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TECHNICAL

STUDIES IN EGG-MARKETING

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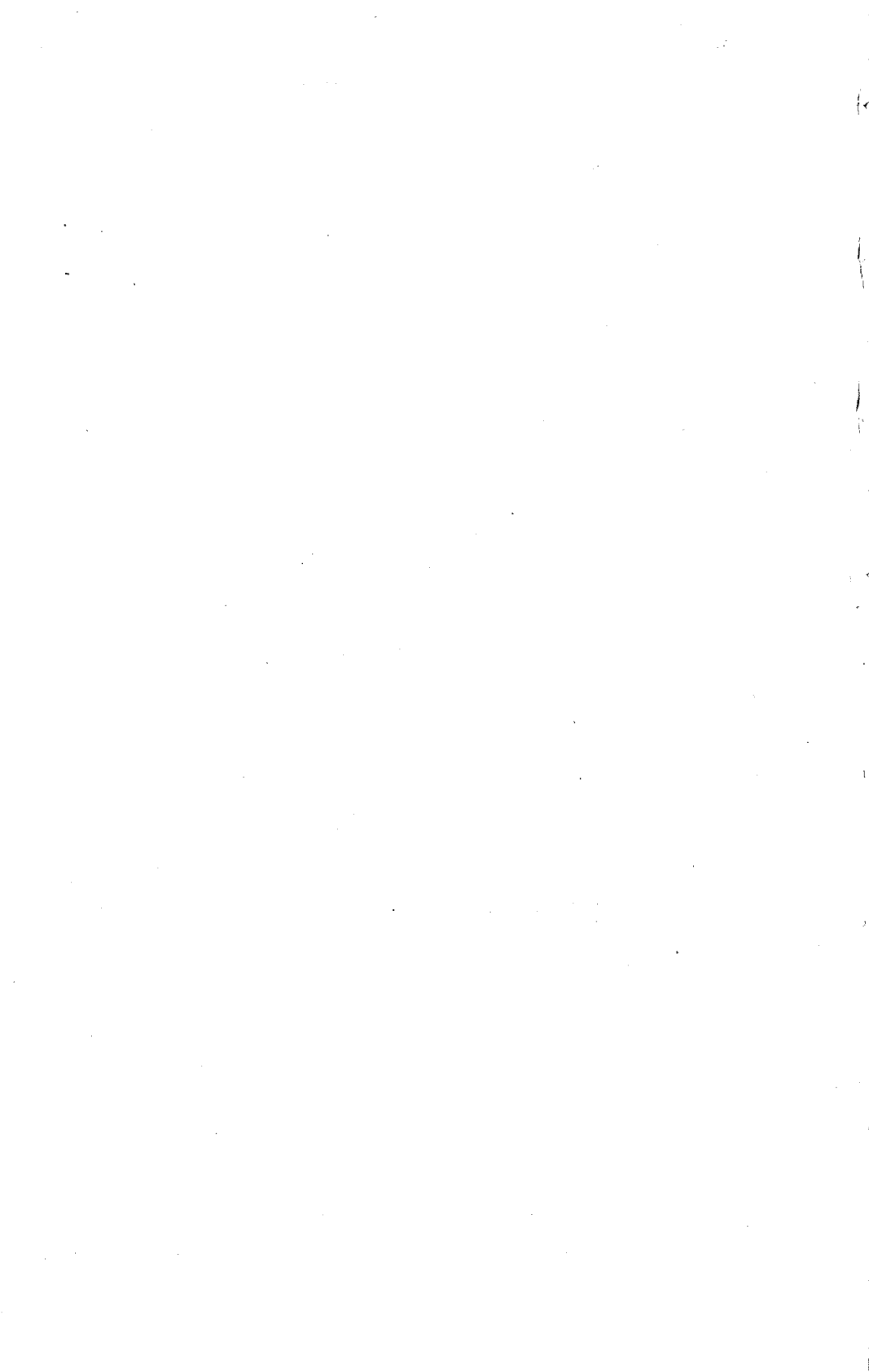
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BUREAU OF RESEARCH IN AGRICULTURAL ECONOMICS



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SUMMARY

Country merchants were unable to reach the primary markets through any other avenue than that of the commission man so long as the conditions of shipment involved great hazard.

