalities of over 1,000 population in the United States. Presents data on production and consumption of fluid market milk, volume and price of various grades, pasteurization, tuberculin and abortion tests, legal requirements, State and local control organization, inspection, sampling and bacterial quality, and cost of local milk control.

Hamann, Deryl F. NEBRASKA GRADE A DAIRY REGULATION. A STUDY IN REGULATIVE OVERLAP. Nebr. Law Rev. 37(3): 521-551, May 1958.

Study of problems caused by Nebraska's adoption of a Grade A dairy law without adequate correlation to existing regulatory measures.

Huebner, E. A REVIEW OF THE STATE'S DAIRY LAWS AND REGULATIONS. Dairy Mfrs. Conf. Papers. Univ. of Wis. Dept. Dairy Indus., pp. 59-68, 1940.

Sanitary control of milk and cream cheese, butter, condensery products, and ice cream in Wisconsin.

Hurt, Verner G. and A. D. Seale, Jr. REGULATIONS AFFECTING THE MARKETING OF MILK AND MILK PRODUCTS. Miss. Agr. Expt. Sta. A.E.C. M. R. 32, 19 pp., May 1961.

Sanitary and economic regulations in Mississippi and adjoining States and their effects on movement of milk and milk products.

Kelley, Eugene R., Chairman. REPORT OF THE SPECIAL MILK BOARD OF THE MASSACHUSETTS DEPARTMENT OF HEALTH. 353 pp. 1916. Boston.

Earlier investigations; statements of various interests; facts of production, processing, and marketing; present supervision of the milk supply; milk and health; grading. Should pasteurization be compulsory?

Keuhnl, G. J. LEGAL ASPECTS OF MARKETING STERILIZED CONCENTRATED MILK. Wis. Agr. Expt. Sta. Res. Bul. 232, 91 pp., Jan. 1962.

Applicability and operation of milk regulations, food and sanitation standards, and labeling and other product identification requirements to the introduction of a new product, sterilized concentrated milk.

Laurent, Francis W. PRODUCTION AND MARKETING REGULATION FOR MILK AND MILK PRODUCTS IN WISCONSIN. Univ. of Wis. Law School and Col. of Agr., coop., 122 pp., Jan. 1957.

Public health measures of State of Wisconsin in force at end of 1951 relating to milk, including local ordinances. Primary concern is the possible effect of dairy regulation in restraining competition and trade through market exclusion.

Lee, Charles E. ECONOMIC EFFECTS OF SANITARY REGULATIONS RELATING TO MILK MARKETS. Univ. Minn. Ph. D. thesis, 1954.

MacLeod, Alan. SANITARY LAWS AND REGULATIONS GOVERNING THE PRODUCTION AND DISTRIBUTION OF DAIRY PRODUCTS FOR CONSUMPTION WITHIN NEW HAMPSHIRE. N.H. Agr. Expt. Sta. 26 pp., Apr. 1937.

Extent and cost of inspection; requirements of State and local laws and regulations.

North, C. E. REPORT OF THE ROCHESTER MILK SURVEY. Com. on Pub. Safety of the Common Council, Rochester, N.Y., 227 pp., Dec. 1919.

Milk supply; consumption; nutrition; costs of production; transportation; distribution; investment; health regulation; sanitary condition of milk supply; pasteurization.

North, C. E. REPORT OF MILK SURVEY AND ORDINANCE, KANSAS CITY, MISSOURI. Kansas City, Mo., Common Council, 412 pp., 1921.

This is a report of a complete survey of the milk supply of Kansas City, Mo., dealing with the amount of milk used, prices, cost of production and handling, dairy farm and city inspection, bacterial count, infant mortality, etc. A copy of the ordinance passed by the Common Council is also included.

Spencer, Leland. PRACTICE AND THEORY OF MARKET EXCLUSION WITHIN THE UNITED STATES. Jour. Farm Econ. 15: 141-158, Jan. 1933.

