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EGG PRICING FOR THE BOSTON EGG MARKET STRUCTURE

By

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The Farmer Cooperative Service conducts research studies and service activities of assistance to farmers in connection with cooperatives engaged in marketing farm products, purchasing farm supplies, and supplying business services. The work of the Service relates to problems of management, organization, policies, financing, merchandising, quality, costs, efficiency, and membership.

The Service publishes the results of such studies; confers and advises with officials of farmers' cooperatives; and works with educational agencies, cooperatives, and others in the dissemination of information relating to cooperative principles and practices.

C O N T E N T S

EGG PRICING FOR THE BOSTON EGG MARKET STRUCTURE

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This publication considers ways cooperatives can improve operations in the Boston market.

The Boston egg market serves as a basing point for pricing brown eggs and some white eggs in New England. Basing point refers to a system whereby farmers, cooperatives, and other egg handlers select a price quotation from a particular point on the map and then manage, administer, and execute prices in relation to that point and to their competition.

The use of a base price to arrive at egg values transfers the egg producers price determining responsibility to a third person. Egg marketing and production risk usually goes with egg ownership. Therefore, market price risk can be effectively trasnferred to egg producers by using fixed price differentials above and below the egg prices quoted in the Boston Herald.

Egg price differentials are set according to differences in grade, weight, color, services, and cost. And egg price differentials are changed occasionally according to competition and the varying needs of egg producers' contracts, cooperative contracts, or contracts between producers, retail stores, and others.

The job of managing egg prices effectively in relation to competition can be accomplished by farmer cooperatives only if egg producers give the management authority to assume pricing responsibility.

The Boston egg market structure, egg prices, and feed prices have an impact on the quantity of feed manufactured and sold in Massachusetts and in other areas. Feed prices influence egg prices because feed is the largest expense item in production cost. Therefore, prices of feed and of eggs are inter-related through the Boston egg market structure and the way producers and others formulate prices.

Part of the success of egg production activity depends on the ability of farmer cooperatives and feed patrons to increase the number of grade A eggs produced with a ton of feed and their ability to manage egg prices competitively.

PRICES USEFUL IN POLICY DECISIONS

Cooperatives considering coordination, consolidation, and merger need to give careful study to market price structures because prices are indicative of market forces and competition. Performance standards for farmer cooperatives can be projected in relation to central egg markets and competing regions.

Knowledge of price trends is necessary if a cooperative is to select the best egg production and marketing objectives. Likewise, knowledge of egg prices at different levels in the market structure helps cooperative feed patrons decide whether to retail eggs at the farm, deliver to local stores, sell to their cooperative egg department, or specialize in egg production.

Effect of Feed and Egg Mobility on Boston Egg Prices

Feed suppliers and egg producers near consumer markets once enjoyed a distinct location advantage. Today, consumer egg grading and cartoning at places of production, changes in rail and trucking rates, improvements in transportation equipment and highways, and shifts in production areas have all helped greatly to reduce advantages of nearby location.

Major retailers in Massachusetts now reach out to Maine and to the Southeast for volume egg agreements and contracts, thus exposing egg producers near Boston to a wide area of interregional competition. Through contract egg production, better marketing services, and coordination of production with retailing activities, consumer graded and cartoned brown eggs can be delivered from farms more than 1,000 miles from Boston in less than 24 hours.

Egg cartons with Massachusetts private brands can be packed in many States to-day, with eggs that range from 75 to 95 percent Grade A, for tomorrow's shoppers or farmers around Boston.

Distant egg production competition is effective in reducing egg prices quoted in the Boston Herald even though those price quotations are obtained in areas near Boston.

A decree was issued by the U. S. District Court in 1948 as the result of an antitrust charge brought against the Boston Fruit and Produce Exchange charging them with collusion in fixing prices. It sets the rules under which the Boston Herald egg reporter is required to operate. One of the rules sets a geographical restriction around Boston for gathering price reporting data. However, the demand by egg producers for a wider-price sampling for quotation purposes has at least expressed the desire for expanding the size of the area from which prices are collected for brown egg quotations.

The 1948 decree also specifies that no egg handler may use the Boston Herald quotation in his business operations. Most egg producers in New England therefore set or negotiate egg prices above and below the quoted prices in the Boston Herald. Farm shippers and egg producers from Maine to Mississippi follow the same procedure.

Most shippers outside New England who ship eggs to the Northeast, use New York as a basing point for egg prices.

Price Bases for Boston Brown and New York White Eggs

The basic price for brown eggs in Boston is slipping faster and further than the basic price of white eggs in New York. From 1955 through 1964, the base price for brown eggs in Boston declined 13.6 cents; the New York base for white eggs declined 11.6 cents a dozen.

There is a little difference between the New York and Boston price series for individual years (appendix table 1.). Since 1960, New York has been higher than Boston each year, but from 1955 to 1961, Boston exceeded New York from 1 to 2 cents per dozen three times.

A 65 percent minimum A grade with a minimum 10 percent AA is one of the most frequently chosen New York base quotations. Yet, farmers are improving quality practices enough to achieve yields in excess of 90 percent Grade A.

Annual prices received by Massachusetts farmers averaged from 7.2 to 10.2 cents a dozen over the Boston and New York bases from 1956 through 1964. For the 8 year period the premium for large eggs averaged about 8.9 cents over the Boston and New York base quotations.

BASE PRICE INFLUENCE ON FARM EGG PRICES

As long as farmer cooperatives operate with fixed premiums above and fixed discounts below the Boston Herald quotations for eggs, their prices move directly with that base price. Nearby egg producers assume a passive role in pricing, as long as they follow the base method of pricing with fixed differentials. Farm egg prices are depressed in Massachusetts and New Hampshire when Boston Herald quotations are depressed. Likewise, they move up together as long as discounts and premiums are unchanged.

