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## EC1321 Revised 1959 Our Egg Marketing Job

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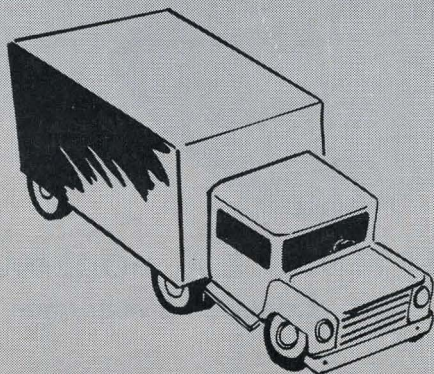
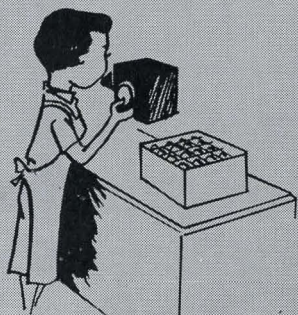
# egg marketing job



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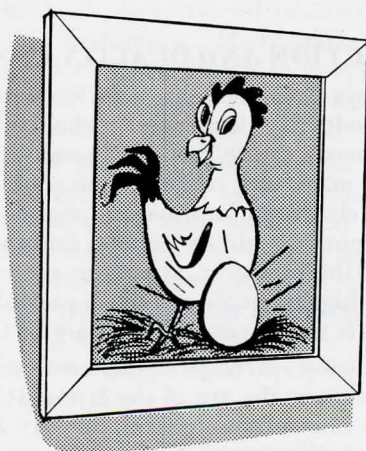


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Pictures used in the circular courtesy of  
Milton Waldbaum Company, Shrader  
Produce Co. and Scott's Poultry Farm.





### THE GENERAL PICTURE

In these days of acreage allotments and overproduction, many farmers are looking for a more stable and constant source of income. Many are going into the poultry business either for the first time or on a larger scale.

With the egg industry becoming more and more competitive, these farmers face a growing number of problems. Some of these problems can be shown by the following statistics:

1. Egg production per layer in the U. S. has risen from 178 in 1952 to about 200 in 1957.

2. Per capita consumption of eggs has steadily declined from 403 per person in 1945 to less than 360 per person in 1957.

3. Nebraska producers get less for their eggs on the average than almost all the other states. They ranked 47 in 1957.

4. States that have previously been known as egg deficit states are now producing almost all the eggs they use, forcing stronger competition for remaining markets.

Nebraska egg marketing is in a critical stage. We produce more eggs than can be used within the state, and Nebraska producers receive less for their eggs than most other states.

It is hard to pinpoint the existing problems, but they certainly are somewhere within the nine egg marketing functions. These functions represent all the services performed to eggs from the time they are laid until they are bought for consumption. They are:

- (1) Production and Quality Control.
- (2) Assembling.
- (3) Grading.
- (4) Packaging.
- (5) Storage of Surplus.
- (6) Transportation.
- (7) Financing.
- (8) Risk Assumption.
- (9) Distribution.

## PRODUCTION AND QUALITY CONTROL

Marketing has always been thought of in terms of what happens to a product after the producer releases it to some other party. Increased emphasis is being placed on the fact that producers themselves are an important part of the marketing chain. At no time in the egg marketing cycle is there a better chance to improve and maintain a quality product. After the egg is laid, nothing can be done to improve the quality of that egg. It is the duty of the producer, as well as those who handle the egg later, to maintain the highest quality product possible. This is absolutely necessary if Nebraska is to compete for its share of the egg markets.

In previous years farmers have paid little attention to the quality of eggs produced in relation to the age of the layers. It has been shown time and again that after one year of continuous lay the egg quality goes down—and so does feed efficiency. A yearly replacement program is necessary for top quality and efficiency.

Management can mean the difference between high and low quality. Such factors as year around confinement, feeding a uniform, balanced ration, and keeping clean, cool water before birds at all times certainly pay for the extra labor and cost. Keeping dry floor and nest litter and gathering eggs three or more times daily makes for a greater number of clean eggs. An adequate number of nests also helps keep eggs clean. Once eggs have come into the hands of the producer, it is his job to see that they reach the buyer in the best condition.