As improvements in transportation and refrigerator service diminished the risks of handling, jobbers found inducement to enter the primary markets and buy outright from local country dealers.

The growth of jobbing has now practically displaced the handling of eggs on commission in all western primary markets except during periods of falling prices.

In recent years certain localities have developed a system of marketing eggs directly to city retailers without the aid of middlemen. The success of such direct shipments has been mainly conditioned upon the ability to create and maintain a special market for high grade quality.

While the net margin on which jobbing is being done is only one-third or one-fourth of what it was ten or fifteen years ago, the gross margin has been kept unnecessarily large because of losses in candling, sorting, and repacking—mainly due to the "case-count" policy of purchasing eggs in the local towns. On the other hand, the cost of storing has been reduced through economies from increased volume of business, especially by a saving on loans and insurance.

Cold storage lessens fluctuations in prices at different seasons and renders a high-class product available to consumers during periods of scarcity. At the same time it suggests the danger of a possible control of the market—a danger seemingly less ominous where several channels between producers and consumers are afforded by the direct method.

The evil of selling storage eggs as fresh points to the need of legislation placing public cold-storage plants under Government regulation and control.

STUDIES IN EGG-MARKETING

THE EARLY METHOD OF EGG-MARKETING

The early method of marketing eggs from the farm was to bring them to the country merchant who received certain farm products in trade for groceries, dry-goods, or other wares for sale in the store. This method proved very helpful to the average farmer under pioneer conditions. Aside from the returns of the grain crop in the fall, there was as a rule no income forthcoming during the different seasons of the year except what could be secured in trade for butter and eggs or the occasional sale of live stock. This advantage was especially apparent during years of partial or complete crop failure resulting from hail, rust, or the ravages of the grasshopper or chinch bug. Many a family in the Northwest has thus seen its cash crop swept away in a few moments and has been forced to tide over to the next season by limiting the expenditures of the household to the meager returns from eggs and butter.

This method of egg-marketing was also helpful to the country merchant because his trade was limited mainly to farmers and sales had to be made on long time credit, awaiting the returns of the fall crop. In the event of failure in the fields, it was necessary to extend credit till the following season. Because of the prevalence of long time credit to the farmer, it was necessary for the merchant to adjust his obligations to the wholesaler or jobber by means of loans from a local bank or with the dealers themselves.

To the extent, however, that farmers brought eggs or butter to the store the merchant had for a time the benefit of almost a cash transaction. The shipment of butter and eggs brought money returns without appreciable delay. This is an important reason why the country merchant catered to the egg and butter trade. Another motive also prompted the merchant to deal in farm products. He soon realized that farmers were prone to make practically all purchases at one store and that the choice of a store depended mainly upon what the farmer regarded as the best market for his produce.

Competition between merchants for the farmer's trade stimulated them to make as favorable quotations as possible. The merchant gradually became accustomed to this showing on the egg and butter business, however, and did not expect any direct gain from this source.

To him the great gain was indirect. The merchant was, of course, running the store for the sake of a profit but he was compelled to regard the handling of eggs not as a business in itself but as a means to other business. Taking in eggs and butter meant selling goods from the store.

It was the sales of merchandise that became the source of profit. The prices charged for different kinds of goods were made so high that the resulting gains brought full return to the merchant for his trouble and risk in handling the farmer's produce. The distribution of these profits among different classes of merchandise had to be made according to "what the traffic would bear." Only a small margin was possible on certain staple articles such as granulated sugar, flour, kerosene, and coffee. The highest percentages of gain were, therefore, applied at varying rates on other classes of goods the values of which were not so well known to the consumer.

Attention has thus far been called to certain advantages of the early method of egg-marketing both to the farmer and to the country merchant. Such a marketing agency was sufficient in itself to the extent that the local market was large enough for the unloading of the farmer's product. The very existence of this sort of business between the farmer and the merchant on any considerable scale, however, gave rise to the need of a class of dealers elsewhere who could receive shipments of farm produce from the country merchants on practically a cash basis. Recognizing the opportunity afforded by this need, certain men established themselves at the more important centers of trade for the purpose of handling products such as eggs and butter. What at one time proved to be the most advantageous method of marketing eggs locally both for the farmer and country merchant also offered advantages to a certain class of dealers in the large cities. In other words, the very existence of the kind of egg-marketing made necessary locally because of the status of the early farmer and country merchant also made necessary a certain type of middleman in the leading marts of trade. In order to appreciate the position and function of the middleman agency thus rendered indispensable, it will be necessary to revert to the local communities and analyze more carefully the nature of the handling of poultry and eggs by the farmer and country merchant.