The Boston base price declined 7 cents a dozen from 1957 through 1964. Appendix table 2 shows that prices received by Massachusetts farmers declined 6.9 cents a dozen during that period. The New York base price declined 6.7 cents a dozen.

Low Points for Base Prices for Brown Eggs

The base price for brown eggs in Boston has declined despite a sharp reduction in egg production in New Hampshire and Massachusetts for more than 10 years.

The trend continued down in 1965. Up to this time, egg price bases declined about as fast and as far as production costs were reduced in the areas shipping to the market in which the base is quoted.

As long as price competition is effective, the base price can go as low as production costs and surplus hatching eggs that have been diverted to food egg channels force it to go.

Effect of Dumping Egg Supplies

Demand for brown eggs in the Boston market area provides an excellent price floor for hatching eggs from broiler supply flocks. This is true of broiler hatching eggs delivered to farm families, retailers, or to any other point in the market structure.

Sometimes it is impractical to cut back the number of hens in hatchery supply flocks for broilers as fast as seasonal demand for broiler hatching eggs declines. In some areas the demand for broiler hatching eggs declines from 20 to 33 percent between March and November. Therefore, brown egg prices are frequently depressed more than white eggs from April 1 to October 31.

Since the broiler hatching flock normally reaches more than 20 million layers in March each year, a slow cutback in flock size can provide a cumulative diversion of brown eggs for food markets. This means that for 3 or 4 months 3 million layers or more can be added to the food egg flock. Moreover, this is more than the total number of layers in Massachusetts.

Farm families can remove the roosters and sell infertile eggs that grade above 80 percent grade A at Northeastern destinations. These eggs can be cartoned in several regions and States in private labeled cartons from the Northeast. Furthermore, it is normal and rational to ship these eggs to the Northeast because the Boston market area is the best and highest price market for brown eggs.

The impact of broiler hatching eggs on the Boston Herald quotation has not been fully measured. Studies up to this time include weekly and monthly time periods for correlation analysis. This does not fully reveal the impact for seasonal and cyclical price influences. Cycles in hatching egg production for broilers in the last 10 years range from 2 to 2½ years when measured from one peak to the next peak in production.

From 1958 through 1959, egg production in New England declined 191,000 cases or about 2 percent while the brown egg price base in Boston declined 9.4 cents a dozen or 20 percent. The New York base price for white eggs declined only 7.3 cents.

In addition, broiler hatching egg prices declined from 80 cents a dozen in June 1958 to 42 cents in April 1959 in North Carolina.

Appendix table 1 indicates New England cooperatives and farmers would have found the New York base price for white eggs 1 cent a dozen higher than the Boston base for brown eggs in 1959.

These differences in egg prices are exceedingly important to poultry feed cooperatives. One cent per dozen of eggs is equivalent to $4.50 per ton of feed for the patron obtaining 450 dozen eggs from each ton. If patrons get 500 dozen eggs for each ton of feed, each 1 cent change in the price of eggs is equivalent to $5 a ton of feed.

Thus, small differences in egg prices amount to big differences in feed prices. Small competitive advantages and disadvantages determine where and when egg income goes up or down over various time periods. And egg income can direct feed sales in the long run.

EGGS FROM MANY STATES TO BOSTON

The price premiums at all levels of the Boston egg market structure from farms to retail display cases attract many eggs from many States. These price premiums are large enough at the farm and other points in the market structure to attract eggs from other States. Egg price premiums are offered by farmers who buy and sell eggs, jobbers, retailers, consumers and wholesalers.

Boston's shell egg supply came from country shippers in 10 States during June 1960 in percentages shown in the accompanying tabulation. 1/

1/ Pederson, J. R. and Mitchell, W. E. Shell Egg Market Structure in Five Eastern Metropolitan Areas, Econ. Res. Serv., U. S. Dept. of Agri. June 1963

State of origin	Percent of total receipts	State of origin	Percent of total receipts
Maine	40.3	New York	4.8
Connecticut	19.3	Iowa	4.6
Massachusetts	10.9	Vermont	4.2
Illinois	8.1	Minnesota	1.2
New Hampshire	5.6	Rhode Island	1.0
		Total	100.0

Origin of receipts data were available on 90,726 cases, or about 99 percent of the eggs received from country shippers. In June 1960, 38 firms reported receiving 76,378 cases of eggs directly from producers, and 9 firms distributed 2,594 cases of eggs from their own production. Other eggs were moved from local wholesalers to other firms in the Boston egg market.

Trucks usually carry 600 to 700 or more 30-dozen cases from the most distant sources. The eggs usually move to warehouses of food chains or wholesale distributors. However, it is unnecessary for big egg trucks to bypass Massachusetts farms and roadside stands if Massachusetts farm families can make a higher income marketing these eggs than they can producing their own.

Since it is impossible to maintain a continuously perfect supply balance between egg production and consumption, all reliable contract suppliers of eggs need a source of irregular egg supplies. Some of the best sources are surpluses of broiler hatching eggs or other egg supplies with an uncommitted destination. These are the eggs that are often reshipped from one State to another, between dealers or between farm families.

Bargaining for such mobile or free egg supplies is often done by telephone in strict confidence. These eggs are transferred on thin margins and they may reflect real supply and demand imbalances better than eggs traded on fixed price differentials pegged to quotations.

Highest Price Spreads in Northeast

To be effective in market price competition, egg production and cooperative services require precise coordination. Also effectiveness of cooperative and patron services depends on the difference between combined egg and service cost and market prices at different points in the market structure.

High Retail Price Level

Price spreads are measured differences between two points in the market structure. Appendix table 3 shows four points from which spreads are

measured, retail, retail receiver, city receiver and farm. In Boston the retail price for large eggs moved downward from 67.8 cents a dozen in 1958 to 59.4 cents in 1964. Corresponding prices in New York declined 9.2 cents a dozen compared with the 8.4 cents in Boston.