The farm type egg washer uses an agitated detergent-sanitizer solution for cleaning stained or dirty eggs.

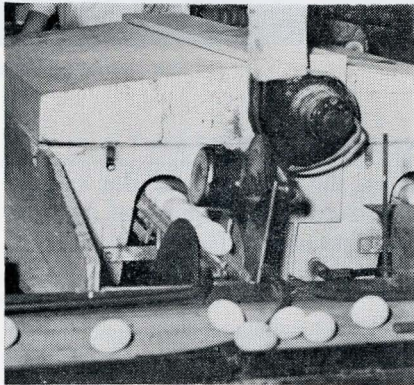
Cleaning of dirty eggs as soon after laying as possible is a "must." The use of an approved detergent-sanitizer solution without rinsing is one of the latest recommendations. In all cases, the recommendations of the manufacturer should be followed.

After eggs are washed, they should be cooled to less than 55° F. and above 80% relative humidity as soon as possible. Next morning, the eggs may be placed in pre-cooled cases. Keeping the previous temperature and humidity level until eggs are delivered to the next receiver completes the producer's responsibility. Prompt delivery is essential. Two or more marketings per week are advisable.



An increasing number of producers oil or emulsion-treat their eggs. This is done by spraying or dipping. Many marketing concerns are furnishing these materials in the hope that a thorough job will be done in sealing the shell pores of the egg. This practice reduces evaporation through the shell and tends to slow the entry of microorganisms.

Flash candling devices are sometimes used to advantage on farms. These devices are sometimes attached to mechanical sizing machines. A large percentage of blood spots, meat spots, and checked eggs may be removed in this manner. Hand candling should not be overlooked as an accurate but slower method of accomplishing the same job. In some marketing situations there is demand for on-the-farm grading. On small farms hand candling and weighing is advisable, but on a large scale, mechanical equipment is replacing hand equipment in sizing and some of the grading operations.



A large dry cleaning machine.



This producer applies all marketing steps.

## ASSEMBLING

Assembling refers to the actual grouping of eggs into case lots and then car lots. This must be done so eggs can be transported in economical units.

In previous years, route pick up trucks and grocery stores have played a large role in assembling eggs from small producers. Both methods are losing some ground. A large number of eggs are now handled first by produce buyers.

The methods of assembling eggs in Nebraska vary. This is due largely to the different interests buying the eggs.

First, there are small produce houses that buy eggs on a small scale and have to sell to a second receiver in order to gain volume. These are largely current receipt buyers and little attention is paid to individual quality. Occasionally, a small produce buyer will pay a premium for clean eggs, while some are bought on an actual graded basis.

Secondly, there are the large egg buyers who handle several truckload or carload lots a week. They usually ship directly out of the state to

wholesalers or distributors in the various market areas. These buyers buy on a current receipt or graded basis, or sometimes both.

Thirdly, the “quality program” or “program” eggs are handled quite differently. There is variation even within this class, but a general outline will cover a majority of them.

Eggs are delivered to pickup stations or picked up by route trucks. These pick-up stations retain the eggs until they are transported to the central plant to be graded or processed. Producers usually are paid on a graded basis for eggs delivered direct to the central plant.



Grading operation in 1

### GRADING OR STANDARDIZATION

Grading or standardizing eggs refers to the sorting into the various grade and size designations of the United States Department of Agriculture. This is a common practice and many states require the use of these designations before eggs may be sold at the retail level.