The most striking fact relating to the care of poultry and eggs under the earlier type is the utter lack of attention given to it. During the major portion of the year, the flock of chickens was left to take care of itself. In the same way that cattle were allowed to graze over vast stretches of free land with no interruption except that of the annual "round-up," so, too, the chickens of the early farm roamed at will, gathering food wherever their scratching brought results and

depositing eggs wherever surroundings suggested a minimum of disturbance. The hennery was a place of last resort, sought out as the seat of refuge against the invasion of wild animals or inclement weather. From fall until spring the accumulation of filth often went on unabated. In places momentary relief may have been afforded by a covering of straw. The situation as a whole, however, is not inaccurately reflected by saying that frontier farmers rarely took the time to clean their chicken houses. In such a place, with poor ventilation and poor light, the fowls were huddled together, pending the cold season, and handed a ration of feed the quantity and quality of which were determined by the "leavings" conveniently at hand and unfit for other uses rather than by the needs of the poultry. The limited attention given to the care of poultry devolved upon those who presumably had time to spare. It was not regarded as a man's job but was usually left to the housewife or children. The time for gathering eggs was usually determined according to the needs of the household and then it was often sufficient to bring enough eggs for the purpose in hand. A thorough search covering all the premises was generally left as an important part of the preparation for a trip to town.

At such irregular times as it was deemed convenient to go to the local market the egg basket was taken along. The exposure en route varied with the season of the year. By far the larger portion of eggs was sold during the spring and summer months, however, and little or no thought was given to the care of eggs on the road except precautions to prevent breakage.

The country merchant received the eggs in bulk at a flat rate per dozen. According to this method "an egg was an egg" and one dozen was treated on a par with another. One farmer might be methodical in his habits, gathering his eggs with regularity and bringing them to town at certain intervals. Another farmer might be entirely devoid of method, coming to town at uncertain intervals and bringing eggs the quantity and quality of which would be equally uncertain.

Aside from the small volume of eggs sold locally, no attempt whatever was made by the merchant to distinguish between the different lots of eggs prepared for shipment. He had neither knowledge of how to discriminate nor facilities that would assist in so doing. On the other hand, his own quarters were seldom if ever fit for the storage of eggs pending shipment. Some corner in the back of the store in close proximity to a barrel of fish, a stock of tobacco or cheese, often served the purpose. Shipment would then be made whenever deemed expedient in the light of the supply on hand, the merchant's time, and the facilities for transport.

In preparing shipments the merchant resorted to methods very

different from those in vogue to-day. One way was to pack the eggs in oats, bran, shorts, or salt, in wooden shoe boxes. As many as one hundred dozen were placed in each box. Another common method was to saw a barrel in two at the center and equip each tub-shaped half with rope handles. The eggs were then dumped in without even packing material and were left uncovered on top. The latter method of packing eggs for shipment from country stores was very prevalent during the seventies. It is true that wooden cases with fillers were known at that time, but the price, ranging from one dollar to one dollar and twenty-five cents per case, was so high as to be well nigh prohibitive. The price was lowered during the later seventies, however, and from then on the cases with fillers came into more general use. The early system of packing, together with the rough handling in common box cars in transit, caused a great deal of breakage. When the egg shipment reached the central market, therefore, it was generally in a deplorable condition.

The reader may be led to wonder what sort of a middleman from the central market could be induced to deal in eggs thus offered by the country merchant. Who was looking for a product representing widely different grades and still more varied histories, delayed at uncertain intervals on the farm and in the country store as well as during the period in transit? The method of handling eggs convenient at that time for the country merchant and the farmer attracted just one group of middlemen in the large cities and they did not buy the eggs outright but handled them for the country merchant, receiving a certain percentage of the gross returns. When the country merchant desired to get beyond the local market, he found that this was the only class of middlemen in the large cities who were willing to handle the kind of product he wanted to sell. These middlemen did not care, however, to take the risk of buying the country merchant's eggs outright. It is thus evident that the only outlet for eggs beyond the local market during that early period was through the medium of the commission man.

