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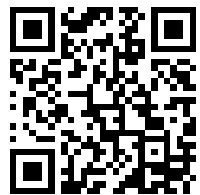
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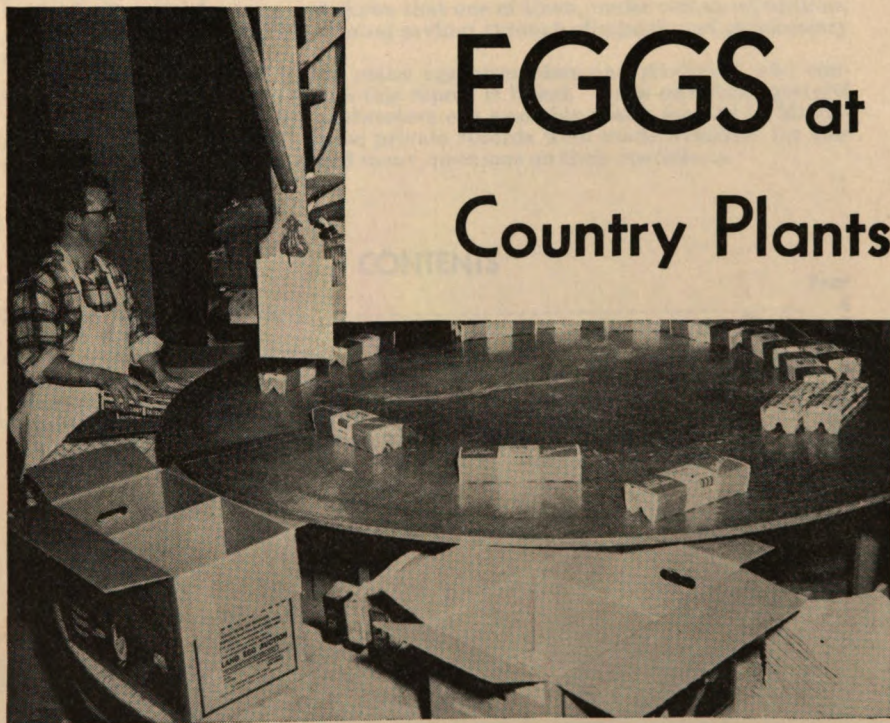
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Candling and Cartoning EGGS at Country Plants



MARKETING RESEARCH REPORT NO. 366

United States Department of Agriculture

Agricultural Marketing Service

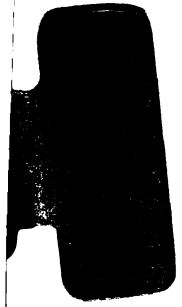
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PREFACE

Costs of candling and cartonning eggs at country points were studied as part of a broad program of research designed to help reduce costs of marketing farm products. This report provides information on the comparative costs of two methods of marketing eggs and shows that one of them, under certain conditions, provides opportunities for substantial savings through elimination of unnecessary operations.

The author is grateful to the many egg assemblers and producers who contributed the basic data on which this report is based. He is especially grateful to the managers of the seven midwestern egg assembly plants located in Minnesota, Iowa, and Wisconsin, whose private records were made available for this study and who willingly answered many questions on their operations.

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SUMMARY AND CONCLUSIONS

Study of seven midwestern egg assembly plants showed that large savings in costs result when eggs are candled and cartoned at country plants, compared with costs when eggs are shipped in 30-dozen cases and candled at distant destinations. The savings are contingent, however, on substantial changes in certain procurement practices, plant operations, and marketing channels.

The three principal sources of the savings, which averaged 6 cents a dozen for the plants studied, are: Elimination of one candling operation, reductions in costs of transportation and of egg replacements when undergrade eggs are kept out of shipments, and elimination of the overhead and general expenses of one marketing firm. The third source of savings listed is available only if sales are made directly to retailers or retail warehouses; if a distributive agency in the consuming market is necessary, the savings would be reduced by about 2 to 2.5 cents a dozen.

Realization of the savings requires the development of a quality egg program, in which 90 percent or more of the eggs bought by the assembler are of Grade A or better the year around, and the establishment of dependable marketing channels for such eggs.

Conclusions reached on the basis of this study include:

1. The saving of 6 cents a dozen is possible when eggs are candled and cartoned in the production area provided (a) the cartoned eggs are generally marketed directly to retail stores, and (b) the eggs retain their quality through marketing channels.

2. Quality programs can be initiated and enforced. This has been proved by several midwestern assemblers who now get over 90 percent Grade A eggs nearly every day of the year, most of them high in the Grade A range.

3. Steady year-round markets are available to those assemblers whose size, initiative, performance, and dependability are such that they can guarantee a consistent flow of top quality eggs to buyers who, in turn, also must be reliable. Either oral or written agreements between buyers and sellers, extending over periods of a year or longer, tend to stabilize marketing practices and channels, reduce costs, and eliminate the confusion of day-to-day buying and selling.

4. A strong trend in the direction of quality production, quality maintenance, direct marketing, and long-term production and marketing agreements is apparent.

5. The type of egg marketing involving cartoning before shipments has advantages not only to producers of eggs, but also to the many people involved in handling eggs. Consumers may also benefit from greater assurance of more uniformly high-quality eggs at retail stores at prices reflecting lower handling costs.

Candling and Cartoning Eggs at Country Plants

BY ROBERT M. CONLOGUE, *agricultural economist, Market Organization and Costs Branch, Marketing Research Division, Agricultural Marketing Service*

PURPOSE OF THE STUDY

Traditionally, eggs have been assembled in producing areas and shipped loose¹ in wholesale lots to wholesale or chainstore warehouses in heavily populated areas. There the eggs were recandled, cartoned, and delivered to retail stores, retail store warehouses, and other outlets. In this system of marketing, still important in many parts of the country, eggs often are handled by a combination of 3 to 5 country assemblers, city wholesalers, and other firms before they reach retail outlets. Each such firm handling eggs necessarily incurs costs and adds to the total spread between farm and retail prices.

