



**AgEcon** SEARCH  
RESEARCH IN AGRICULTURAL & APPLIED ECONOMICS

*The World's Largest Open Access Agricultural & Applied Economics Digital Library*

**This document is discoverable and free to researchers across the globe due to the work of AgEcon Search.**

**Help ensure our sustainability.**

Give to AgEcon Search

AgEcon Search  
<http://ageconsearch.umn.edu>  
[aesearch@umn.edu](mailto:aesearch@umn.edu)

*Papers downloaded from **AgEcon Search** may be used for non-commercial purposes and personal study only. No other use, including posting to another Internet site, is permitted without permission from the copyright owner (not AgEcon Search), or as allowed under the provisions of Fair Use, U.S. Copyright Act, Title 17 U.S.C.*

Selected Recent Research Publications in Agricultural Economics Issued by  
the U.S. Department of Agriculture and Cooperatively by the  
State Universities and Colleges<sup>1</sup>

BENNETT, ROBERT M. INTERSTATE HAULING OF CALIFORNIA-ARIZONA FRESH FRUITS AND VEGETABLES BY RAIL AND TRUCK. U.S. DEPT. AGR., MKTG. RES. RPT. 673, 36 pp., AUGUST 1964.

Data were gathered in interviews with 93 fresh-produce shippers. The extent to which rail and motor carriers are used for out-of-State shipments of fresh produce depends on their ability to provide transportation commensurate with the needs of fruit and vegetable handlers. Rates and service features both greatly influence a firm's choice of the mode of transport to be used.

BOGUMILL, JOHN P., AND O. HALBERT GOOLSBY. FINANCIAL PROCEDURES UNDER PUBLIC LAW 480, EMPHASIS ON TITLES I AND IV OF THE AGRICULTURAL TRADE DEVELOPMENT AND ASSISTANCE ACT. U.S. DEPT. AGR., FOREIGN AGR. ECON. RPT. 17, 20 pp., MAY 1964.

The report describes a P.L. 480 program completely, from its inception with a formal government request through the final distribution of currencies generated by sales of U.S. agricultural surpluses abroad. It is the first time that these procedures have been compiled under one cover and presented in a nontechnical manner.

GARLOCK, FRED L., AND PHILIP T. ALLEN. TECHNICAL APPRAISAL OF THE 1960 SAMPLE SURVEY ESTIMATES OF FARM DEBT. U.S. DEPT. AGR., ECON. RES. SERV., ERS-167, 28 pp., JUNE 1964.

In the late fall and winter of 1960-61 the Bureau of the Census made a survey of farm debt as part of its 1960 Sample Survey of Agriculture. This report is part of an appraisal that is being made as a basis for improving future debt survey techniques. It indicates that estimates of the farm debt based solely on the survey data result in understatements of the farm debt.

GAVETT, EARLE E. TRUCK CROP PRODUCTION PRACTICES, SAN JOAQUIN COUNTY, CALIFORNIA, LABOR, POWER, AND MATERIALS, BY OPERATION. U.S. DEPT. AGR., ECON. RES. SERV., ERS-166, 50 pp., JUNE 1964.

Eighth in a group of publications containing information on labor requirements, production practices, and costs involved in the production of truck crops for fresh market and processing.

GAVETT, EARLE E. TRUCK CROP PRODUCTION PRACTICES, MARION COUNTY, OREGON, LABOR, POWER, AND MATERIALS, BY OPERATION. U.S. DEPT. AGR., ECON. RES. SERV., ERS-169, 35 pp., JUNE 1964.

Ninth in a group of publications containing information on labor requirements, production practices, and costs involved in the production of truck crops for fresh market and processing.

GAVETT, EARLE E. TRUCK CROP PRODUCTION PRACTICES, YAKIMA COUNTY, WASHINGTON, LABOR, POWER, AND MATERIALS, BY OPERATION. U.S. DEPT. AGR., ECON. RES. SERV., ERS-172, 42 pp., JULY 1964.