Competition is effective enough to move retail prices down in Boston and New York. However, the yearly average retail price for Boston fluctuated from 0.5 to 1.1 cents above New York from 1961 through 1964. This is enough to keep some egg truck wheels rolling to Boston instead of New York.

Boston has the highest retail price level in the Northeast. Therefore, Boston is an extremely attractive egg market for a large and growing part of the United States. The distance between Boston and egg surplus areas is one reason eggs produced in Massachusetts have a price premium at all levels of the market structure.

Egg price premiums begin at the farm if cooperative competition is effective for producers and consumers. The egg price received by Massachusetts farmers averaged 8.9 cents a dozen over the New York and Boston base prices for 8 years, 1957 through 1964.

High price premiums received by egg producers within 100 miles of Boston are helping extend the regional areas from which eggs are shipped. Costs in egg production and marketing services have declined faster and further outside a 100 mile radius of Boston than inside this area.

To Retailer

The second point from which egg marketing spreads are measured in appendix table 3, is the price the retailer pays for eggs. These prices are designated "to retailer."

Prices paid by retailers for large eggs in Boston declined from 56.8 cents a dozen in 1958 to 46.8 in 1964. In New York the decline was 10.9 cents a dozen compared to 10 cents a dozen in Boston.

Retail store spread refers to the difference between prices consumers pay and the price retailers pay for eggs. The retail store spread increased 1.6 cents a dozen in Boston, 1.7 cents in New York and 0.4 cents in Atlanta from 1958 through 1964 (appendix table 4).

While the differences are small, the change in the spread in Boston is four times the change in Atlanta. Therefore, the money incentive for egg retail services started higher and grew faster in Boston than in Atlanta.

Appendix table 4 shows that retail store spreads were 12.6 cents a dozen in Boston and 10.7 cents in Atlanta in 1964 or 1.9 cents more attractive in Boston than Atlanta. This is more than enough to pay egg hauling cost from Atlanta to Boston if the trucking company can get a little payload for the Southern backhaul.

In addition, the high retail spread in Boston is rewarding to egg producers who retail eggs at the farm, on house-to house routes, in vending machines, or in farmers' roadside stands and retail stores. Egg marketing cooperatives must work harder to continuously improve their services at the retail and consumer structure levels.

Farm to Retailer Price Spread

Producers' incomes can be increased by reducing their own egg marketing costs if they retain the benefits of lower marketing cost for themselves. This can be accomplished best by reducing marketing cost below those of competitors without changing the selling prices.

Column 1 in appendix table 5 indicates there has been little progress in reducing the farm to retailer price spread for large eggs around Boston since 1957. From 1957 through 1964 it was reduced 5.6 cents a dozen in Atlanta and 5.8 cents in New York.

Farm to retail spread measures the difference between the price the consumer pays and the price the farmer receives. It represents the total package of eggs and services from the farm to consumer. Since it includes the entire set of activities and functions of egg marketing cooperatives, it represents a big area for action and opportunity. It provides a wide field for better egg price management through cooperatives. Egg price differentials need more refinement and expert administration. This is one of the most promising areas for cooperative coordination in egg marketing.

The Boston farm value for eggs (appendix table 3) includes farm prices in major supply areas shipping eggs to Boston, since a majority of Massachuetts' egg supply comes from other States. Farm value for the 3 years 1962-64 averaged 11.3 cents a dozen below the average price received by farmers in Massachusetts for the same 3 years. It is the difference between the first and seventh column in appendix table 3 for Boston in 1964 that makes a farm to retail price spread of 23.2 cents a dozen in appendix table 4.

The average farm to retail price spread has fluctuated between 23.2 and 25.6 cents a dozen in Boston, between 26.1 and 30.6 cents in New York and between 20.5 and 21.3 cents in Atlanta since 1961 (appendix table 4). These average spreads increased 2.2 cents a dozen in Boston, declined 2.9 cents in New York and declined 2.8 cents in Atlanta from the 1956-58 average through 1964. Changes in the total price spreads since 1958 are high enough to more than pay egg trucking cost from Atlanta to Boston.

Therefore, Boston's price spreads for eggs are sufficiently wide at all levels of the market structure to make Boston an extremely attractive market for many supply areas. The premium for farm eggs in Massachusetts is high enough to pay transportation cost from most States east of the Missouri and Mississippi rivers to Massachusetts. The difference in egg production cost in Massachusetts and some other areas can make egg marketing more attractive than farm egg production for many farmers. Therefore, it would be necessary to reduce egg production cost in areas near Boston to compete more favorably with areas beyond a 100 mile radius of Boston.

Shifting Interregional Competition

Laying hens in the United States have declined 100 million since 1944. Yet egg supplies continue to increase because the decline in hen numbers is more than offset by an increase in laying rate.

Interregional competition grows more intense as farmers in different regions seek advantages and maneuver to avoid economic disadvantages. Thus, increasing specialization, mechanization, and the rate with which farms adopt technological improvements explain some of the shifting regional egg selling power. Alternative employment opportunities, farm family cooperation on an integrated basis with hatcheries, feed mills, and egg processing plants, and vigorous educational programs all intensify competitive advantages and disadvantages between regions.

Some regions have shifted more rapidly than others from small laying flocks to large commercial flocks, thus accelerating the production and management proficiency of their egg pricing program. Also, since 1944 poultry farmers in some regions shifted at a faster rate from diversified farming to a single egg enterprise automated from the feed mill to the farm feed hopper.

Some Midwest farmers prefer full-time employment in livestock and grain production. Some farmers may work 12 hours a day all year to produce eggs because this is their best employment opportunity. But the most effective egg price bargaining power comes from the cooperation of many families with big flocks less than 20 miles from the bulk feed mill.