It is estimated that the unnecessary waste of eggs in the United States at present due to poor quality is at least seventeen per cent. The loss from this source during earlier years must have been very much greater. It should also be remembered that most of the eggs are shipped during April and May. The large amount available at that time tended under the earlier method to depress the price to its lowest figure. With present-day facilities for storage unknown, few of the eggs could be carried over to a later season. A market thus overstocked with an ungraded product naturally tended to a low price. The high percentage of waste depressed the market quotations still more. The price of eggs in the early eighties illustrated this tendency.

At that time many Minnesota farmers sold eggs in the spring at six cents a dozen and even less, while in some instances they could not be marketed at all.

During those early years the risk involved in handling eggs was very great. In disposing of eggs commission men were constantly confronted with complaints from city retailers on account of the quality of the eggs furnished. On the other hand, the country merchant was dissatisfied because of the low price received. The income of the commission man varied, of course, with the number of eggs handled. It was to his advantage, therefore, to increase the volume of business as much as possible. To do this he tried to hold the trade of the country merchant already sending consignments and to induce other merchants to give him their shipments.

The stress of competition between commission men often led to grave abuses. On initial shipments from a country store returns would sometimes be forthcoming which looked better than the average. Some commission man had perhaps padded the returns in order to secure trade. Later, however, on some large shipment from the same source the returns would perhaps be unusually low, due perhaps to a high percentage of waste or partly perhaps to dishonesty in the commission man. In any event the returns were so often characterized in this way that country merchants and country people in general came in later years to distrust the average commission man. Nevertheless, it must be noted that this was the only agency available in the larger cities to take shipments of eggs from country merchants under the early method. The fact that abuses crept in should not blind one to the essential need of this agency under the conditions.

Most of the eggs received on consignment by commission men were sold to city retailers. The commission man had to pick over the eggs, sorting out the "breaks" and candling what was left. All eggs salable to city retailers were of one grade—"a good merchantable egg." There was no market at all for "seconds" or "cracks." Certain dealers stored quantities of eggs in ice-houses, a kind of storage unthought of to-day. The presence of refrigerator service between the Twin Cities and the East rendered shipments practicable over the trunk lines, but there was no refrigerator service to Minneapolis or St. Paul from outlying points in the State. Local shipments were made in ordinary box cars and were subjected to the delays characteristic of early freight service. The percentage of loss on shipments east was very great. By the time a consignment of eggs had reached an eastern market, the breakage and deterioration had become appalling. The eastern commission men came to look upon these eggs as an inferior grade of goods and habitually exercised wanton carelessness in handling them. They seemed to reflect the spirit

that it was not worth while to be careful since the eggs were not worth much anyway. In any event they would, of course, charge up losses from breakage and deterioration to the owner of the consignment. What the commission man wanted was to handle a big volume of business since his commission of one cent per dozen or from five per cent to ten per cent on the gross amount handled varied with the amount of traffic. The more he rushed his work, the more bulk he could get off his hands at a given expense. To him the loss in commission on breakage or deteriorated eggs was not sufficient to stimulate careful handling. In other words, it paid better from the standpoint of the commission man to seek volume of traffic and lay the blame for losses on forces already notoriously at fault.

As already stated, there were certain classes of dealers during the early period who attempted to store eggs until the season of relative scarcity. The ice-houses used were necessarily damp since the later system of pipes or conduits providing for air circulation was practically unknown. A successful system of egg storage demands proper conditions both as to temperature and humidity. It is now held that the best results are secured where the temperature is kept at $29\frac{1}{2}^{\circ}$ Fahrenheit. If the air is appreciably colder the eggs will freeze. If the temperature rises above $29\frac{1}{2}^{\circ}$ the eggs will not keep so well. As regards humidity, the ideal figure is held to be 74° . When the air is drier than this it will hasten shrinkage. If it is more damp the eggs tend to become moldy. The extreme dampness of the old ice-house system of storage together with its poorly regulated conditions of temperature inevitably led to great losses, the risk of holding eggs was correspondingly increased, and few dealers ventured to store any considerable number. This necessarily reacted upon the conditions of the market. It meant that the great bulk of eggs would be unloaded during the spring and summer months when eggs were relatively plentiful and that the price of eggs during these seasons would be correspondingly low. It also meant that there would be a dearth of eggs during the winter season when eggs were relatively scarce and when no extensive reserve fund was available to draw on. The resulting high price during the winter season stood out in marked contrast with the ruinously low prices characterizing the season of plenty.