Over the years, processors of many farm commodities, in the search for less costly methods of marketing, gradually have moved their principal processing facilities to producing areas. Eggs are among these commodities. A few firms have pioneered in the development of country-point candling and cartoning operations and distribution of cartoned eggs in distant markets. After much experimentation with quality control programs, new equipment, and various marketing practices, they have successfully marketed eggs candled only once, cartoned at their country plants, and shipped hundreds of miles to consuming areas.

In a relatively free economy, the benefits of reduction in marketing costs usually are, in time, distributed widely among farmers, consumers, and marketing firms. In 1958, about 169 million cases of eggs were produced on farms and had a gross value of about \$1,937 million. Total marketing charges were an estimated \$760 million. Decreases in these marketing charges, due to more efficient operations, might increase returns to farmers, and might conceivably change the downward trend in recent years in per capita consumption of eggs in the United States.

The purpose of this study and report is to provide information to the egg industry and the general public on the efficiencies possible in marketing eggs candled and cartoned at country points.

The operations of seven midwestern plants in Minnesota, Iowa, and Wisconsin in June and November 1957 were studied in detail. Each of the seven plants was shipping eggs to markets hundreds of miles

¹ The term "loose eggs," widely used in the trade, means uncandled eggs packed in 30-dozen cases.

distant during these 2 months, some in 30-dozen cases, loose pack, wholesale graded; others in 1-dozen cartons, consumer graded; and some in both ways. Other firms in the Midwest and East provided much additional information on operating costs and practices to supplement the seven case studies.

This report presents details of the costs of marketing eggs under alternative methods and of the most important requirements for successful operation of a country plant distributing cartoned eggs to distant markets.

COMPARATIVE COSTS AND RETURNS

Cost Comparisons.—Total costs of assembling, candling, cartoning, and shipping cartoned eggs to retail stores or retail store warehouses in the East averaged 12.2 cents a dozen for the seven midwestern plants in June and November 1957 (table 1). This amount was

TABLE 1.—Eggs, shell: Cost per dozen of handling midwestern and New Jersey eggs cartoned in or near producing areas, as compared with shipping midwestern eggs loose and cartoning in eastern cities, June and November 1957

Type of expense and type of handler	Eggs cartoned in midwestern plants	Midwestern eggs cartoned in eastern plants	New Jersey eggs cartoned by plants in producing areas
<i>Midwestern country assembler</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>
Pickup from farm.....	1. 2	1. 0	0. 5
Plant labor.....	2. 7	1. 8	2. 3
Cases, flats, and fillers.....	1. 3	1. 9	1. 0
Cartons.....	2. 6	. 0	2. 3
General and administrative.....	. 6	. 6	. 6
Commissions (buying).....	. 0	. 7	. 0
Marketing or selling expense.....	. 4	. 0	. 5
Overhead.....	1. 0	. 6	1. 0
Freight charges.....	2. 4	2. 9	1. 5
<i>Eastern wholesaler or chainstore egg plant</i>			
Plant labor.....		2. 5	
Cartons and other supplies.....		2. 6	
Replacement costs to meet consumer grade standards.....		1. 4	1. 5
All other expenses.....		2. 2	
Total.....	12. 2	18. 2	11. 2

6 cents a dozen below the cost of 18.2 cents a dozen incurred by a combination of midwestern plants and egg handlers in the East on eggs shipped loose from the Midwest and candled again and cartoned in the consuming market. A detailed comparison of costs of marketing eggs is shown in table 1 for three different systems of marketing: (1) Eggs cartoned in midwestern plants and shipped to distant cities, (2) eggs candled and packed loose in the Midwest and recandled and cartoned in eastern city plants, and (3) eggs produced, candled, and cartoned at several New Jersey shipping points and marketed in

nearly cities. In all three systems, total costs of marketing up to and including delivery to retail stores or retail store warehouses are shown.

There are no great differences between costs of marketing eggs cartoned in midwestern producing areas and eggs cartoned at country points in New Jersey, except for freight and replacement costs to meet consumer Grade A standards. This comparison indicated a strong possibility of equality between the two areas or similar areas in getting eggs into highly concentrated consuming areas, when the eggs are cartoned at country plants.

TABLE 2.—Eggs, shell: Expense per dozen of procurement, plant operations, marketing or selling, overhead, and transportation, 7 midwestern egg assembly plants, June and November 1957

Type of expense	Volume (thousand dozen)							
	1,903	1,742	1,126	1,154	581	347	196	241
	Total		Shipped cartoned		Shipped loose		Sold f.o.b. plant	
	June	Nov.	June	Nov.	June	Nov.	June	Nov.
	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>
Procurement:								
Truck expense.....	0.6	0.7	0.6	0.7	0.6	0.7	0.6	0.7
Salaries and wages.....	.5	.5	.5	.5	.5	.5	.5	.5
Total.....	1.1	1.2	1.1	1.2	1.1	1.2	1.1	1.2
Plant labor.....	2.3	2.3	2.6	2.7	1.8	1.9	1.8	1.9
Cases, flats, fillers.....	1.4	1.3	1.4	1.3	1.4	1.3	1.4	1.3
Cartons.....	1.4	1.7	2.5	2.6	.0	.0	.0	.0
General and administrative.....	.5	.6	.5	.6	.5	.6	.5	.6
Inspection.....	.1	.1	.1	.1	.1	.1	.1	.1
Marketing or selling expense.....	.5	.4	.5	.4	.5	.4	.5	.4
Overhead.....	.7	.9	.7	.9	.7	.9	.7	.9
Freight.....	2.2	2.1	2.5	2.4	2.5	2.4	.0	.0
Total expense.....	10.2	10.6	11.9	12.2	8.6	8.8	6.1	6.4
Gross margin.....	10.8	11.0	12.5	12.7	8.8	7.6	7.6	8.4
Net to management.....	.6	.4	.6	.5	.2	-1.2	1.5	2.0

Freight was about 1 cent a dozen higher for midwestern eggs, but this was offset, at the time of the study at least, by the higher cost for replacement of New Jersey eggs to meet consumer Grade A standards. This replacement was necessary because the midwestern eggs were purchased under compulsory State grading systems whereas New Jersey eggs were only producer-sized during this period.