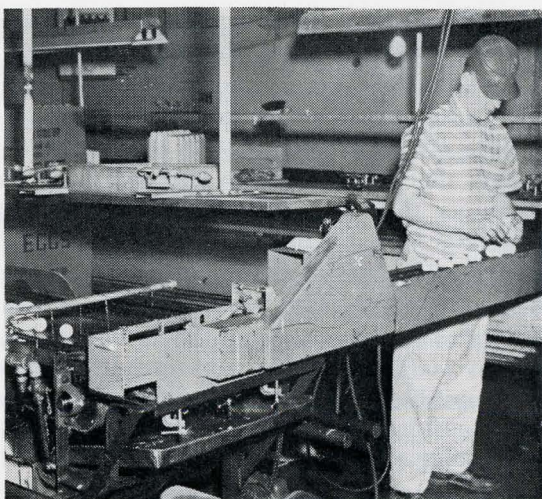
Table 1. United States Standards for Quality of Individual Shell Eggs.

	AA	A	B	C
Shell	clean; unbroken; practically normal.	clean; unbroken; practically normal.	clean to very slightly stained; unbroken; may be slightly abnormal.	clean to moderately stained; unbroken; may be abnormal.
Air Cell	1/8 inch or less in depth; practically regular.	1/4 inch or less in depth; practically regular.	3/8 inch or less in depth; may be free, but not bubbly.	may be free or bubbly.
White	clear; firm.	clear; may be reasonably firm.	clear; may be slightly weak.	may be weak and watery; small blood clots or spots may be present.
Yolk	well centered; outline slightly defined; free from defects.	may be fairly well centered, outline fairly well defined; practically free from defects.	may be off center; outline well defined; may be slightly enlarged and flattened; may show definite but not serious defects.	may be off center; enlarged and flattened; may show clearly visible germ development but no blood; may show other serious defects; outline may be plainly visible.





egg processing plant.



A large commercial sizing machine.

Table 2. Sizing.

Classification	Weight* Oz./doz. (ave.)	Weight* Lbs./case	Weight mini- num/egg (oz. per doz.)
Jumbo	30	56	29
Extra Large	27	50½	26
Large	24	45	23
Medium	21	39½	20
Small	18	34	17
Pee wee	15	28	....

\* These are the minimum weights per unit.

Sizing may be done either by the producer or one of the subsequent handlers who stand to attract a better market by this standardization. The operation is done by machine or by hand using any of the commonly accepted egg scales. Machines for sorting eggs as to size involve a series of balance scales on a conveyor that weigh the egg and remove it into the proper compartment according to weight.

### Cleanliness

*AA Grade Eggs*—Shells must be clean; a few specks or stains are considered if they are very small.

*A Grade Eggs*—Same as for AA eggs.

*B Grade Eggs*—May show slight stains; (They may cover approximately 1/32 of the shell surface if localized or 1/16 if they are scattered.)

*C Grade Eggs*—May have slight to moderate stains covering not more than 1/4 of the shell surface provided they are not prominent and do not include clinging dirt.

A dirty egg may have clinging dirt, prominent stains, or slight to moderate stains covering more than 1/4 of the shell surface.

The washing of eggs, which was considered undesirable a few years ago, is now common practice. Today many farmers use small egg washers. A detergent sanitizer solution is used to clean and protect the



eggs. Those dirty eggs which are not cleaned on the farm are washed by one of the handlers down the marketing line.

A dozen large eggs contain more food than do a dozen small eggs. The size factor, therefore, is important although it has no relationship to quality and ideal size, so cases and equipment are designed for them.

Eggs that are uniform in size and shape have a greater appeal to the consumer than eggs that are not uniform. If small eggs are packaged with large ones, the difference in size is over-emphasized.

Eggs with cracked shells not only spoil quickly but often break and stain other eggs. This lowers the grade of the entire package.

Eggs of uniform color appeal to buyers. The popularity of white eggs on any market is due in part to the first impression made by the color. It is possible to secure uniformity of color with brown eggs, but only with considerable grading effort, because there are many different tints and shades of brown eggs.

The interior quality factors are more difficult to determine than the exterior factors, but they are equally important in grading. The color and condition of the yolk, the firmness of the albumen, and the size of the air cell are the important reflectors of interior quality. Many city consumers prefer eggs with light colored yolks. Yolk color is influenced by the ration.