The interregional battle for feed sales and income is being partly determined by reduced prices for eggs and other food products through which feed is sold. Feed firms that win retail outlet loyalty for protein food products also win the feed sales. This is one reason an increasing number of national and regional feed firms are acquiring or adding food sales divisions to their production supplies and services. Committed food sales are helping to expand cooperative feed sales under a single management and cooperative service center.

It was possible in times past to sell feed and hope the farmer would take all marketing responsibility and risk for the eggs produced. Now farmers produce for a particular market or markets according to egg sales agreements. Some farmers who buy supplies, produce eggs, and then look

for a market are losing out to unified cooperative producers who produce for a specific market according to contract specifications. Egg income security is going to those who can schedule production and services to fit demand best.

Smooth teamwork between a large number of large laying units, a double labor shift for bulk trucks, the feed mill, and egg processing plants all contribute to successful regional competition. Cooperative competition can be coordinated to transfer egg and feed income from one region or State to another.

Production Declining in Northeast; Increasing in Southeast

Recent egg production shifts from the North to the South and West have left the North Atlantic region as the only major egg deficit area in the United States. 2/ This does not mean that total egg supply is short of needs in the United States. Supplies are merely deficit or surplus between regions and States.

Egg output expanded 42 percent in the South Atlantic States and declined 13 percent in the North Atlantic States from 1957-1959 to 1963.

As egg production declines in the Northeast, the growing population obtains more of its requirements from Southern and Central States. By 1964 it was necessary for egg buyers in the New England area to go as far west as Indiana, and as far south as North Carolina to reach an egg surplus State.

Southern egg buyers switched from Midwest to nearby eggs as farm families in North Carolina and other Southern States changed from producing a small quantity of high price eggs for local needs to a low cost egg production program for out-of-State markets.

With the help of feedmen, Georgia's egg production shot up 400 percent from 1950 to 1964 while Massachusetts' production declined 40 percent. Since 1955, five Southern States have changed from egg deficit to surplus status.

2/ 1965 Outlook Issue, Poultry and Egg Situation. Econ. Res. Serv., U. S. Dept. Agr. PES 234, Nov. 1964, p.5.

Surplus and Deficit States in New England

Vermont, New Hampshire, and Maine have hen surpluses measured in terms of State requirements for eggs. The hen surpluses will continue to grow as long as farmers can produce eggs profitably.

But if total Massachusetts egg consumption were supplied by Massachusetts egg producers, that State would need more than 4 million more laying hens. Should such an increase occur, other New England States would have to reduce their hen surpluses or change to other markets. However, feed sales in surplus egg States could be transferred to deficit egg States, leaving total feed sales for the entire area unchanged.

Feed sales will diminish or grow in Massachusetts about in proportion to offsetting increases or declines in other areas competing for Massachusetts egg markets. This will be the situation as long as eggs from other States and regions compete effectively in Massachusetts.

Even though the total laying flock in the United States achieves stability or remains close to 300 million hens, vigorous shifts can be planned, organized, and administered between States. Therefore, the egg feed potential in Massachusetts and New Hampshire will depend on the ability of farmers in those States to compete with expanding hen numbers in Maine and the South, and with the declining egg and hen surplus in the North Central States.

Appendix table 6 estimates surplus and deficit hen numbers by States for New England. The regional balance between human population and hen numbers is significant because it indicates whether an area is self-sufficient in egg production and marketing programs.

Hen numbers reflect more than potential laying mash sales. Surplus egg and hen numbers dictate an out-of-State egg market program. Deficit egg and hen numbers exhibit an egg production program defensively competing with eggs from sources outside the area.

THE BOSTON MARKET

Strong cooperatives with an adequate volume of superior eggs and superior services can serve the big and growing Boston market. Families in suburban areas offer the fastest growing market for eggs in the area.

Size of Consumer Market

The Commonwealth of Massachusetts has more than 1 million families with over 5 million consumers. About 700,000 people are in the Boston metropolitan area. At a per capita consumption rate of 314 eggs, these 700,000 people would consume 610,555 cases of eggs a year. This would require

about 990,000 hens laying 222 eggs each.

Many Boston families live in suburban villages and towns. To serve these consumers, cooperatives and farmers must consider differences in egg needs and services in each community, shopping center, and retail store. Some shoppers want brown eggs; some want white. Some retail supermarkets are going to get both colors in supplier contracts -- cartoned, sealed, and delivered to the retail door; delivered to the distributing warehouse; or placed in retail display cases.

Channels Through Which Eggs Move to Consumers

In 1960, Boston consumers bought most of their eggs from three types of firms: Retail food chains, independent food stores, and wholesale distributors. Corporate, voluntary, and cooperative food chains handled 60 percent; independent food stores, 15 percent; and other distributors, the other 25 percent. Other distributors' volume includes milk distribution companies, hospitals, schools, hotels, restaurants, cafeterias, retail stands, and house-to-house routes. 3/

Small volume buyers and small consumer purchasers are outlets for small scale producers and small volume distributors. Small volume handlers and retail stands operated by farm families need big margins and high prices to justify the time required and other costs of selling eggs. Therefore, sales at high retail prices are a primary goal of small volume producers who market their own eggs.

Wholesale distributors receive eggs from their own production, other farm producers, producer shippers, and assembler shippers. A few years ago most egg wholesalers graded, candled, repacked, and cartoned eggs in their own facilities. Now all these services, plus washing and cleaning, can be performed on family farms or in cooperative egg packing and shipping facilities. Therefore, many farmers and farmer cooperatives are wholesalers now.

Of 66 wholesale distributors surveyed in Boston in June 1960, 11 firms handled 72 percent of all the eggs marketed. 4/ Each of these 11 handled 2,000 or more cases a month. The three largest handled 42 percent of the wholesale distributor volume and distributed more than 9,000 cases a month.