Operating Expenses.—The average cost per dozen for procurement, plant operations, marketing or selling, overhead, and transportation, for eggs shipped cartoned, those shipped loose, and those sold f.o.b. by seven midwestern plants during June and November 1957 are shown in table 2. The more important figures are in italics.

PROCUREMENT COSTS

Egg procurement costs for the seven midwestern plants in June and November 1957 were about the same whether the eggs were sold cartoned or loose.

Procurement costs on eggs later sold in cartons may have been slightly less than on other eggs because some plants selected eggs for cartoning from only the better managed farms. These producers were observed to have modern, well-kept laying houses in which they kept highly recommended breeds or strains of layers. Many of them had egg coolers. The number of cases of eggs picked up at these farms was higher than at most farms. This permitted truck drivers to spend less time in pickup per case, which resulted in lower assembly costs.

On the other hand, on many farms where the pickup was one case or less, hens were housed in makeshift buildings with little or no modern equipment. Quite often, particularly in June when prices were low, the laying hens were running loose in the yard, foraging for food. Many of the eggs picked up at these farms were dirty, and eggs were in baskets on porches where the temperature was high or were being washed just as the pickup trucks arrived. The quality of eggs coming from such farms was generally low and the cost of assembly high. Bypassing or not accepting the eggs until quality is improved by this type of producer might permit a more efficient operation and result in better quality eggs.

ASSEMBLY PLANT COSTS

Plant Labor.—The cost of plant labor in the seven plants varied widely, from a high of 2.7 cents a dozen for cartoned eggs to a low of 1.8 cents a dozen for eggs packed loose, as shown in table 2. Some plant managers achieved lower candling costs by channeling eggs from those producers known to have a consistently high-quality product to the plant's most experienced candlers. High-quality eggs can be candled with more speed and less error than low-quality eggs. Another advantage of this arrangement is that it provides more assurance of a high-quality pack of eggs in the cartons. Candles of these eggs usually were instructed to candle "tight." This means that eggs which would be considered Grade A, but on the low side, would be placed in with Grade B eggs by the candler rather than with the A's. However, very few of the eggs coming from these producers would be on the low side. This was not done with the loose eggs, because they were scheduled either to travel shorter distances, or, if shipped long distances, to be recandled at destination.

Cases, Flats, and Fillers.—The cost of cases, flats, and fillers varied among plants, depending upon the type and size of materials used. Generally, the lower the number of cartons packed in the cases, the higher the cost per dozen. These variations necessitated the computation of average costs based on all types of cases. Data indicate, however, that this item of cost is somewhat higher for cartoned eggs than for loose eggs, particularly since 15- and 24-dozen cases generally are used for cartoned eggs.

Carton Costs.—Country point candling showed no advantage in carton costs. There are variations in cost depending upon the type of

carton used. Most carton manufacturers also grant discounts on the basis of volume purchased annually.

General and Administrative Expenses.—The general and administrative expenses were about 0.5 cent a dozen and were fairly consistent from company to company. This is for plant operations only and does not include general overhead.

Inspection Expense.—Inspection expense, a minor item, is about 0.1 cent a dozen. Managers were nearly unanimous in saying that this expense is more than paid for by better consumer acceptance because of the USDA inspection mark on the egg carton.

Marketing or Selling Expense.—The costs of selling cover a variety of items such as salesmen's salaries, telephone calls in selling, travel expense as it applies to selling, advertising, and attendance at conventions. This group of items averaged about 0.5 cent a dozen. This may be slightly higher for cartoned eggs than for loose eggs, but the difference, if any, is difficult to determine and is too small to be significant.

Overhead Expense.—Overhead for most of the firms was a charge assigned to the assembly plant by the main office. This was an arbitrary charge including allocation of salaries of top management, expense of operating headquarters offices, and similar items. This cost is slightly higher for those companies with large general headquarters managing the marketing and distribution of many food items.

Transportation Expense.—Freight costs averaged about 2.5 cents a dozen for all eggs shipped out. This is an item difficult to compare among plants and as between cartoned eggs and loose eggs. Some cartoned eggs and some loose eggs are shipped long distances, others short distances. However, in these case studies, nearly all undergrade eggs were sold f.o.b. plant. This was possible because all of the companies were candling and cartoning consumer grades. When eggs are cartoned at destination instead of shipping points, it is quite common to ship wholesale grades which include many undergrades, necessitating the payment of freight on additional quantities.²

Gross Margin.—The gross margin of the assembler-shipper is the difference between the price paid the producer at the farm and the delivered price to the first receiver in the consuming area.

Net to Management.—Net to management is the difference between total expense and gross margin. This item is equivalent to net profit before taxes. Managements of the plants studied netted 0.6 cent a dozen in June and 0.5 cent in November for eggs shipped cartoned. For eggs shipped loose, they received a net of 0.2 cent a dozen in June and had a loss of 1.2 cents in November. The total expense of handling undergrade eggs was low when no freight charge was involved, old cases were used, and selling prices were high because of proximity to breaking, drying, and freezing plants; therefore, the net to management was 1.5 cents a dozen in June and 2.0 cents in November. This helped to offset the low net and minus returns on eggs shipped loose, and resulted in average net returns on all eggs of 0.6 cent a dozen in June and 0.4 cent a dozen in November.