Tenth in a group of publications containing information on labor requirements, production practices, and costs involved in the production of truck crops for fresh market and processing.

HATCH, ROY E., AND D. S. MOORE. PRODUCTION AND PRODUCTION REQUIREMENTS, COSTS AND EXPECTED RETURNS FOR COTTON, GRAINSORGHUM AND MAJOR FRESH MARKET VEGETABLE CROPS ON LOAM SOILS--LOWER RIO GRANDE VALLEY OF TEXAS. TEXAS AGR. EXPT. STA., MP 719, 55 pp., JUNE 1964. (ECON. RES. SERV. COOPERATING.)

Budgets are developed showing potential production levels, associated costs and expected returns per acre for cotton and grain sorghum with various levels of water application. Budgets for the major fresh market vegetable crops are developed for one level of water application only.

HAVAS, NICK. PILOT FOOD STAMP PROGRAM: IMPACT ON RETAIL FOOD STORE SALES IN AVOYELLES PARISH, LA. U.S. DEPT. AGR., AGR. ECON. RPT. 55, 7 pp., MAY 1964.

Sales in retail food stores in Avoyelles Parish rose 7 percent after introduction of a pilot food stamp program. The report describes findings of research to measure the effects of the program in a representative sample of 73 retail food stores. Dollar value of the food coupons redeemed at stores during the program period totaled nearly \$45,000, or 9 percent of sales value.

<sup>1</sup>State publications may be obtained from the issuing agencies the respective States.

HESTER, O. C., AND RICHARD L. BOGGS. MARKET POTENTIALS FOR MODIFIED EDIBLE FATS AND OILS. U.S. DEPT. AGR., MKTG. RES. RPT. 659, 30 pp., MAY 1964.

Improvements through research and development could increase use of modified animal fats and vegetable oils by 82 million pounds above normal growth in several specialty markets by 1967. The most promising use of these fats and oils is in protective coatings for various foods. Confectionery coatings are the next most important possibility.

HOLLON, DAN S. HOUSEHOLD CONSUMERS' ACCEPTANCE OF INSTANT SWEET POTATO FLAKES. U.S. DEPT. AGR., MKTG. RES. RPT. 663, 23 pp., JULY 1964.

Sweet potatoes processed in a new way--by cooking, dehydrating, and flaking them before canning--have a considerable commercial potential as instant sweet potatoes. Most homemakers who tried the new product said they would buy it if it were available locally. A panel of some 200 Virginia homemakers liked the convenience, taste, and other features of the canned flakes in a study conducted by USDA's Statistical Reporting Service.

JAMISON, JOHN A. THE CALIFORNIA FRESH DECIDUOUS FRUIT INDUSTRY: STRUCTURE, ORGANIZATION, AND PRACTICES. CALIF. AGR. EXPT. STA., UNIV. CALIF., GIANNINI FOUND. RES. RPT. 275, 161 pp., APRIL 1964. (ECON. RES. SERV. COOPERATING.)

Data on the type and amount of fruit handled, the physical plant operated, and the functions performed by California marketing firms provide a basis for evaluating the major elements of market structure, the level of marketing efficiency, and some implications for price and income determination.

JANSMA, J. DEAN, AND W. B. BACK, LOCAL SECONDARY EFFECTS OF WATERSHED PROJECTS: A CASE STUDY OF ROGER MILLS COUNTY, OKLAHOMA. U.S. DEPT. AGR., ECON. RES. SERV., ERS-178, 28 pp., MAY 1964. (OKLA. AGR. EXPT. STA. COOPERATING.)

Local economic benefits of watershed projects arise from (1) net primary income to the direct recipients of products and services from the projects, and (2) net secondary income through multiplier effects of the primary income. Local primary income has been estimated by the Soil Conservation Service in project planning. This study represents an initial step in research to devise methods for making reliable estimates of local secondary income.