The quality of both yolk and albumen is affected by temperature. Eggs should be stored in a cool place from the time they are taken from the nest until they are used for food. They keep best under refrigeration where the temperature and humidity can be held very constant. Any cooler that will remain below 55° F. with high humidity is satisfactory.

Another cause of interior quality deterioration is the development of the embryo in fertile eggs. An embryo will start development at temperatures above 68° F. Fertile eggs held for three days in a room at an average temperature of 90 degrees will undergo so much development that blood will become evident, making the egg unfit for food. The production of infertile eggs does not solve all marketing problems, but it does aid in reducing losses.

Even with excellent management, there are always some small, dirty, cracked, or thin-shelled eggs which must be placed in one of the lower grades, although their interior may be of excellent quality. Some of these lower grade eggs can be used in the home, and the remainder can be sold to produce buyers who will send them to breaking plants or other salvage markets.

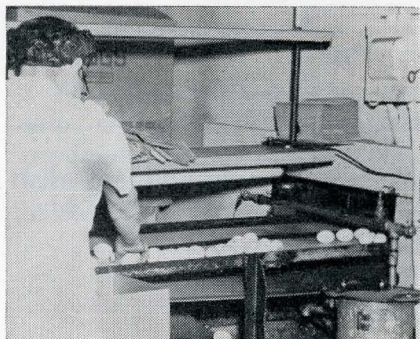
## **PACKAGING**

A standard egg case holding 30 dozen eggs is an economical and satisfactory package. Most cases are made of cottonwood, spruce, or fir lumber, or from cardboard. Cardboard cases are tending to displace those made of wood except for long distance shipment or for packing eggs that

are to be placed in cold storage. Cases are usually returned to the shipper when the distance to the terminal market is short. When shippers haul eggs in their own trucks, used cases are frequently returned as a back haul which makes the cases relatively inexpensive. The cost of the case with its complement of flats and fillers is a part of the cost of marketing most Nebraska eggs.

Honeycomb fillers, holding 36 eggs each and used with a patented flat known as the "Mapes Flat," have become standard equipment. The flats contain cushion cups, each of which holds one egg. Eggs should be placed in the fillers with the small end down. This gives the greatest protection at the weakest point of the shell, and provides a position so that the air cell remains in the large end.

Another type of case fitting is the "Keyes" filler-flat. These are one piece affairs, each holding 21½ dozen eggs. They stack six high in order to allow a full case to hold 30 dozen eggs. This type filler-flat is used on many farms to pick up eggs, and later for handling in processing plants as well as case fittings.



The packaging line in a large Nebraska produce house. Eggs may be oil processed for storage with the unit shown.

Oil processing is becoming popular as a means of preserving egg quality, along with cooling and high humidity. A paraffin base mineral oil or an emulsion, is placed on the eggs either by dipping or in the form of a spray. The oil seals the pores of the egg shell and helps prevent loss of moisture and entry of harmful organisms. Dipping is practiced when eggs are to be stored. Spraying, which takes less oil, is used on eggs to be consumed without first being stored.

### STORING EGGS

The egg production peak is reached during March, April and May. The months of low production are September, October and November. By storing eggs during the months of abundant production, supplies are made available during the months of low production. Equalizing the supply of eggs aids in equalizing the price. The purchase of eggs for storage increases the price paid the producer during the months when production is largest and decreases the price that the consumer must pay during the low production season.

The storage of shell eggs is diminishing rapidly as production stabilizes from season to season. Frozen egg and dried egg storage is diminishing at a slower pace. This is due to a difference in demand. Frozen and dried products are used in the baking trade and other related enterprises and have a more rapid turnover.



In some years the storage of eggs is profitable, but in other years stored eggs are sold at a loss. At the time eggs are placed in storage, no one can correctly estimate how strong the demand for eggs will be during the autumn, or the volume of eggs that will be produced during the fall months.

Cold storage warehouses are usually cooled by mechanical refrigeration. Temperatures from 29° to 32° F. are maintained for shell eggs. A relative humidity of 90 per cent is considered desirable.