² Additional information on freight may be found in Bulletin 472, Transportation of Poultry and Poultry Products from the North Central States, published October 1958 by the Agricultural Experiment Station, South Dakota State College, Brookings.

GENERAL DIFFERENCES BETWEEN THE TWO METHODS OF OPERATION

In summary, the major savings in costs between country-point candling and cartoning and the traditional system of egg marketing are approximately as follows:

Item	Saving <i>Cents per dozen</i>
Plant labor	1. 8
Replacement costs to meet consumer Grade A standards	1. 4
Additional overhead	2. 2
All other cost items	0. 6
Total	6. 0

The saving in plant labor is the direct result of elimination of the candling operations in the consuming area. The saving in egg replacement costs is the result of cartoning eggs into consumer grades at the country plant. Country-point candling provides savings also by elimination of fillers.

The saving of 2.2 cents a dozen on overhead is possible only where the cartoned eggs are delivered directly to retail stores or retail store warehouses. If a separate distribution facility must be maintained in the consuming area, this saving disappears.

REQUIREMENTS FOR SUCCESSFUL CARTONING OF EGGS AT COUNTRY POINTS

This study has shown that a saving of 6 cents a dozen in marketing costs for midwestern eggs is possible when the eggs are cartoned in some midwestern plants. However, this does not mean that a more or less mechanical change in practices necessarily will be successful. Many firms that have tried cartoning in their midwestern plants have failed, and have returned to shipping loose eggs only. These failures probably were due mostly to poor methods of procurement and to lack of an established dependable market. High-quality eggs are essential for success in this method of marketing. Successful firms have introduced egg quality control programs on farms and have enforced them until they are getting Grade A yields of 90 percent and better, consistently throughout the year. Furthermore, most of these eggs are high in the Grade A range and will hold their quality as they move the long distances to retail stores.

Another requirement for success in this field is the ability to supply customers with top quality eggs in all seasons regardless of weather or other factors. Size of the assembly firm is important only as it affects its ability to meet the demand of its market at all times. Chainstores, dairies, independent supermarkets, and other types of buyers are interested in a sufficient supply of top quality eggs, not only in January, February, and other months of normally heavy production but especially in July and August, the principal season of normally light output.

The volume of eggs handled by this type of buyer is becoming more important and, as it increases, additional suppliers appear to meet the demands. In some cases, contractual arrangements, either written or oral, have been entered into between buyer and seller on a long-term basis. The buyer may agree to pay a certain amount over "the market" to a seller provided the seller guarantees a suffi-

cient supply of top quality eggs to meet the buyer's needs at all times. This type of arrangement provides both buyer and seller with a more workable and mutually satisfactory arrangement so that they do not have to shop around from day to day to find eggs or find a market for eggs. Producers benefit from such a program because, if they follow the requirements of a high-quality program, they usually receive a higher average price for eggs.

The saving of 6 cents a dozen could not have been accomplished without effective programs for quality production, quality maintenance through the marketing channels, and development of direct movement of eggs from assembler to retailer. To meet the challenge of competition from other areas, eggs must be able to meet the test of Grade A quality should they be checked by qualified inspectors in the retail store.

APPENDIX

Range of Gross Margins, Expenses, and Net to Management for Seven Plants, June and November 1957

Table 3 shows the range of gross margins, expenses, and net to management for seven plants for June and November 1957. The range in gross margins, from about 11.0 cents a dozen to 14.5 cents for cartoned eggs and about 6.0 to 11.0 cents for loose eggs, was generally due to the ability of some firms to find an exceptionally good market for eggs. Total expenses ranged from 10 cents to 13 cents a dozen for cartoned eggs and 7 to 10 cents for loose eggs.

These wide variations among firms in both gross margins and total expenses resulted in ranges in net operating margins of -1.0 to $+1.5$ cents for cartoned eggs and -3.3 to $+3.2$ cents for loose eggs.

The range of procurement expenses of 0.5 cent per dozen to 1.8 cents was due generally to variations in assembly costs because of differences in density of egg production in different areas. However, this is an area of expense where much improvement could be made. Further studies are needed to develop more efficient egg procurement and pickup policies and practices.

Plant labor ranged from 2.3 cents a dozen to 3.0 cents for cartoned eggs and 1.5 to 2.3 cents for loose eggs. There is considerable room for improvement for those firms on the high end of the range. This is a problem for management in the choice and arrangement of equipment to make the most economical use of the labor force.

Expenses for cases, flats, and fillers ranged from 0.6 cent per dozen to 2.2 cents. These figures could be misleading as it is quite possible that the higher figure might be the most economical if it resulted in much less breakage and a better acceptance of eggs in new cases in retail markets.

A range of 2.3 to 2.9 cents a dozen for cartons was due to the use of some cartons somewhat fancier in color and labeling than others. A study of effectiveness of carton design would be necessary to determine whether the high or the low figure was most economical.

The range in expenses for general and administrative costs and overhead represented differences in policies of the firms. Improvements in top managerial policy could probably reduce the high figure of 1.5 cents a dozen.

Freight expense is fairly standard, depending upon distance shipped. Negotiated rates are a factor in holding down this expense, but this problem was not studied in detail.

These data apply only to the cartoned and loose eggs handled by these plants and apply only up to the point where the eggs are sold and delivered, or to undergrades picked up at the plant. The cartoned eggs went directly into retail channels—that is, into retail stores, dairies, and other distributors of cartoned eggs—while many of the loose eggs, except those going to bakeries, hotels, restaurants, etc.,

had to be recandled, at additional expense, and incurred the usual carton expense.