This paper contains discussion of market exclusion, with particular reference to sanitary regulations of fluidmilk and cream in New York and other northeastern market areas. Summarizes the advantages and disadvantages of market restrictions to producers, consumers, and distributors, and concludes that the advantages outweigh the disadvantages.

Discussions by T. B. Garver, pp. 138-161, and Asher Hobson, pp. 161-163, compared the restrictions found in the dairy industry with those found in other industries--such as protective tariffs, buy-at-home campaigns, discriminatory taxes, etc. Both Mr. Garver and Mr. Hobson doubt that there are any benefits, other than health, from market exclusion practices to anyone concerned, particularly the consumers. They regard the advantages, which Professor Spencer pointed out, as likely to be illusory and contrary to the general economic interest.

Sucher, Robert L. and Hugh L. Cook. A STUDY OF REGULATORY PROVISIONS OF MILK ORDINANCES AND THEIR ADMINISTRATION IN SELECTED WISCONSIN COMMUNITIES. Wis. Agr. Expt. Sta. Agr. Econ. 19, 11 pp., Sept. 1956.

Study of 83 communities--all those which had adopted the USPHS Milk Ordinance and Code as of January 1955 and 25 others. How much reciprocity in inspection?

U.S. Congress. COMMITTEE ON THE DISTRICT OF COLUMBIA. Investigation of the milk and cream supply of the District of Columbia...Report pursuant to H. Res. 113, 76th Cong., 1st Sess., H. Rpt. 1095, 8 pp., 1939.

Points out that in the main, the supply of milk of the District of Columbia comes from sources licensed by the Health Department, but that some imported and unlicensed cream finds its way into fluid consumption; also that the spread between what the producer receives and what the consumer pays is far too great. Remedial legislation to correct present unsatisfactory conditions is recommended.

U.S. Congress. COMMITTEE ON THE DISTRICT OF COLUMBIA. Regulations governing the sale of milk and cream and ice cream in the District of Columbia. Hearings before the Subcommittee on Public Health, Hospitals, and Charities, 76th Cong, 1st Sess., H. R. 6316, May 23, 24, and 26, 150 pp., 1939.

PUBLIC PROGRAMS, PRICE SUPPORTS

Black, J. D. THE DAIRY INDUSTRY AND THE AAA. Brookings Institution, 520 pp., 1935.

The position of dairy products under the Agricultural Adjustment Administration; the dairy industry; the dairy situation, 1930-33; fluid milk marketing agreements; milk markets under licenses; price relations within milksheds; seasonal variation and adjustments; operating problems of fluid milk markets; alternatives in public control; the applications of control; the State milk control boards; other dairy products; the production control undertakings and the problem of production control.

Brennan, Michael J. THE ROLE OF GOVERNMENT IN BUTTER STORAGE OPERATIONS. Univ. Chicago Ph. D. thesis, 1956.

Feder, Ernest. DAIRY DILEMMA. Natl. Planning Assoc., M-2993, 60 pp., June 1955. Considerations in making a dairy policy.

Gaumnitz, E. W., O. M. Reed, and L. J. Steck. AN ANALYSIS OF THE POSSIBILITIES OF INCREASING RETURNS TO DAIRY FARMERS THROUGH THE SUBSIDIZATION OF EXPORTS OF BUTTER FROM THE UNITED STATES. U.S. Dept. Agr., Agr. Adjust. Admin. Paper (Dairy Foreign Trade Ser.) 1, 28 pp., 1936.

World trade barriers in relation to butter are discussed and the encouragement of exports of butter by foreign countries is commented upon. Concludes that the exportation of a substantial quantity of butter would have the effect of increasing domestic prices to such a degree that returns to producers from a given volume of production would be greater, assuming that foreign markets could be developed.