We are now in a position to appreciate the general effect of the early mechanism of egg-marketing. Our analysis thus far has shown that the farmer had no inducement under the early method to furnish a superior quality. On the other hand, the early system put a premium on inferior quality furnished from the farm. The system in vogue placed the farmer who was careless or dishonest on a par with men who were reliable and painstaking in the care of the products

furnished. We have also seen how the country merchant was induced to adopt this early method. Taken by itself egg-handling to him meant a direct loss. Used as a means to other business, however, it was found profitable. Looked at from the standpoint of the present-day accountant, the egg business of the country merchant would undoubtedly be charged up mainly to advertising. The country merchant wanted to hold his customers. Even though he knew that a number of eggs in a farmer's basket were unfit for use, he would nevertheless take them in at the market price in order to retain the good will of the farmer. The country merchant also wanted to attract new customers. His practice of paying full price regardless of source, therefore, became general. To the farmer it became virtuous to be shrewd and deceptive, while to the country merchant there was considerable virtue in smiling approvingly on the wares of a patron even though the merchant knew the goods were delivered under false pretenses. Likewise the opportunity for questionable practices was not lacking in the case of the commission man. He was far enough away to feel immune from the surveillance of interested parties. It was so easy to lay the blame for losses upon forces over which he had no control. He could notify the owner of the consignment that the shipment had been subjected to unusual breakage from careless handling or to considerable deterioration from delay in transit or exposure to extreme weather and it left the country merchant with little recourse. The same commission man had perhaps won the good opinion of the merchant on an initial shipment by reporting an account of sales showing very favorable returns. Moreover, it was usually the irresponsible and unscrupulous commission man who reported most deftly to country merchants on initial shipments. The honest commission man who gave accurate returns was accordingly misjudged, while subsequent consignments from country merchants would be billed to the man whose padded returns had created the most favorable impression. It thus became a practice among commission men to report inflated returns on the initial consignments from country merchants and exercise ingenuity in making up for this advertising by judicious juggling on subsequent shipments.

Enough has been written to reveal the inevitable tendency under the early method of egg-marketing. Under this method we have seen how men were placed in a new set of relations and were trying their best to succeed in the new environment. They used such power as they had in running the new machinery. If they found that what we consider immoral qualities made the machinery run better, it was but natural that they should try to use them.

In this connection it is well to remember that no device or mechanism can be said to be best in an absolute sense. No method of egg-

marketing is best for all times and conditions. Any method may be best provided we apply it to times and conditions which it fits. The fact, however, that times and conditions are constantly changing suggests the inevitable effect of trying to perpetuate a given method for any great length of time. While it is important, therefore, to appreciate the merits of the early method of egg-marketing as applied to the pioneer conditions through which Minnesota passed some decades ago, it is fully as important to note the changes in method adopted wherever communities have successfully readjusted themselves to changed conditions. It is to a study of changes from the early method of egg-marketing that the reader's attention is directed in the following section.

THE INDIRECT METHOD OF EGG-MARKETING

So long as the farmer was able to get all the things he wanted by trading his products at the country store, the early method of egg-marketing proved fairly satisfactory. As soon, however, as he began to want other things than those for sale by the country merchant, he began to realize the limitations of his local market. It tied him down to the barter method afforded at the country store. It meant a kind of trading restricted to the wares and terms of the country merchant. Only when several local stores were bidding for the farmer's butter and eggs, did the stress of competition tend to increase the exchange value of these products and widen the range of choice open to the farmer.