Prices and Returns

Selling prices and gross margins of assemblers for eggs shipped cartoned from plants in midwestern producing areas were substantially higher than for eggs shipped loose from the same plants. Total combined marketing costs for midwestern assemblers and handlers at point of distribution were 6 cents a dozen less for cartoned eggs than for those shipped loose. The differences in gross margins were more than enough to offset the additional expense of cartoning. This indicates that, with proper management and handling of top quality eggs, midwestern assemblers can realize a larger net return for cartoned eggs than for loose eggs, and can pass on some of the saving to consumers or producers or both. This might reduce the spread in prices between producer and consumer.

Average selling prices, paying prices, and gross returns for eggs shipped by seven midwestern plants during June and November 1957 are shown in table 4.

Despite a much higher price level in November 1957 compared with June 1957, the average gross margin remained stable for cartoned eggs. The average margin on eggs shipped loose declined 1.2 cents a dozen in November compared with June, indicating better marketing opportunities at the higher price level for eggs shipped cartoned. The margin on loose eggs sold f.o.b. country plants increased 0.8 cent a dozen during the same period. These were mostly undergrade eggs.

Selling Prices, Purchase Prices, and Gross Margins for Eggs by Grade and Size and Cartoned and Loose ³

Returns for cartoned eggs, as mentioned previously, were sufficiently higher than returns for loose eggs, handled by the same companies, to more than make up for the additional cost of cartons and additional labor necessary to pack in cartons. There were, however, some variations in gross margins between sizes of eggs, indicating better markets for certain sizes than for others depending upon whether they were cartoned or not. This situation is natural, since producers, particularly the more progressive ones, attempt to keep layers of different ages, some laying pullet eggs, others medium, and others large, in order to keep a steady supply of large eggs moving to buyers year-round. Currently, some producers start chicks during almost any month of the year. Average selling prices, paying prices, and gross margins by grade and size and cartoned and loose are shown in table 5.

³ The Dairy and Poultry Market News Egg Report published by the Chicago office of the U.S. Department of Agriculture, AMS, 536 South Clark Street, Chicago, Ill., on Mondays and Thursdays now shows prices received by shippers at Iowa-Minnesota shipping points in trucklots for extras, minimum 80 percent A, cases included, for bulk pack and cartoned pack. Typical of these reports is the one for May 11, 1959, which shows a premium of 7 cents per dozen to shippers for cartoned over bulk pack for large white eggs and a premium of 5 cents per dozen for large mixed eggs. Additional costs for cartoning amounted to 0.8 cent per dozen for labor and 2.5 cents per dozen for the cartons, leaving 3.7 cents per dozen for large white eggs and 1.7 cents per dozen for large mixed eggs to shippers for their use in paying premiums to producers or for other uses such as plant additions or new equipment.

Variations in Selling Prices, Purchase Prices, and Gross Margins by Plants, with Percentages of Sales Cartoned and Loose

Table 6 shows average selling prices, average paying prices, average gross margins, and percentages of sales cartoned and loose, by plants. The figures show considerable variations between plants, but it must be kept in mind that variations in volumes by size affect both the average selling price and the average paying price. The most important figures shown in table 6 are the gross margins for all eggs for each plant. The gross margins for all eggs are uniform between plants, considering the variations in volume by size.

TABLE 3.—Eggs, shell: Range of gross margins, expenses, and net to management per dozen, 7 shippers, June and November 1957

Item	Cartoned			Loose		
	Range		Average	Range		Average
	Low	High		Low	High	
June 1957						
Gross margin.....	Cents 11.5	Cents 14.7	Cents 12.5	Cents 5.8	Cents 9.9	Cents 8.8
Pickup at farm.....	.5	1.5	1.1	.5	1.5	1.1
Plant labor.....	2.3	3.0	2.6	1.5	2.3	1.8
Cases, flats, and fillers.....	.6	2.2	1.4	.6	2.2	1.4
Cartons.....	2.3	2.6	2.5	0	0	0
General and administrative.....	.3	.9	.5	.3	.9	.5
Inspection.....			.1			.1
Marketing expense.....	.4	.7	.5	.4	.7	.5
Overhead.....	.7	.9	.7	.7	.9	.7
Freight.....	1.7	3.0	2.5	1.7	3.0	2.5
Total expense.....	10.3	13.2	11.9	6.9	9.9	8.6
Net operating margin.....	-1.0	1.5	.6	-3.3	.8	.2
November 1957						
Gross margin.....	11.1	14.5	12.7	6.3	11.1	7.6
Pickup at farm.....	.5	1.8	1.2	.5	1.8	1.2
Plant labor.....	2.3	2.9	2.7	1.5	2.0	1.9
Cases, flats, and fillers.....	1.7	2.0	1.3	.7	2.0	1.3
Cartons.....	2.3	2.9	2.6	0	0	0
General and administrative.....	.3	.9	.6	.3	.9	.6
Inspection.....			.1			.1
Marketing expense.....	.3	.8	.4	.3	.8	.4
Overhead.....	.5	1.5	.9	.5	1.5	.9
Freight.....	1.6	3.0	2.4	1.6	3.0	2.4
Total expense.....	11.4	13.1	12.2	7.9	9.9	8.8
Net operating margin.....	-1.0	1.5	.5	-2.2	3.2	-1.2

TABLE 4.—Eggs, shell: Average selling prices, purchase prices, and gross margins per dozen for eggs shipped cartoned, shipped loose, and sold loose f.o.b., 7 shippers, June and November 1957