Gaumnitz, E. W. and L. J. Steck. POSSIBILITIES OF INCREASING EXPORTS OF DRY SKIM MILK FROM THE UNITED STATES. U.S. Dept. Agr., Agr. Adjust. Admin. Paper (Dairy Foreign Trade Ser.) 2, 16 pp., 1936.

The factors involved in a program pointing towards the exportation of dry skim milk from the United States through the payment of bounties to exporters are analyzed. Because of limited markets and import restrictions, expansion of exports through subsidies would be difficult.

Graf, Truman, Glynn McBride, and Robert Story. AN INVESTIGATION OF THE DAIRY PROBLEM AND ANALYSIS OF SELECTED PROGRAM ALTERNATIVES. Cornell Univ. Dept. of Agr. Econ. A.E. Ext. 267, 59 pp., Sept. 1963.

Lininger, F. F. DAIRY PRODUCTS UNDER THE AGRICULTURAL ADJUSTMENT ACT. Brookings Inst. Pam. Ser. 13, 99 pp., 1934.

The dairy situation, 1933, the marketing system for dairy products, the administration faces the dairy problem, fluid milk agreements in 1933, licenses and enforcement, national agreements, stabilization operations in the butter market, production control, and recent changes in policy. Appendixes include the Agricultural Adjustment Act, statistical tables, a summary of the AAA dairy plan, and agreements and correspondence pertaining to the Chicago milk strike.

Pierce, C.W. RELATIVELY LOW MILK PRICES CAUSE PRODUCTION TO DROP OFF. Pa. Agr. Expt. Sta. Bul. 446, Supp. 1, pp. 6-7, 1943.

Farm price adjustment versus subsidies as a benefit for milk producers is discussed. Charts show (1) what the prices per quart of 4 percent milk f.o.b. Philadelphia would have been had they increased as much as the prices of butterfat, hogs, beef cattle, all farm products, milk sold at condenseries and to cheese factories, farm labor, and dairy feed in Pennsylvania, other States, or the United States did from the 1921-39 averages, and (2) the prices that would have been received per quart for milk delivered to the doorsteps in Philadelphia, August 1943, if they had increased as much from the 1935-39 average as did the costs of all foods in Philadelphia, the earnings of Philadelphia factory workers, and of employees in 11 non-factory trades and industries in Pennsylvania.

Reed, O. M. and Leonard W. Parker. AN ANALYSIS OF THE POSSIBILITIES OF A PROGRAM OF PRICE DISCRIMINATION WITH RESPECT TO FLUID MILK. U.S. Dept. Agr., Agr. Adjust. Admin., unpub. rpt., 135 pp., Oct. 1938.

Spencer, Leland and C. Blanford. THE DISTRIBUTION OF MILK THROUGH HEALTH AND WELFARE DEPOTS IN NEW YORK CITY. Cornell Univ. Agr. Expt. Sta. A.E. 273, 17 pp., May 1939.

Coincident with a rise in the retail price of milk in New York, 53 city-supervised depots were opened for the sale of milk at 8 cents per quart to needy families. These depots at no time handled more than 3 percent of the total distribution, and the cheaper type of service can scarcely be said to have caused a significant increase in the city's total consumption of milk.

Sturgess, I. M. and K. L. Robinson. PROPOSED VOLUNTARY QUOTA PLANS FOR MILK. POSSIBLE PARTICIPATION AND ADJUSTMENTS BY NEW YORK DAIRYMEN. Cornell Univ. Agr. Expt. Sta. A.E. Res. 127, 21 pp., Sept. 1963.

Survey of 53 farmers in 2 counties for reactions to proposed voluntary quota plans. Analysis of farm budgets for effects on costs and returns of several different methods of limiting milk deliveries.

Sullivan, William G. THE RELIEF MILK DISTRIBUTION PROGRAM. U.S. Dept. Agr. Bur. Agr. Econ., 65 pp., Nov. 1942.

Surplus milk and the relief program; effects of relief milk program on consumption, prices, producer returns, margins; extending the program.