JOHNSON, HUGH A. RURAL RESIDENTIAL RECREATION SUBDIVISIONS SERVING THE WASHINGTON D.C. AREA, 1963. U.S. DEPT. AGR., AGR. ECON. RPT. 59, 31 pp., AUGUST 1964.

Thirteen rural housing developments built for recreational uses were studied in northwestern Virginia and nearby West Virginia. Ownership of lots in these developments is usually a prerequisite to membership in private clubs organized to serve the owners and their invited guests. This study shows that there is a limited overall market for residential recreation subdivisions. The demand is created by urban people who generally want family-oriented recreation in a rural setting.

KRENZ, RONALD D. PLANNING PRODUCTION WITH VOLUNTARY DIVERSION PROGRAMS. N. DAK. AGR. EXPT. STA., BUL. 449, 16 pp., JULY 1964. (ECON. RES. SERV. COOPERATING.)

In the 1962 and 1963 crop years various crop diversion options were included in the Government farm programs for wheat and barley, and they may be included in future programs. This study showed that diversion programs in general will reduce production even with higher yields from fallow the second year.

McELROY, ROBERT C., REUBEN W. HECHT, AND EARLE E. GAVETT. LABOR USED TO PRODUCE FIELD CROPS: ESTIMATES BY STATES. U.S. DEPT. AGR., STATIS. BUL. 346, 43 pp., MAY 1964.

Man-hours of labor used per acre have declined for nearly all field crops. During the 1953-63 decade, the decrease in total labor for field crops was about 2.2 billion man-hours. Increasing mechanization and other technological factors accounted for most of the decline. In addition to averages for the United States, man-hours of labor used per acre of field crops in 1959 in each State are presented in the report.

McGRATH, EDWARD J. DISTRIBUTION PATTERNS OF RICE IN THE UNITED STATES. U.S. DEPT. AGR., ECON. RES. SERV., ERS-186, 27 pp., JULY 1964.

Data were collected by mail questionnaires from rice millers and repackagers for rice distributed during August 1960-July 1962, in comparison with a similar study 5 years earlier. The data showed an overall increase in domestic rice distribution of 26 percent or 3.3 million hundredweight during 1957-62.



MICHALSON, E. L. MACHINERY COSTS AND PERFORMANCE DATA FOR WHEAT-PEA FARMS IN THE PALOUSE ANNUAL CROPPING REGION. WASH. AGR. EXPT. STA. CIR. 437, 8 pp., JULY 1964. (ECON. RES. SERV. COOPERATING.)

The report is designed as a quick reference for farm planners, farmers, and researchers. Data include typical performance rates, speed, field efficiencies, man-hours per acre, and operating costs for new farm machinery. Types and sizes of farm machines are those commonly used or being purchased to replace older machinery in the Palouse wheat-pea farming region.

MOORE, ELMER J. RURAL RECREATION ENTERPRISES IN NEW ENGLAND: INVESTMENTS, RETURNS, AND PROBLEMS. U.S. DEPT. AGR., AGR. ECON. RPT. 56, 27 pp., MAY 1964.

A survey of 32 operators in New England showed that average total receipts ranged from \$322 for fish bait sales, boat rentals, and guide service to \$198,000 for summer camps. Average total costs were \$777 and \$173,000, respectively, for the two groups. Corresponding returns to management and family labor amounted to a loss of \$455 for the first group and a gain of \$25,000 for the latter group.

NEWTON, FRANKLIN E., E. W. S. CALKINS, AND ANSELM C. GRIFFIN. FIBER AND SPINNING PROPERTIES OF COTTON AS AFFECTED BY CERTAIN HARVESTING AND GINNING PRACTICES, YAZOO-MISSISSIPPI DELTA, 1959-60. U.S. DEPT. AGR., MKTG. RES. RPT. 656, 27 pp., JUNE 1964.

The study was made on 93 bales of Deltapine 15 cotton grown in the Delta area of Mississippi. All cotton was mechanically harvested except for six bales that were hand-picked. The test results show that the fiber and spinning quality of cotton properly harvested by mechanical pickers (spindle type) is equal to cotton harvested by hand.