How shipped or sold, and month	Average selling price	Average purchase price	Average gross margin
Shipped cartoned:	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>
June.....	36.5	24.0	12.5
November.....	53.1	40.4	12.7
Shipped loose:			
June.....	31.8	23.0	8.8
November.....	44.5	36.9	7.6
F.O.B. plants, loose:			
June.....	24.8	17.2	7.6
November.....	36.3	27.9	8.4
All eggs:			
June.....	33.8	23.0	10.8
November.....	49.0	38.0	11.0

TABLE 5.—Eggs, shell: Selling prices, purchase prices, and gross margins per dozen for eggs by grade, size, and cartoned and loose, 7 midwestern assemblers, June and November 1957

Grade, size, cartoned or loose	June 1957			November 1957		
	Average selling price	Average paying price	Average gross margin	Average selling price	Average paying price	Average gross margin
	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>
Jumbo cartoned, A.....	38.6	28.4	10.2	59.4	47.7	11.7
Extra large cartoned, A.....	36.0	23.4	12.6			
Large cartoned, A.....	36.2	24.5	11.7	56.7	44.9	11.8
Medium cartoned, A.....	32.2	20.1	12.1	46.0	34.1	11.9
Small cartoned, A.....				42.4	32.7	9.7
Pullets cartoned, A.....				38.6	25.2	13.4
Large cartoned, B.....	34.3	21.5	12.8	50.4	37.9	12.5
Processed overseas pack.....	36.6	24.6	12.0			
Jumbo loose, A.....	33.7	26.6	7.1	53.5	49.1	4.4
Extra large loose, A.....	31.7	23.4	8.3			
Large loose, A.....	31.5	24.1	7.4	51.0	43.8	7.2
Medium loose, A.....	26.0	19.1	6.9	40.1	32.9	7.2
Pullets loose, A.....	23.8	15.6	8.2	32.2	25.6	6.6
Peewee loose, A.....	26.8	18.5	8.3	15.6	11.2	4.4
Jumbo loose, extra's.....				52.3	42.5	9.8
Large loose, extra's.....	25.0	18.0	7.0	46.1	44.5	1.6
Large loose, B.....	28.7	20.6	8.1	42.4	37.2	5.2
Medium loose, B.....	20.8	18.8	2.0	36.4	32.4	4.0
Local sales loose.....	28.0	23.6	4.4	44.4	38.4	6.0
Leakers.....	8.8	10.3	-1.5			
Checks.....	25.1	17.1	8.0	32.5	22.7	9.8
All eggs.....	33.8	23.0	10.8	49.0	38.0	11.0

TABLE 6.—Eggs, shell: Variations in selling price, purchase price, and margins per dozen, by plants, with percentages of sales cartoned and loose, June and November 1957

Plants	June 1957				November 1957		
	Per- cent of sales	Sell- ing price	Pur- chase price	Gross mar- gin	Per- cent of sales	Sell- ing price	Pur- chase price
	<i>Per- cent</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Per- cent</i>	<i>Cents</i>	<i>Cents</i>
Plant No. 1							
Cartoned eggs-----	45.3	38.1	23.5	14.6	22.9	57.5	44.5
Loose eggs-----	54.7	29.9	22.2	7.7	77.1	42.4	35.4
All eggs-----	100.0	33.8	22.8	11.0	100.0	45.8	37.5
Plant No. 2							
Cartoned eggs-----	85.7	36.0	23.9	12.1	88.1	51.1	40.0
Loose eggs-----	14.3	25.9	19.1	6.8	11.9	38.4	26.6
All eggs-----	100.0	34.5	23.2	11.3	100.0	49.6	38.4
Plant No. 3							
Cartoned eggs-----	50.9	34.9	22.1	12.8	58.3	50.7	37.0
Loose eggs-----	49.1	30.4	21.9	8.5	41.7	43.8	35.7
All eggs-----	100.0	32.7	22.0	10.7	100.0	47.8	36.5
Plant No. 4							
Cartoned eggs-----	46.9	37.4	24.5	12.9	66.1	54.5	39.9
Loose eggs-----	53.1	30.5	20.9	9.6	33.9	39.0	31.2
All eggs-----	100.0	33.7	22.6	11.1	100.0	49.2	37.0
Plant No. 5							
Cartoned eggs-----	90.2	35.7	24.3	11.4	91.4	52.1	40.5
Loose eggs-----	9.8	24.5	16.3	8.2	8.6	32.0	19.1
All eggs-----	100.0	34.6	23.5	11.1	100.0	50.4	38.4
Plant No. 6							
Cartoned eggs-----	62.4	35.9	24.0	11.9	89.9	52.7	40.6
Loose eggs-----	37.6	28.9	23.0	5.9	10.1	38.6	31.6
All eggs-----	100.0	33.3	23.6	9.7	100.0	51.3	39.7
Plant No. 7							
Cartoned eggs-----	46.9	38.4	25.6	12.8	66.1	55.4	41.6
Loose eggs-----	53.1	31.3	21.5	9.8	33.9	39.6	31.4
All eggs-----	100.0	34.6	23.4	11.2	100.0	50.1	38.1
All 7 plants							
Cartoned eggs-----	59.2	36.5	24.0	12.5	66.2	53.0	40.5
Loose eggs-----	40.8	30.0	21.5	8.5	33.8	41.1	33.2
All eggs-----	100.0	33.8	23.0	10.8	100.0	49.0	38.0

TABLE 6.—Eggs, shell: Variations in selling price, purchase price, and margins per dozen, by plants, with percentages of sales cartoned and shippers, June and November 1957