Tomek, W. G., and E. Feder. INSTITUTIONAL ASPECTS OF FEDERAL GOVERNMENT MARKETING OF DAIRY PRODUCTS. Nebr. Agr. Expt. Sta. Agr. Econ. Prog. Rpt. 12 200 pp., Dec. 1957.

The Government as a regular consumer (Armed Forces, Veterans Administration, U.S. Prisons, P.H.S. Hospitals); purchase and disposal through price support and surplus removal programs; special programs (Section 32, school lunch, special milk).

U.S. Department of Agriculture. A STUDY OF ALTERNATIVE METHODS FOR CONTROLLING FARM MILK PRODUCTION AND SUPPORTING PRICES TO FARMERS FOR MILK AND BUTTERFAT. 84th Cong., 1st Sess., H. Doc. 57, 102 pp., 1955.

Methods for controlling milk production; methods of supporting returns to farmers for milk and butterfat; measures to increase consumption of milk and dairy products.

U.S. Department of Agriculture. ANALYSIS OF QUOTA PLANS TO RESTRICT FARM MARKETINGS OF MILK AND CREAM. 12 pp., June 1960.

U.S. Department of Agriculture. PROBABLE EFFECTS ON PRICES AND CONSUMPTION OF QUOTA PLANS TO RESTRICT FARM MARKETINGS OF MILK AND CREAM. 25 pp., Jan. 1961.

Supplement to "Analysis of Quota Plans to Restrict Farm Marketings of Milk and Cream," June 1960. Trends in production and consumption; possible impact of quotas on national and regional trends; estimates of probable economic effects of quotas.

School Lunch, Special Milk Programs

Allred, Wells M. MILK CONSUMPTION IN UTAH SCHOOLS. Utah Agr. Expt. Sta. Cir. 137, 14 pp., 1957.

Student attitudes; conditions influencing milk consumption.

Anderson, Kenneth E. THE SPECIAL MILK PROGRAM IN ST. LOUIS, MISSOURI. A PRELIMINARY REPORT. U.S. Dept. Agr., Mktg. Serv. Ams-157, 12 pp., Dec. 1956.

Effects of special milk program on milk consumption in St. Louis elementary schools, 1954-56.

Anderson, Kenneth E. PARTICIPATION OF SCHOOLS AND PUPILS IN SCHOOL LUNCH PROGRAMS IN ELEMENTARY AND SECONDARY SCHOOLS OF THE UNITED STATES. U.S.

Dept. Agr. Mktg. Res. Rpt. 262, 48 pp., Aug. 1958.

Sample survey of 4,347 public elementary and secondary schools in March 1957 to determine the extent of school and pupil participation in feeding programs and factors associated with participation of pupils. Preliminary report in AMS-206, August 1957.

Anderson, K. E. THE SPECIAL MILK PROGRAM IN LOS ANGELES, CALIFORNIA. U.S. Dept. Agr. Mktg. Serv. AMS-179, 13 pp., Mar. 1957.

Los Angeles children increased their consumption of milk in schools more than 100 percent last year as a result of participation in the Special Milk Program. This preliminary report studying milk consumption in Los Angeles among school children shows a price reduction and an increase in size of containers for milk. Average daily milk consumption per pupil in schools serving milk more than doubled in the first year after the program began in September 1955.

Anderson, K. E. MILK CONSUMPTION IN THE NATION'S SCHOOLS. U.S. Dept. Agr. Mktg. Res. Rpt. 284, 29 pp., Nov. 1958.

Describes the extent of milk services in the public schools. Daily consumption of milk per pupil averaged 0.7 half-pint in schools participating in the Special Milk Program during the survey period, 40 percent more than the average of 0.5 half-pint in other schools serving milk. During the month of the survey, children in public elementary and secondary schools purchased 409 million half-pints of milk. Shows the consumption of milk in schools by type of lunch service, regions, population density, size of school in terms of enrollment, and by grade level.