3/ Pederson, J. R., and Mitchell, W. E. Shell Egg Market Structure in Five Eastern Metropolitan Areas, U. S. Dept. Agr. ERS-118.June 1963.

4/ Pederson, J. R., and Mitchell, W. E. Shell Egg Market Structure in Five Eastern Metropolitan Areas, Econ. Res. Ser., U. S. Dept. Agr. ERS-118. June 1963

Of these 66 wholesale distributors, 43 handled fewer than 800 cases a month and their combined volume was about 11 percent of wholesale distributors' total receipts.

One independent farm family with 13,000 hens could supply a wholesaler handling 800 cases per month. This means that almost two-thirds of the egg wholesalers in 1960 could have been served from 43 family farms with 13,000 hens each. In other words, a majority of distributors could be served directly from farm families that provide an egg marketing service.

It also follows that this method of production and distribution would have access to 11 percent of the Boston wholesale volume. Therefore, individual egg production and farm marketing programs can be extremely competitive in egg pricing.

Egg price bargaining and contract negotiations could be improved if farm sales were unified or consolidated under cooperative egg departments that coordinated egg supplies, services, and price administration efficiency together.

Changing Marketing Channels and Structure

Figure 1 shows Boston egg marketing channels in June 1960. All the numbers in this figure represent 30-dozen cases of eggs and correspond to data referred to in the June survey.

When the U. S. Department of Agriculture structural study of the Boston egg market was in process, functions in the egg marketing channel were declining and shifting. The predominant marketing channel in metropolitan areas, including Boston, during 1958 to 1961 was from producers to country assembler shippers, wholesale and producer distributors, food chain stores, and independent retailers. This is a shorter marketing channel than existed in earlier years.5/

The marketing channel has now been further shortened. Chain store buyers and retailers are relying more on direct egg shipments from assembler shippers, producer shippers, and farmer cooperatives from Maine to Mississippi to Minnesota. Boston retail buyers now permit large-volume egg farms and producer-shippers to pack eggs in privately branded cartons. Massachusetts farmer cooperatives can furnish more eggs and services as egg supplies increase.

5/ Pederson, J. R., and Faber, F. L. Major Marketing Channels for Shell Eggs in 18 Metropolitan Areas, Econ. Res. Serv., U. S. Dept. Agr., ERS-219. Feb. 1965.

Since packing eggs in privately branded cartons in producing areas eliminates washing, grading, cartoning, and repacking at destination, many of the terminal market wholesaler functions were bypassed. In fact, wholesale distributors are being bypassed. Only a few large volume wholesalers remain and they are moving to rural or suburban areas around Boston.

The most controversial function-pricing at wholesale could move with the channel changes. Part of the pricing function could move to the rural areas and cooperatives if producers assume this responsibility.

Decentralization of Consumer Grading and Cartoning

As Boston egg buyers are forced to reach beyond Indiana and North Carolina, increasing quantities are consumer-priced, consumer-graded, and consumer-cartoned. This transfers employment and income to the areas furnishing the eggs and services.

It is possible for all eggs for the family shopper trade to be sold in consumer grades in cartons while those for the hotels, restaurants, schools, and hospitals go uncartoned in 15- and 30-dozen cases and 30-pound cans. Multiple services for those who eat at home and away from home can be performed efficiently by farmer cooperatives.

Producer distributors with automated food lines are offering a variety in quality, size, color and quantity. And they can put all these in the food store's egg cartons according to agreement specifications. Furthermore, labor can be hired at most country points more cheaply than in city rehaldling rooms.

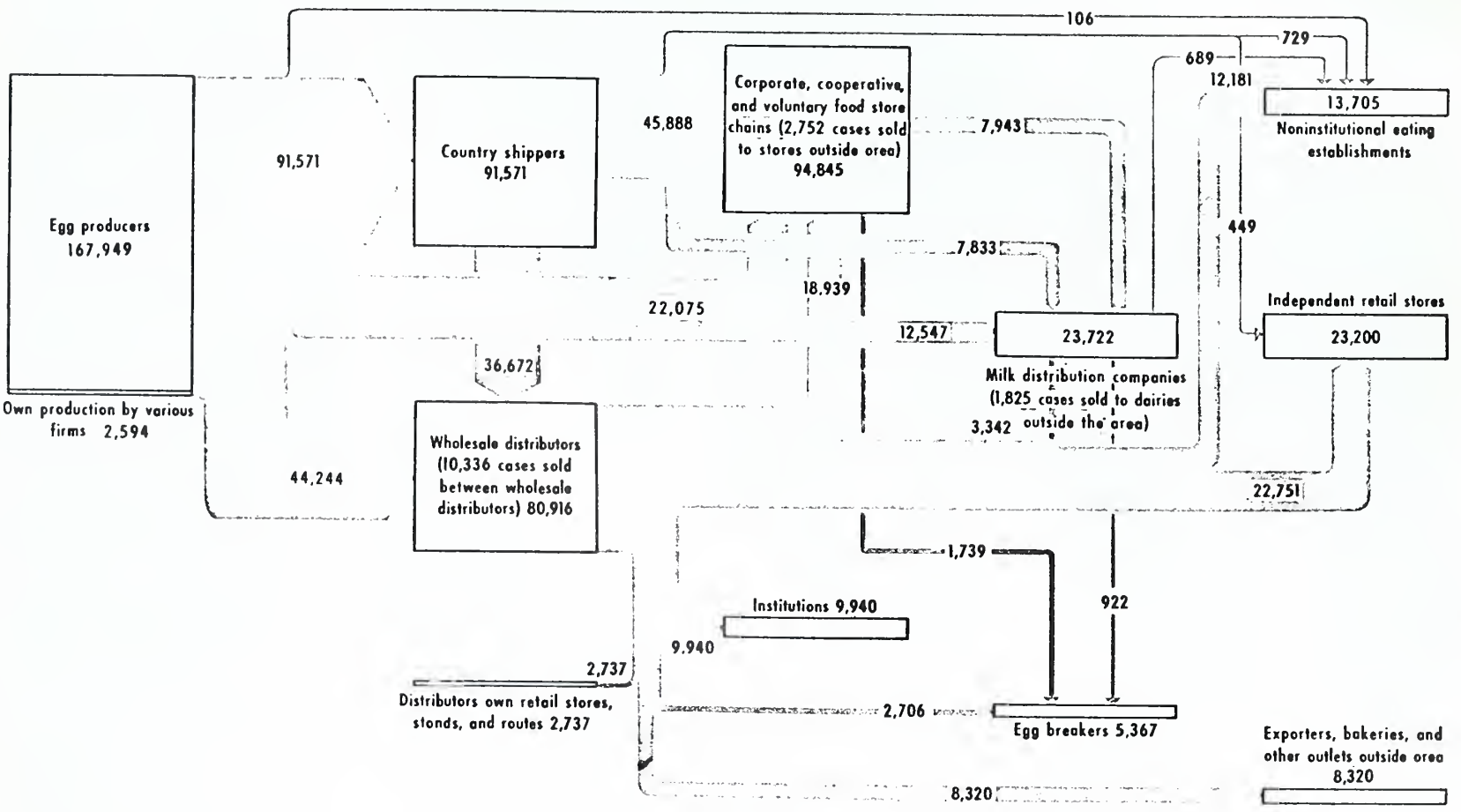
The shifting of marketing functions is indicative of changes cooperatives must make to accomodate individual customers, individual patrons and individual pricing.