REICHARDT, ALAN W., WILLIAM F. LAGRONE, AND LUTHER G. TWEETEN. RESOURCE REQUIREMENTS, COSTS AND EXPECTED RETURNS: ALTERNATIVE CROP AND LIVESTOCK ENTERPRISES: MAJOR BOTTOMLAND SOILS OF EAST CENTRAL AND SOUTH CENTRAL OKLAHOMA. OKLA. AGR. EXPT. STA., PROC. SER. P-476, 44 pp., MAY 1964. (ECON. RES. SERV. COOPERATING.)

This report presents enterprise budgets which can be used by farmers and other decision-makers to plan adjustments in crop and livestock enterprises. Data apply specifically to the bottomland soils of the Arkansas, Red, and Washita Rivers of east central and south central Oklahoma, but may be generalized to other bottomlands that have similar average yields and other coefficients.

ROSS, JOHN E., AND EDWARD H. SHANKLIN. SOME EFFECTS OF GIN DRYING AND CLEANING OF COTTON ON FIBER LENGTH DISTRIBUTION AND YARN QUALITY. U.S. DEPT. AGR., MKTG. RES. RPT. 666, 12 pp., JULY 1964.

Lint cleaning improves grade of cotton but bale values to producers are not necessarily increased if premiums for grade differentials are relatively narrow. Drying did not contribute to grade improvement. Either drying or lint cleaning results in weaker, lower-grade yarns. In addition, net clean cotton costs to mills are generally higher for cotton so handled.

RUSSELL, SARGENT. PRODUCER DELIVERY PATTERNS IN NEW ENGLAND MILK MARKETS. U.S. DEPT. AGR., MKTG. RES. RPT. 672, 111 pp., JULY 1964. (MAINE AND VERMONT AGR. EXPT. STATIONS COOPERATING.)

Describes annual and seasonal milk delivery patterns for 3,547 farms. Analysis of these data indicated that changes described by group averages did not describe the changes for most individual farms. From July 1, 1959, to June 30, 1962, about 25 percent of the farms reversed their direction of change in level of annual average daily delivery of milk and about 70 percent had two or more significantly different seasonal patterns.

SARGENT, ROBERT L., JACK R. DAVIDSON, AND LAWRENCE A. JONES. AVAILABILITY OF RURAL HOUSING CREDIT IN MONTANA. MONT. AGR. EXPT. STA., BUL. 586, 41 pp., JUNE 1964. (ECON. RES. SERV. COOPERATING.)

Residents of Montana's small towns and rural areas do not have as favorable housing credit as people in larger towns and cities. Local banks are the only lending institutions in many rural areas. Most of these banks have small resources. Because farm production and other business loans have higher priority, many banks make relatively few rural home loans.

SCHLEGEL, WOODROW A. SPANISH AGRICULTURE: ITS COMPETITIVE POSITION. U.S. DEPT. AGR., FOREIGN AGR. ECON. RPT. 18, 68 pp., JULY 1964.

Spain is a relatively poor country, both in natural resources and in economic development. It began to strengthen its position in the community of nations in 1951. Today this still highly agricultural country is a member of the OECD, IMF, IBRD, and GATT. Spain's international financial position has been improving since 1959. By the end of January 1964 its gold and foreign exchange reserves amounted to \$1,199 million.

SCHWARZWELLER, HARRY K. FAMILY TIES, MIGRATION, AND TRANSITIONAL ADJUSTMENT OF YOUNG MEN FROM EASTERN KENTUCKY. UNIV. KY. AGR. EXPT. STA., BUL. 691, 39 pp., MAY 1964. (ECON. RES. SERV. COOPERATING.)

This study focused on a population of young men reared in eastern Kentucky, a traditionally familistic, low-income rural area of the Southern Appalachian Region. Ten years after enrollment in the eighth grade, many of these youths had moved away from eastern Kentucky. Comparisons between the migrant and nonmigrant segments demonstrate that the social situation of the migrant is not very favorable for replacing family ties with neighborhood and community ties.