Plants	June 1957				November 1957		
	Per- cent of sales	Sell- ing price	Pur- chase price	Gross mar- gin	Per- cent of sales	Sell- ing price	Pur- chase price
	<i>Per- cent</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Per- cent</i>	<i>Cents</i>	<i>Cents</i>
Plant No. 1							
Cartoned eggs-----	45.3	38.1	23.5	14.6	22.9	57.5	44.5
Loose eggs-----	54.7	29.9	22.2	7.7	77.1	42.4	35.4
All eggs-----	100.0	33.8	22.8	11.0	100.0	45.8	37.5
Plant No. 2							
Cartoned eggs-----	85.7	36.0	23.9	12.1	88.1	51.1	40.0
Loose eggs-----	14.3	25.9	19.1	6.8	11.9	38.4	26.6
All eggs-----	100.0	34.5	23.2	11.3	100.0	49.6	38.4
Plant No. 3							
Cartoned eggs-----	50.9	34.9	22.1	12.8	58.3	50.7	37.0
Loose eggs-----	49.1	30.4	21.9	8.5	41.7	43.8	35.7
All eggs-----	100.0	32.7	22.0	10.7	100.0	47.8	36.5
Plant No. 4							
Cartoned eggs-----	46.9	37.4	24.5	12.9	66.1	54.5	39.9
Loose eggs-----	53.1	30.5	20.9	9.6	33.9	39.0	31.2
All eggs-----	100.0	33.7	22.6	11.1	100.0	49.2	37.0
Plant No. 5							
Cartoned eggs-----	90.2	35.7	24.3	11.4	91.4	52.1	40.5
Loose eggs-----	9.8	24.5	16.3	8.2	8.6	32.0	19.1
All eggs-----	100.0	34.6	23.5	11.1	100.0	50.4	38.4
Plant No. 6							
Cartoned eggs-----	62.4	35.9	24.0	11.9	89.9	52.7	40.6
Loose eggs-----	37.6	28.9	23.0	5.9	10.1	38.6	31.6
All eggs-----	100.0	33.3	23.6	9.7	100.0	51.3	39.7
Plant No. 7							
Cartoned eggs-----	46.9	38.4	25.6	12.8	66.1	55.4	41.6
Loose eggs-----	53.1	31.3	21.5	9.8	33.9	39.6	31.4
All eggs-----	100.0	34.6	23.4	11.2	100.0	50.1	38.1
All 7 plants							
Cartoned eggs-----	59.2	36.5	24.0	12.5	66.2	53.0	40.5
Loose eggs-----	40.8	30.0	21.5	8.5	33.8	41.1	33.2
All eggs-----	100.0	33.8	23.0	10.8	100.0	49.0	38.0

TABLE 6.—Eggs, shell: Variations in selling price, purchase price, and margins per dozen, by plants, with percentages of sales cartoned and shippers, June and November 1957

Plants	June 1957				November 1957		
	Per- cent of sales	Sell- ing price	Pur- chase price	Gross mar- gin	Per- cent of sales	Sell- ing price	Pur- chase price
	<i>Per- cent</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Per- cent</i>	<i>Cents</i>	<i>Cents</i>
Plant No. 1							
Cartoned eggs-----	45.3	38.1	23.5	14.6	22.9	57.5	44.5
Loose eggs-----	54.7	29.9	22.2	7.7	77.1	42.4	35.4
All eggs-----	100.0	33.8	22.8	11.0	100.0	45.8	37.5
Plant No. 2							
Cartoned eggs-----	85.7	36.0	23.9	12.1	88.1	51.1	40.0
Loose eggs-----	14.3	25.9	19.1	6.8	11.9	38.4	26.6
All eggs-----	100.0	34.5	23.2	11.3	100.0	49.6	38.4
Plant No. 3							
Cartoned eggs-----	50.9	34.9	22.1	12.8	58.3	50.7	37.0
Loose eggs-----	49.1	30.4	21.9	8.5	41.7	43.8	35.7
All eggs-----	100.0	32.7	22.0	10.7	100.0	47.8	36.5
Plant No. 4							
Cartoned eggs-----	46.9	37.4	24.5	12.9	66.1	54.5	39.9
Loose eggs-----	53.1	30.5	20.9	9.6	33.9	39.0	31.2
All eggs-----	100.0	33.7	22.6	11.1	100.0	49.2	37.0
Plant No. 5							
Cartoned eggs-----	90.2	35.7	24.3	11.4	91.4	52.1	40.5
Loose eggs-----	9.8	24.5	16.3	8.2	8.6	32.0	19.1
All eggs-----	100.0	34.6	23.5	11.1	100.0	50.4	38.4
Plant No. 6							
Cartoned eggs-----	62.4	35.9	24.0	11.9	89.9	52.7	40.6
Loose eggs-----	37.6	28.9	23.0	5.9	10.1	38.6	31.6
All eggs-----	100.0	33.3	23.6	9.7	100.0	51.3	39.7
Plant No. 7							
Cartoned eggs-----	46.9	38.4	25.6	12.8	66.1	55.4	41.6
Loose eggs-----	53.1	31.3	21.5	9.8	33.9	39.6	31.4
All eggs-----	100.0	34.6	23.4	11.2	100.0	50.1	38.1
All 7 plants							
Cartoned eggs-----	59.2	36.5	24.0	12.5	66.2	53.0	40.5
Loose eggs-----	40.8	30.0	21.5	8.5	33.8	41.1	33.2
All eggs-----	100.0	33.8	23.0	10.8	100.0	49.0	38.0

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TABLE 6.—Eggs, shell: Variations in selling price, purchase price, and gross margins per dozen, by plants, with percentages of sales cartoned and loose, 7 shippers, June and November 1957