Only clean, fresh eggs of high quality, packed in clean flats and fillers, should be stored. The quality of an egg is never improved during storage, but the quality of poor eggs may deteriorate noticeably.

The cost of storage varies according to the number of cases stored under one ownership, and according to the length of time the eggs are left in storage. A typical storage schedule is as follows:

	Handling charge	Monthly storage charge
39 cases and less—per case	19¢	11¢
40 cases or more—per case	14¢	8¢

In general, storage costs are somewhat lower in the Midwest, where most of the surplus eggs are produced, than in the larger markets where wage rates and real estate values are higher.

## TRANSPORTATION



Unloading a truck used to assemble eggs from smaller buyers. These eggs are going into a large cooler prior to being processed.

The sections of the country that are deficient in egg production include the North Atlantic states, some of the southern states and the Southwest. About 20 per cent of the people of the United States live in cities of 100,000 or over in an area which has Boston, Buffalo, Pittsburgh, and Washington at its 4 corners.

A large part of the grain fed to poultry and dairy cows in this region is shipped from other areas. The cost of shipping a carload of eggs from Omaha to New York City is less than the cost of shipping enough grain to produce that carload of eggs.

The freight rate on eggs in carload lots from Lincoln, Nebraska, to New York City is \$2.20<sup>1</sup> per hundred, or a little more than 3 cents per dozen. Rates are slightly higher for less than carload lots.

Express shipments are not justifiable because of cost. Motor trucks have been adapted for long hauls in competition with refrigerated railroad cars and have proven more satisfactory.

### **FINANCING**

Under normal conditions about 1,000,000 cases of eggs are in storage on the first of August. At a conservative valuation of \$10 per case, the owners have \$10,000,000 invested. Even in the ordinary movement of eggs to market, someone must furnish the capital necessary to ownership from the time the eggs leave the producer until they reach the consumer.

Warehouse receipts for eggs held in cold storage are accepted by banks as collateral. The maximum amount that a bank will loan is ordinarily about three-fourths of the value of the eggs stored. Loan rates vary to some extent, but in recent years have generally not exceeded six per cent a year.

### **RISK ASSUMPTION**

The eighth marketing function is that of accepting the risk of ownership. Ownership of anything, anywhere, at any time carries with it the possibility of loss through price change, depreciation in quality, or destruction by fire or tornado. It is possible to shift some of the risks of ownership. Stored eggs may be insured against loss by fire or tornado or hedged against a falling market by selling eggs for future delivery. An owner of property must either bear the risk of ownership, or pay someone else for assuming the risk.

### **SELLING**

Market eggs are usually transported to consuming markets in lots of about 500 cases. These are usually sold in carload or truckload lots to wholesale receivers who in turn sell the eggs to retailers in case lots, or in cartons holding one dozen eggs. The large retailer may need to buy ten or twenty cases of eggs to supply his trade for two or three days, whereas the smaller retailer may buy only one case or less at a time.

Both wholesaler and retailer must watch credits and collections, supply accounting service, and provide refrigeration.

The use of cartons for packing eggs sold at retail has increased in recent years. Cartons give protection, ease in handling, and an opportunity to advertise at a reasonable cost. Usually the cartons are packed at the wholesale plant, but sometimes the retailer buys in case lots, and transfers the eggs to cartons.

<sup>1</sup> September 1, 1958.





## **SUMMARY**

Marketing eggs does not consist merely of taking the eggs to the grocery store or the cream station. On the average, Nebraska eggs are shipped 500 miles or more before reaching the consumer. The marketing process includes the various services that are performed to get the eggs to the consumers in good condition.

The producer should be concerned about the quality of his product. He should do everything in his power to produce the best and sell the best. The producer himself can do more than any other segment of the egg marketing chain to put Nebraska eggs on a competitive basis with other egg surplus areas.

Improvements in marketing will come as rapidly as understanding and appreciation of the essential marketing services are developed. A study of marketing helps producers to discover weak points in the production program. The eggs purchased by a consumer cannot improve in quality after they arrive at the local assembly point. The most important consideration in any marketing program is to supply a product that consumers want.