SHAPIRO, HARVEY. FARM PERSONAL PROPERTY TAXES, 1957-62. U.S. DEPT. AGR., ECON. RES. SERV., ERS-176, 21 pp., JUNE 1964.

Taxes levied on farm personal property in 1961 totaled \$270 million, or about 29 percent more than in 1957. Farm real estate taxes also increased 29 percent during the same period. Rising State and local revenue needs and the recent trend toward increasing investment per farm are responsible for the large growth in farm personal property taxes during 1957-61.

SMITH, THOMAS B. OPERATING PROCEDURES AND LABOR UTILIZATION IN COTTONSEED OIL MILLS, 1961-62 SEASON. U.S. DEPT. AGR., ECON. RES. SERV., ERS-179, 27 pp., JULY 1964.

A survey of 118 cottonseed oil mills showed wide variations in labor use per ton of seed crushed. The pattern of labor utilization was frequently quite different in mills with similar operating volumes. The pattern of labor use revealed by the survey may help mill operators to determine whether they are making efficient use of labor.

SPURLOCK, HUGHES H. TRENDS AND DEVELOPMENTS IN JAPAN'S ECONOMY AFFECTING THE MARKET FOR U.S. FARM PRODUCTS, 1950-62. U.S. DEPT. AGR., FOREIGN AGR. ECON. RPT. 16, 79 pp., MAY 1964.

Japan is one of the largest importers of farm products in the world. Some 30 percent of its imports are supplied by U.S. farmers with payment in dollars. Japan considers the United States the most dependable source of supply for agricultural imports and the best export customer for Japanese products. Other nations are attempting to get a larger share of the Japanese trade, thus increasing competition for the United States.

STRICKLER, PAUL E., AND BURTON J. HARRINGTON. LIQUID PETROLEUM FUEL USED BY FARMERS IN 1959--AND RELATED DATA. U.S. DEPT. AGR., STATIS. BUL. 344, 20 pp., MAY 1964.

The amount of liquid petroleum fuel purchased per farm in 1959 was larger than ever before, but the total quantity purchased declined, mainly because of the decrease in number of farms and incrop acreage. Farmers spent over \$1.5 billion for fuel and oil used in their business in 1959, or about 6 percent of total production expenses.

UMSTOTT, HAVEN D. PUBLIC LAW 480 AND OTHER ECONOMIC ASSISTANCE TO UNITED ARAB REPUBLIC (EGYPT). U.S. DEPT. AGR., ECON. RES. SERV., ERS-FOREIGN-83, 33 pp., JUNE 1964.

Surplus agricultural products have been sent to the United Arab Republic in substantial amounts since 1955. Public Law 480 represented about three-fourths of the total U.S. economic aid to the UAR from July 1945 through June 30, 1962. Under Title I of this law wheat and flour, feed grains, rice, tobacco, dairy products, fats and oils, poultry, and other agricultural commodities have been made available to the Egyptian Government for local currency. The UAR is the largest Title I signatory country in Africa and the third largest in the world.

VERMEER, JAMES, ERLING HOLE, AND BOYD CHUGG. COSTS OF FARM MACHINERY IN CROP PRODUCTION IN NORTHWESTERN OHIO, BY SIZE OF FARM. U.S. DEPT. AGR., ECON. RES. SERV., ERS-175, 23 pp., AUGUST 1964.

Total machinery costs per acre of use averaged about a third lower on large farms than on small farms, and a fifth lower than on medium-sized farms. This study by USDA sampled three sizes of farms--60 to 100 acres, 140 to 180 acres, and 260 to 380 acres--obtaining major part of income from sale of corn, soybeans, and small grains. Costs included expenses of tractors and implements and charges for driver labor for each of 182 farms.