Plants	June 1957				November 1957			
	Per- cent of sales	Sell- ing price	Pur- chase price	Gross mar- gin	Per- cent of sales	Sell- ing price	Pur- chase price	Gross mar- gin
	<i>Per- cent</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Per- cent</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>
Plant No. 1								
Cartoned eggs-----	45.3	38.1	23.5	14.6	22.9	57.5	44.5	13.0
Loose eggs-----	54.7	29.9	22.2	7.7	77.1	42.4	35.4	7.0
All eggs-----	100.0	33.8	22.8	11.0	100.0	45.8	37.5	8.3
Plant No. 2								
Cartoned eggs-----	85.7	36.0	23.9	12.1	88.1	51.1	40.0	11.1
Loose eggs-----	14.3	25.9	19.1	6.8	11.9	38.4	26.6	11.8
All eggs-----	100.0	34.5	23.2	11.3	100.0	49.6	38.4	11.2
Plant No. 3								
Cartoned eggs-----	50.9	34.9	22.1	12.8	58.3	50.7	37.0	13.7
Loose eggs-----	49.1	30.4	21.9	8.5	41.7	43.8	35.7	8.1
All eggs-----	100.0	32.7	22.0	10.7	100.0	47.8	36.5	11.3
Plant No. 4								
Cartoned eggs-----	46.9	37.4	24.5	12.9	66.1	54.5	39.9	14.6
Loose eggs-----	53.1	30.5	20.9	9.6	33.9	39.0	31.2	7.8
All eggs-----	100.0	33.7	22.6	11.1	100.0	49.2	37.0	12.2
Plant No. 5								
Cartoned eggs-----	90.2	35.7	24.3	11.4	91.4	52.1	40.5	11.6
Loose eggs-----	9.8	24.5	16.3	8.2	8.6	32.0	19.1	12.9
All eggs-----	100.0	34.6	23.5	11.1	100.0	50.4	38.4	12.0
Plant No. 6								
Cartoned eggs-----	62.4	35.9	24.0	11.9	89.9	52.7	40.6	12.1
Loose eggs-----	37.6	28.9	23.0	5.9	10.1	38.6	31.6	7.0
All eggs-----	100.0	33.3	23.6	9.7	100.0	51.3	39.7	11.6
Plant No. 7								
Cartoned eggs-----	46.9	38.4	25.6	12.8	66.1	55.4	41.6	13.8
Loose eggs-----	53.1	31.3	21.5	9.8	33.9	39.6	31.4	8.2
All eggs-----	100.0	34.6	23.4	11.2	100.0	50.1	38.1	12.0
All 7 plants								
Cartoned eggs-----	59.2	36.5	24.0	12.5	66.2	53.0	40.5	12.5
Loose eggs-----	40.8	30.0	21.5	8.5	33.8	41.1	33.2	7.9
All eggs-----	100.0	33.8	23.0	10.8	100.0	49.0	38.0	11.0

0.16 0.28 0.06 8.01 0.82 8.82

TABLE 6.—Eggs, shell: Variations in selling price, purchase price, and margins per dozen, by plants, with percentages of sales cartoned and l shippers, June and November 1957

Plants	June 1957				November 1957		
	Per- cent of sales	Sell- ing price	Pur- chase price	Gross mar- gin	Per- cent of sales	Sell- ing price	Pur- chase price
	<i>Per- cent</i>	<i>Cents</i>	<i>Cents</i>	<i>Cents</i>	<i>Per- cent</i>	<i>Cents</i>	<i>Cents</i>
Plant No. 1							
Cartoned eggs-----	45.3	38.1	23.5	14.6	22.9	57.5	44.5
Loose eggs-----	54.7	29.9	22.2	7.7	77.1	42.4	35.4
All eggs-----	100.0	33.8	22.8	11.0	100.0	45.8	37.5
Plant No. 2							
Cartoned eggs-----	85.7	36.0	23.9	12.1	88.1	51.1	40.0
Loose eggs-----	14.3	25.9	19.1	6.8	11.9	38.4	26.6
All eggs-----	100.0	34.5	23.2	11.3	100.0	49.6	38.4
Plant No. 3							
Cartoned eggs-----	50.9	34.9	22.1	12.8	58.3	50.7	37.0
Loose eggs-----	49.1	30.4	21.9	8.5	41.7	43.8	35.7
All eggs-----	100.0	32.7	22.0	10.7	100.0	47.8	36.5
Plant No. 4							
Cartoned eggs-----	46.9	37.4	24.5	12.9	66.1	54.5	39.9
Loose eggs-----	53.1	30.5	20.9	9.6	33.9	39.0	31.2
All eggs-----	100.0	33.7	22.6	11.1	100.0	49.2	37.0
Plant No. 5							
Cartoned eggs-----	90.2	35.7	24.3	11.4	91.4	52.1	40.5
Loose eggs-----	9.8	24.5	16.3	8.2	8.6	32.0	19.1
All eggs-----	100.0	34.6	23.5	11.1	100.0	50.4	38.4
Plant No. 6							
Cartoned eggs-----	62.4	35.9	24.0	11.9	89.9	52.7	40.6
Loose eggs-----	37.6	28.9	23.0	5.9	10.1	38.6	31.6
All eggs-----	100.0	33.3	23.6	9.7	100.0	51.3	39.7
Plant No. 7							
Cartoned eggs-----	46.9	38.4	25.6	12.8	66.1	55.4	41.6
Loose eggs-----	53.1	31.3	21.5	9.8	33.9	39.6	31.4
All eggs-----	100.0	34.6	23.4	11.2	100.0	50.1	38.1
All 7 plants							
Cartoned eggs-----	59.2	36.5	24.0	12.5	66.2	53.0	40.5
Loose eggs-----	40.8	30.0	21.5	8.5	33.8	41.1	33.2
All eggs-----	100.0	33.8	23.0	10.8	100.0	49.0	38.0