Anderson, K. E. THE SPECIAL MILK PROGRAM. ITS EFFECT ON CONSUMPTION IN ST. LOUIS AND LOS ANGELES SCHOOLS. U.S. Dept. Agr. Mktg. Res. Rpt. 209, 45 pp., Jan. 1958.

Marked increases took place in the average daily milk consumption per pupil in St. Louis and Los Angeles public elementary and secondary schools serving milk after introduction of the Special Milk Program in 1955.

Anderson, K. E. and R. L. Hawes. MILK CONSUMPTION IN NONPROFIT SUMMER CAMPS. U.S. Dept. Agr. Mktg. Res. Rpt. 333, 22 pp., June 1959.

In a survey of 109 nonprofit summer camps in 3 northeastern States, it was found that the number of times milk was served each day, the milk purchasing practices followed by camp directors, the number and kinds of competing beverages available, and methods of serving have an appreciable effect on the level of milk consumption.

Anderson, K. E. and W. S. Hoofnagle. MILK CONSUMPTION BY CHILDREN AT SCHOOL AND AT HOME IN RELATION TO SPECIAL MILK PROGRAM. U.S. Dept. Agr. Mktg. Res. Rpt. 408, 19 pp., June 1960.

Children in grades 5 through 9, in schools participating in the Special Milk Program, consumed 7 percent more milk during a representative 24-hour period than children attending other schools. Almost 29 percent of children in program schools drank milk other than that normally served as part of the plate lunch; only 16 percent of the children in schools with milk services but not under the Special Milk Program drank extra milk.

- Cook, Hugh L. and Hugh L. Moore. WAYS TO INCREASE USE OF MILK IN WISCONSIN SCHOOLS. Wis. Agr. Expt. Sta. Agr. Econ. 16, 75 pp., Mar. 1956.
Milk programs in Wisconsin schools; reasons why consumption was unusually high or low, suggestions for ways to increase use of milk in schools. Also, use of milk by children in the home.
- Downen, M. L. MILK CONSUMPTION IN TENNESSEE SCHOOLS, MARCH 1954. Tenn. Agr. Expt. Sta. Monog. 271, Aug. 1955.
- Downen, M. L. CONSUMPTION OF MILK IN TENNESSEE SCHOOLS, MARCH 1955. Tenn. Agr. Expt. Sta. Rural Res. Ser. Monog. 274, 185 pp., Mar. 1956.
Statistical compilation by counties.
- Downen, M. L. CONSUMPTION OF MILK IN TENNESSEE SCHOOLS, MARCH 1956. Tenn. Agr. Expt. Sta. Rural Res. Ser., Monog. 275, 186 pp., Feb. 1957.
Statistics by counties.
- Downen, M. L. MILK CONSUMPTION IN TENNESSEE SCHOOLS, MARCH 1960. Tenn. Agr. Expt. Sta. Agr. Econ. Cir. 5, 124 pp., Sept. 1960.
Milk consumed per student per day, by school and county, 1959 and 1960.
- Freund, William H. and Robert B. Reese. MILK AND MILK PRODUCTS IN THE NATION'S SCHOOLS. U.S. Dept. Agr. Mktg. Res. Rpt. 716, 23 pp., June 1965.
Availability of milk in schools; consumption of milk and milk products in schools; factors affecting consumption; needy pupils; expanding milk consumption.
- Johnson, Stewart et al. ECONOMIC ANALYSIS OF THE U.S SPECIAL MILK PROGRAM WITH PARTICULAR REFERENCE TO CONNECTICUT. Storrs (Conn.) Agr. Expt. Sta. Bul. 356, 35 pp., Nov. 1960.
Review of school lunch and milk programs; measures of price elasticity; additional milk service; comparisons of schools with high and low consumption rates; special milk program in summer camps.
- Lundquist, Lynwood R., Stewart Johnson, and Russell E. Moffett. ECONOMIC ANALYSIS OF POSSIBLE CHANGES IN THE SPECIAL MILK PROGRAM. Storrs (Conn.) Agr. Expt. Sta., Bul. 370, 46 pp., May 1962.
Review of special milk program; extension to college students; change from low-cost to free milk.
- Magleby, Richard S. and William T. Butz. MILK CONSUMPTION AMONG PENNSYLVANIA SCHOOL CHILDREN. Pa. Dept. Agr., Pa. State Univ. coop., C.R.S. 16, 20 pp., Nov. 1961.
Study to determine whether school lunch and special milk programs increase milk consumption among elementary school children or merely shift it from home to school.
- Metzger, H. B. MILK CONSUMPTION IN MAINE SCHOOLS. PART I. PATTERNS OF MILK USE. Maine Agr. Expt. Sta. Misc. Rpt. 83, 16 pp., July 1959.
Analysis of 268 public and private schools during 1956-68.
- Metzger, H. B. MILK CONSUMPTION IN MAINE SCHOOLS. PART II. FACTORS AFFECTING MILK USE. Maine Agr. Expt. Sta. Misc. Rpt. 86, 28 pp., Nov. 1959.
Study of 100 schools--half with low consumption of milk and half with high consumption.
- Metzger, H. B. IMPROVING MILK CONSUMPTION IN MAINE SCHOOLS. Maine Agr. Expt. Sta. Bul. 994, Sept. 1960.
Study analyzes milk consumption data for 268 public and private schools to determine the impact of government and other milk programs in Maine schools during the 1955-56 to 1957-58 period.
- Moffett, Russell E., Lynwood Lunquist, and Stewart Johnson. THE SCHOOL MILK PROGRAM. EXPERIENCE, EFFECTS, AND POSSIBLE CHANGES. Storrs (Conn.) Agr. Expt. Sta. Bul. 368, Northeast. Region. Res. Pub., 34 pp., Nov. 1961.
Factors affecting rates of milk consumption per pupil; financial effects of program; effects of possible changes in program.