WILLIAMS, DORWIN, LAWRENCE A. JONES, AND FRANK MILLER. FINANCING RURAL HOMES IN MISSOURI. MO. AGR. EXPT. STA., UNIV. MO., RES. BUL. 857, 47 pp., APRIL 1964. (ECON. RES. SERV. COOPERATING.)

In two survey areas of Missouri, the availability of credit was considered "moderate" or "ample" for qualified applicants who wanted to buy homes in the small towns and were satisfied with 50 to 60 percent loans to be repaid in about 5 years. Both insured and conventional credit was scarce for those who needed long-term, high-percentage loans or who wanted to buy a nonfarm home outside of town.



WUNDERLICH, GENE. LAND REFORM IN WESTERN INDIA: ANALYSIS OF ECONOMIC IMPACTS OF TENANCY LEGISLATION, 1948-63, U.S. DEPT. AGR., ECON. RES. SERV., ERS-FOREIGN-82, 46 pp., JUNE 1964.

Economic effects of the changes in tenancy legislation over 15 years in the former Bombay region are evaluated. The law and administration of land reform especially surrounding Tellers Day (April 1, 1957) are described. The effects on income distribution, investment capacities of landlords and tenants, capital formation in the community, and expectations and incentives are analyzed, along with advantages and disadvantages of slower or faster pacing of land reform.

U.S. DEPARTMENT OF AGRICULTURE. AUSTRIA: PROJECTED LEVEL OF SUPPLY, DEMAND, AND TRADE OF AGRICULTURAL PRODUCTS IN 1965 AND 1975. ECON. RES. SERV., ERS-FOREIGN-62, 322 pp., MAY 1964.

Submitted to the Department of Agriculture by the Austrian Institute for Economic Research, Vienna, this study analyzes past trends and projects Austria's agricultural production, consumption, and trade for 1965 and 1975. The study also includes a section on the methodology used to make the projections.

U.S. DEPARTMENT OF AGRICULTURE. FARM COSTS AND RETURNS BY TYPE, SIZE, AND LOCATION. AGR. INF. BUL. 230, 93 pp., REVISED JUNE 1964.

This annual report contains summary estimates of costs and returns for 1963 and earlier years on 40 important types of commercial farms in 23 major farming areas in the United States, together with a brief analysis of changes that have occurred in production, prices, income, and costs for each of these types of farms.

U.S. DEPARTMENT OF AGRICULTURE. CHANGES IN FARM PRODUCTION AND EFFICIENCY: A SUMMARY REPORT, 1964. STATIS. BUL. 233, 50 pp., REVISED JULY 1964.

This is an annual publication designed specifically to present major statistical series on farm production, production inputs, and efficiency. It provides in one place the latest information for each of the several series that have been developed to appraise such things as changes in production, changes in farm inputs and practices, improvement in labor productivity, and progress of farm mechanization.

U.S. DEPARTMENT OF AGRICULTURE. FOOD SUPPLIES AVAILABLE BY COUNTIES IN CASE OF A NATIONAL EMERGENCY. AGR. ECON. RPT. 57, 210 pp., JULY 1964. (U.S. OFFICE OF CIVIL DEFENSE COOPERATING.)

Tables in the report are designed to provide rough approximations of the probable food availability within counties and States in the event the areas are cut off for a period of time from outside food sources. No special assumptions are made regarding risk of damage to persons or communities.

U.S. DEPARTMENT OF AGRICULTURE. HOME-MAKERS' ESTIMATES OF HOW LONG FOOD ON HAND COULD BE MADE TO LAST: A CIVIL DEFENSE STUDY. STATIS. RPTG. SERV., MKTG. RES. RPT. 669, 57 pp., JULY 1964.

Based on the estimates of homemakers interviewed in June 1962, if an emergency should cut off outside food supplies, large numbers of American households would be unable to exist on food stocks on hand for more than a few days. Nearly a third of the homemakers who participated in the survey thought that they would run out of the food then in their homes in about a week or less. Another third reported that their food supplies might last from 1 to 2 weeks. The remaining respondents estimated that their supplies would last more than 2 weeks.