The rate of growth in grocery sales in food stores has increased over three times more than the population growth rate since 1959. One surprising development is that the top 10 chains have not kept pace with the total retail gain. Other smaller chains, whose volume increased by 63 percent, contributed the greater share of total chain store gain in volume. Bigness creates its own diminishing returns in retailing. Increasing costs can create a decentralization trend in food marketing.6/

6/ Progressive Grocer. Jan. 1964. pp. 1 and 37.

Figure 1. - **EGG MARKETING CHANNELS IN BOSTON**

(30-DOZEN CASES, JUNE 1960)



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Egg cooperatives can plan orderly development to avoid the waste of excessive bigness, yet be large enough to get some of the biggest and best egg accounts and help to administer and manage egg prices more efficiently around Boston. Cooperative coordination can help to meet changing production and marketing needs.

IMPLICATIONS TO FARMER COOPERATIVES IN THE NORTHEAST

The shortening of Boston's egg marketing channels is a challenge to nearby farmer cooperatives to provide better service and eggs than more distant egg producer-shippers. The growing demand for better egg service may be more conducive to income growth than the growing demand for eggs.

However, market modernization and direct egg marketing in a 100-mile radius of Boston may be ineffective unless it is correlated with greater modernization, mechanization, and capitalization in nearby production designed to meet regional and interregional competition.

Farmer cooperatives need to make giant strides in egg production services and egg marketing. Moreover, all farm supply services and egg production can be scheduled for egg markets. Economies of scale must be exploited simultaneously in purchasing supplies, in producing eggs, and in marketing eggs. All of these activities can be coordinated to benefit consumers as well as farm families.

Farmer cooperatives can effectively compete with other regional and interregional production centers. Cooperatives can be effective in reducing cost in feed distribution to farm families producing eggs on large automated farms in the future.

This is a production efficiency challenge. It may mean moving laying hens nearer to the mill, moving satellite mills closer to layers, or increasing size of flocks rapidly for survival in the regional and interregional competitive egg price-cost squeeze. At least some efficiency can be gained from increasing the size of laying flocks.

Meeting Competition

This study implies that egg price premiums are high enough to encourage shipments from many regions of the United States to retail stores and New England farms. Therefore, many feed supply cooperatives and cooperative egg departments have a growing opportunity to serve egg consumers in the Boston market area more effectively. Farmer cooperative egg marketing departments can help to provide a better blend of white and brown eggs for the best retail accounts in New England. The farmer cooperative egg marketing departments can afford to provide customer services for highest income display cases in the Boston market area to accomplish

income objectives for their members.

Consumer Preferences

In the rapid process of growing markets and business development around Boston, supermarkets are regarded as a "way of life" almost like the independent farm families. It is too easy for food retailers and egg producers to think of consumers as a statistic rather than as a person or sets of individuals.

Cooperative Sales Can Be Personalized

Eggs are only one item among 8,000 in modern supermarkets requiring a personal image with sales impact.

Farmer cooperatives can be an active supply source for roadside egg stands with a variety of eggs at different retail price levels to fit different consumers' needs. Some farm families retail eggs for more than 50 cents a dozen all year. Selling can be a better income alternative than production for some egg producers. These egg producers however, could be good customers for a cooperative egg plant. Individuals marketing eggs through retail outlets or those who sell to retail stores often need supplementary supplies when their own flocks produce an inadequate volume.

Egg Pricing

Superiority in egg marketing services can be earned and achieved with a superior pricing system for eggs. Many different prices are necessary for variety in quality, size, color, and services. A superior cooperative pricing system for eggs can be achieved with a wide price range and differences to fit individual consumer and different community preferences. All of the community and consumer preferences require an information feedback to member producers to help them serve their customers better.

Some bantam community stores need small egg specials each week whereas other community stores need large egg specials for white eggs. A farmer cooperative egg sales department can list retail store differences and try to satisfy particular consumer needs in a greater variety of ways. But this kind of service requires better than average pricing methods and a large supply of eggs each week with strict quality control. Tight control over the movement from farms to stores is essential.

Egg pricing assistance may help to avoid features for large white eggs when medium brown eggs are in surplus supply. Farmer cooperatives can do more to provide cooperative service between feed patrons and retail store managers. Promotional programs can be effectively sponsored on a cooperative basis between the egg retail outlets and the cooperative manager.