North Central Regional Dairy Marketing Committee. RECOMMENDATIONS FOR MORE EFFECTIVE SCHOOL MILK PROGRAMS. North Cent. Region. Pub. 74, Ohio Agr. Expt. Sta. Res. Bul. 777, 12 pp., July 1956.

Recommendations resulting from a series of studies of school milk programs in the North Central States and Kentucky.

Parry, S. P. MILK CONSUMPTION IN TENNESSEE PUBLIC ELEMENTARY AND SECONDARY SCHOOLS. Tenn. Agr. Expt. Sta. Agr. Econ. Cir. 6, 74 pp., Sept. 1961.

Average daily attendance and milk consumption.

Parry, S. P. and M. L. Downen. THE FEDERAL SCHOOL LUNCH AND SPECIAL MILK PROGRAM IN TENNESSEE WITH IMPLICATIONS FOR THE DAIRY INDUSTRY. Tenn. Agr. Expt. Sta. Bul. 326, 34 pp., May 1961.

Tennessee experience with school lunch and special milk programs; per capita consumption of milk in Tennessee schools; market potential for milk in schools.

Quackenbush, G. G. STUDENT PARTICIPATION AND USE OF MILK IN SCHOOL LUNCHES. Mich. Agr. Expt. Sta. Tech. Bul. 252, 36 pp., Sept. 1955.

Survey of 3,000 schools in Michigan, 1953-54; participation rates.

Williams, S. W. et al. INCREASING MILK CONSUMPTION IN SCHOOLS. Mich. Agr. Expt. Sta. Spec. Bul. 403, North Cent. Region. Pub. 60, 56 pp., Aug. 1955.

Survey of school milk programs in the 12 North Central States and Kentucky, and of more intensive studies in Illinois, Michigan, Ohio, and Wisconsin. Analysis of factors affecting consumption in schools serving milk.