### Statistical Compilations

Crop Reporting Board, U.S. Statist. Rptg. Serv. AGRICULTURAL PRICES: 1963 ANNUAL SUMMARY. Pr 1-3 (64), 182 pp., June 1964.

Crop Reporting Board, U.S. Statist. Rptg. Serv. PRODUCTION OF MANUFACTURED DAIRY PRODUCTS, 1963. Da 2-1 (64), 63 pp., July 1964.

DeWolfe, Mildred R. HAY IN THE UNITED STATES: QUANTITIES GROWN IN A NORMAL YEAR, SURPLUS AND DEFICIT AREAS. U.S. Dept. Agr., Statist. Bul. 349, 98 pp., August 1964.

Ibach, D. B., J. R. Adams, and Esther I. Fox. COMMERCIAL FERTILIZER USED ON CROPS AND PASTURE IN THE UNITED STATES--1959 ESTIMATES. U.S. Dept. Agr., Statist. Bul. 348, 200 pp., July 1964.

U.S. Department of Agriculture. SUPPLEMENT FOR 1963 TO LIVESTOCK AND MEAT STATISTICS 1962. Agr. Mktg. Serv., Statist. Rptg. Serv., Econ. Res. Serv., Statist. Bul. 333 Suppl., 161 pp., August 1964.

U.S. Department of Agriculture. SUPPLEMENT TO STATISTICS ON THE EUROPEAN ECONOMIC COMMUNITY: VOLUME 1, AGRICULTURAL TRADE AND FINANCE (ERS-Foreign-43). Econ. Res. Serv., 77 pp., May 1964.

## THE WORLD FOOD BUDGET, 1970

Every 5 years a study of the world food budget is conducted by the Foreign Regional Analysis Division, Economic Research Service. A report on the most recent study will shortly be available from USDA. Here are some highlights from the new study:

Although two-thirds of the world's people live in countries that are now diet-deficient, calorie levels for this group of people are expected to rise 8 percent by 1970. Consumption of proteins in the diet-deficit areas will rise 10 percent, and consumption of fats will be 16 percent higher.

Most of the deficit in food is accounted for by countries in the Far East and nearly two-thirds by communist Asia. The diet-deficit area of the world includes all of Asia except Japan and Israel, all but the southern tip of Africa, the northern part of South America, and almost all of Central America and the Caribbean.

The total cost of filling the world food deficit in 1970 would be \$6.8 billion. It would take 54 million metric tons of grain to satisfy the calorie deficit, and 6.5 million tons of nonfat dry milk and 3.2 million tons of soygrits to fulfill the protein deficits.

The most troublesome factors behind the deficits are denseness of population, low per capita incomes, and a population gain largely offsetting rises in income.

Production of food in the deficit area is lagging. Diet-deficit countries cannot produce enough food for themselves, nor enough other goods to trade for the food they need. Although in 35 years the net grain trade position of these nations reversed from 2.8 million metric tons exported to an expected 27 million tons imported, their food imports are still too meager.

In the diet-adequate area, however, a vast store of knowledge about food production has been accumulated. This knowledge can be adapted to the specific conditions and needs of the developing countries.

With expanding population, economic development, and improved diets worldwide over the 1960's, U. S. food exports are expected to increase 60 percent to \$4.8 billion by 1970 (and total agricultural exports to \$6.8 billion). More and more of the exports will go to the deficit countries, playing an important role in upgrading the diets of their populations.

## **AGRICULTURAL ECONOMICS RESEARCH**

Is published quarterly by the Economic Research Service, U.S. Department of Agriculture. Use of funds for printing this publication approved by the Director of the Bureau of the Budget (July 31, 1964).

For sale by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C., 20402. 20 cents a single copy, 75 cents a year, domestic, \$1 foreign.



U.S. DEPARTMENT OF AGRICULTURE  
Economic Research Service  
Washington, D.C. 20250

- - -

Official Business

Postage and Fees Paid  
U.S. Department of Agriculture