Competitive pricing can be achieved faster and more effectively as cooperative egg marketing costs are fashioned more closely to individual patron services and to customer services in each community shopping center. Therefore, it is suggested that all of the patrons and cooperatives shift to a delivered-to-retail-store method of pricing eggs as soon as possible because a majority of the eggs produced in Massachusetts are sold directly to consumers or to food stores, restaurants, institutions and dairies. Farmer cooperatives can assist egg producers in this pricing shift.

Independent family farmers producing eggs and using pricing premiums and discounts in relation to the Boston quotations may find some advantages in using the New York quotation if they cannot negotiate a satisfactory sales price on the basis of cost of production plus transportation and insurance.

Premium Programs

A 100 percent bulk feed service and larger laying flocks closer to the feed mill would help reduce the 0.5 to 1.1 cents a dozen retail price premium that helps divert egg trucks from New York to Boston. Producer bonuses can be designed on a cooperative basis to support a "more eggs a ton" feed program.

A unified marketing program for eggs can be designed to provide equity for egg assembly. Patrons near the cooperative egg marketing facility could earn an additional premium by delivering eggs to the marketing facility.

When egg assembly cost is lower for larger flocks than small flocks and for patrons closer to the cooperative egg plant cost differences can be allocated on the bases of proportionality of individual cost. Price premiums for size of weekly egg shipments can be executed and managed for individual members as long as service is performed at cost. Egg price premiums based on distance from the processing plant and size of shipments can be arranged by telephone with each patron without an ironclad contract if the cooperative records and accounting system is personalized.

Production and Marketing Costs

Findings in this study suggest that egg production costs and the cost of marketing eggs moved down faster outside a 100 mile radius of Boston than within a 100 mile radius of Boston.

Egg marketing cooperatives can manage egg prices, feed prices, or administer both simultaneously to expand the difference between farm production cost for eggs and egg prices. A policy to abandon the average marketing cost principle as a method of paying farmers for eggs can be supported on the basis of equity and business survival. And equities in this case means paying producers according to individual earnings and service cost.

The "8 cents a dozen and up" method of setting egg marketing margins fixes egg marketing charges and also provides a growing target for long distance competition. Marketing costs can be reduced in cooperative egg departments as volume increases. This provides a means to exploit economies of scale for egg patrons and feed patrons together.

Farmer cooperatives near Boston can help reduce this margin by reducing their internal marketing costs and at the same time intensifying efforts to service outlets closer to the egg marketing facility. As egg marketing costs are lowered cooperative market power should increase.

An egg production program is dependent on market outlets. Production and marketing programs can be integrated through cooperative agreements to make a competitively effective enterprise. The retail supplier must meet better than average trade requirements on an efficient basis according to private cooperative agreements. A farmer cooperative with a superior production program for eggs can effectively meet such marketing needs. Contracting firms that know how to exploit all the economies of scale in marketing and production are growing. They are successful because production can be scheduled to meet demand at a price that justifies the service, product and time it requires to sell eggs.

RECOMMENDATIONS

Some egg production areas achieve high layer density and low service cost for individual members. By increasing both flock size and number of flocks within a few miles of the feed service center, a high layer density is created around the cooperative to support a low cost supply service for farm families. A program of this sort can be developed by one supply association.

Consolidation, acquisition, and mergers of farmer cooperatives can increase bulk feed distribution cost wherever layer density is reduced. On the other hand, egg production efficiency is stimulated by mergers, acquisition, and consolidation of cooperatives, if layer density increases.

One of the keys to reducing egg production cost is an increasing hen population closer and closer to the feed supply center. This reduces bulk feed delivery cost, management supervision cost, chick and pullet delivery cost, and egg assembly cost together. All of these efficiencies can be compounded to stimulate flock expansion and capacity use of feed mills, hatcheries and egg processing plants under one cooperative sales center.

With this cooperative organizational structure, egg members income objectives can be in accord with the needs of the gigantic Boston market and its emerging shopping centers.

At the same time, production and marketing costs must be low enough to meet interregional competition. If farmers and farmer cooperatives individually and collectively are to meet interregional, regional, and local competition, and achieve a successful rate of growth in egg production and feed sales, all challenges of competition must be met on price, cost, and service bases. This includes managing and administering egg prices cooperatively for the producers in areas in which the farmer cooperative operates.

Since this study shows that interregional competition is effective in moving retail prices down in Boston and New York, nearby farmer cooperatives find it impossible to support egg market prices for feed patrons individually or collectively.

Appendix table 1. --Boston brown and New York white egg wholesale price bases, per dozen, 1955 to 1964

Year	f.o.b. Boston large brown min. 20% AA 1/	New York large white Min. 10% AA 1/	Amount Boston over and under New York
		Cents	
1955	50.8	49.1	+ 1.7
1956	46.0	46.8	- 0.8
1957	44.2	44.4	- 0.2
1958	47.0	45.9	+ 1.1
1959	37.6	38.6	- 1.0
1955-1959 Average	45.1	45.0	+ 0.1
1960	46.4	44.5	+ 1.9
1961	41.8	42.7	- 0.9
1962	39.0	40.0	- 1.0
1963	37.5	39.1	- 1.6
1964	37.2	37.5	- 0.3
1960-1964 Average	40.4	40.8	- 0.4

1/ Dairy and Poultry Market Statistics, Agr. Mktg. Serv., U. S. Dept. Agr.

Appendix table 2.--Average prices received for ungraded farm eggs per dozen in Massachusetts and Grade A Large eggs delivered to retailers in Boston metropolitan area

Year	Received by Massachusetts farmers 1/	Delivered to retailer in Boston metropolitan area 2/
	Cents	Cents
1957	52.6	52.9
1958	55.6	56.8
1959	45.8	47.4
1960	54.7	53.7
1961	50.6	50.9
1962	49.2	46.8
1963	47.0	47.3
1964	45.7	46.8

1/ Agricultural Prices, Stat. Rptg. Serv., U. S. Dept. Agr.
2/ Marketing and Transportation Situation, Econ. Res. Serv., U. S. Dept. Agr.

Appendix table 3.--Boston and New York large egg prices, per dozen at various steps in the market structure 1956 to 1964. 1/

Year	Retail		To retailer		To city receiver		Farm 2/	
	Boston	New York	Boston	New York	Boston	New York	Boston	New York
	Cents							
1956	65.5	67.6	-	56.4	46.1	44.8	45.2	38.6
1957	64.0	64.4	52.9	53.2	43.8	41.8	42.7	35.2
1958	67.8	67.5	56.8	55.3	47.2	44.3	46.5	38.7
1956-58 Average	65.8	66.5	-	55.0	45.7	43.6	44.8	37.5
1959	59.0	60.3	47.4	47.4	37.5	36.4	35.2	30.7
1960	65.9	63.4	53.7	50.6	45.4	41.8	43.1	35.0
1961	64.0	63.3	50.9	49.4	42.4	40.7	40.8	33.2
1959-61 Average	62.9	62.3	50.7	49.1	41.8	39.6	39.7	33.0
1962	61.3	60.8	46.8	45.8		36.9	35.8	30.2
1963	61.5	60.9	47.3	45.4		37.7	35.9	32.4
1964	59.4	58.3	46.8	44.4		37.2	36.2	32.2
1962-64 Average	60.7	60.0	47.0	45.2	-	37.3	36.0	31.6
1956-61 Average	64.4	64.4	-	52.0	43.7	41.6	42.3	32.2

1/ Marketing Spreads for Eggs, Frying Chickens and Turkeys in Selected Cities of the United States. Econ. Res. Serv., U. S. Dept. Agr.

2/ Farm value represents farm prices in major supply areas shipping eggs to these cities.

Appendix table 4.--Boston, New York and Atlanta marketing price spreads, for large Grade A or better quality eggs, per dozen, 1956-64

Year	Farm to retail			Retail stores		
	Boston	New York	Atlanta	Boston	New York	Atlanta
	Cents					
1956	20.3	29.0	22.9	-	11.2	6.9
1957	21.3	29.2	23.4	11.1	11.2	7.2
1958	21.3	28.8	26.1	11.0	12.2	10.3
1956-58 Average	21.0	29.0	24.1	-	11.5	8.1
1959	23.8	29.6	24.3	11.6	12.9	9.8
1960	22.8	28.4	22.7	12.2	12.8	9.7
1961	23.2	30.1	21.2	13.1	13.9	10.2
1959-61 Average	23.3	29.4	22.7	12.3	13.2	9.9
1962	25.5	30.6	20.6	14.5	15.0	9.7
1963	25.6	28.5	20.5	14.2	15.5	9.5
1964	23.2	26.1	21.3	12.6	13.9	10.7
1962-64 Average	24.8	28.4	20.8	13.8	14.8	10.0

Source: Marketing Spreads for Eggs, Frying Chickens and Turkeys in Selected Cities of the United States, Econ. Res. Serv., U.S. Dept. Agr.

Appendix table 5.--Boston, New York, and Atlanta marketing channel price spreads for large grade A or better quality eggs, per dozen, 1956-64

Year	Farm-Retailer Spread								
	Total			Receiver to retailer			Farmer to receiver		
	Boston	New York	Atlanta	Boston	New York	Atlanta	Boston	New York	Atlanta
	Cents								
1956	-	17.8	16.0	-	11.6	10.2	0.9	6.2	5.8
1957	10.2	18.0	16.2	9.1	11.4	10.8	1.1	6.6	5.4
1958	10.3	16.6	15.8	9.6	11.0	9.2	0.7	5.6	6.6
1956-58 Average	-	17.5	16.0	-	11.3	10.1	0.9	6.1	5.9
1959	12.2	16.7	14.5	9.9	11.0	8.8	2.3	5.7	5.7
1960	10.6	15.6	13.0	8.3	8.8	8.5	2.3	6.8	4.5
1961	10.1	16.2	11.0	8.5	8.7	8.1	1.6	7.5	2.9
1959-61 Average	10.9	16.2	12.8	8.6	9.5	8.5	2.1	6.7	4.4
1962	11.0	15.6	10.9	-	8.9	-	-	6.7	-
1963	11.4	13.0	11.0	-	7.7	-	-	5.3	-
1964	10.6	12.2	10.6	-	7.2	-	-	5.0	-
1962-64 Average	11.0	13.6	10.8	-	7.9	-	-	5.7	-
1956-61 Average	-	16.8	14.4	-	10.4	9.3	-	6.4	5.1

Source: Marketing Spreads for Eggs, Frying Chickens and Turkeys in Selected Cities of the United States, Econ. Res. Serv., U. S. Dept. Agr.

Appendix Table 6.--Estimated hen surplus and deficit for New England, 1964

State	Total People population July 1, 1964	Laying hens needed to provide 314 eggs per capita 1/	Actual number of laying hens December 1964 2/	Estimated laying hens	
				Surplus	Deficit
	Thousands				
Maine	989	1,395	4,268	2,873	
New Hampshire	659	929	1,599	670	
Vermont	396	558	702	144	
Massachusetts	5,309	7,486	2,787		4,699
Rhode Island	906	1,277	394		883
Connecticut	2,783	3,924	3,644		280
			Sub-total	3,687	5,862
New England	11,042	15,569	13,394	Net deficit	2,175

1/ Producing at a rate of 222 eggs a year

2/ Crop Production, Stat. Rpt. Serv., U. S. Dept. Agr.