The situation was somewhat different when the farmer arranged for the disposal of his fall crop. The grain was sold at the local elevator for cash and the money thus secured enabled the farmer to pay his taxes and engage in other transactions involving the need of general purchasing power. There was a certain independence of movement acquired through the ownership of money which appealed strongly to the individualistic temperament of the average farmer. The amount of freedom thus acquired was very limited, however, for the average pioneer. Whatever money was available from the sale of grain often was needed for taxes, interest on loans, and partial payments on indebtedness. As already stated, the pressure of these fixed charges was especially severe during seasons of crop failure and it was then that farmers came to realize the value and need of other sources of income.

Neither returns from grain at the elevator nor the trading in farm products at the store continued for any great length of time to meet the growing needs of the farmer. He saw the increasing uncertainty

of a crop income and became more and more restive under a relation of continued dependence upon the country merchant.

Thirty years ago it would have been difficult to foretell how relief was to be afforded. The farmers themselves were scarcely in a position to change the system. They were, as a rule, too poor to undertake any other method. From their standpoint the facilities already available were the best they could afford to have. Struggling almost empty-handed against the powerful forces of nature, they needed every resource at their command in order to succeed in the arts of production, and had but little means and feeble effort available for the improvement of marketing facilities.

The farmers were also at a disadvantage because of undeveloped facilities for transportation. A prompt and adequate railway service is not afforded the sparsely settled frontier community. From the standpoint of railway economy it does not pay to furnish it. Nevertheless, it is to the interest of agencies of railway and water transportation to improve the machinery of conveyance for the territory they serve as rapidly as the growth of traffic permits. Improvement in the quality of service is installed wherever it results in additional business. If, however, the members of a given community do not utilize the means at hand, the managers of transportation are likely to withdraw the unused service and thus adapt the facilities to the effective demands of the people. This has been especially noticeable in smaller places where the outgoing channels of transit have gradually become adjusted to a backwardness of conditions in general.

The dependence of community life upon its facilities for transportation is vital in the development of marketing. Outside buyers experience insuperable difficulty in securing from backward localities the quantity wanted of a given product at the time it is wanted. Other communities further developed and with up-to-date systems of transportation will attract buyers because of the opportunity to secure in sufficient amounts a kind of product which the consumers are anxious to get and because the organization of means of conveyance renders it possible to bring such products to their destination without delay and with proper care in transit. The part played by the organization of the transportation service is fundamental, therefore, in the development of the marketing facilities for any community.

We are now in a position to understand how it was the gradual improvement of transportation facilities that paved the way for the kind of relief the farmer was seeking. This was accomplished in two ways. It made possible an expansion and reorganization of the local market. It also led to the establishment of better connections with the primary markets and to the rise, in later years, of a new form of organization which has greatly modified the farmer's local market.

The first relief to the farmer of the Northwest from the limitations imposed by his relations to the country merchant did not come through changes in methods of egg-marketing. The old method of barter and its consequent dependence upon the country store continued in the marketing of eggs long after the farmer had devised another means of improvement. Moreover, the uncertainty of a one-crop system was not in itself sufficient to cause farmers to turn to other lines of work. It was a new difficulty which had gradually arisen and which compelled the farmer to mend his ways. Large numbers would undoubtedly have continued in the old and beaten path, facing the uncertainty of the fall crop as well as the limitations of the country store market, if they had not confronted the new difficulty. As the land became relatively scarcer and therefore higher in price, the farmer found at the same time that his method of continuous cropping had led to the spreading of obnoxious weeds as well as to a depletion of the fertility of the soil and to a consequent falling off in the yield per acre. Such a method of abusing the land could not continue. Only after this had gone on for some time, however, and after the pressure had become severe, was the farmer compelled through stern need to attempt some form of readjustment. It was under conditions such as these that the farmer sought relief by resorting to live stock farming.

The need of keeping cattle in order to continue grain farming successfully tended to direct the farmer's attention toward problems pertaining to the price return of grain and that of the live stock industry. The effect is seen in attempts to organize co-operative elevators and creameries, while the revolt against the country merchant is revealed in numerous ventures to establish co-operative stores.

In the meantime, certain forces were slowly being set in motion which were destined in time to alter radically the methods of egg-marketing. A steady improvement in the agencies for transportation and the perfecting of a dependable system of cold storage led to far-reaching results. The former paved the way for a widening in the area of the market. The latter made possible an extension of the market in time as well as in space.

It is important to appreciate the significance of this constant widening of the market. Where buying and selling are confined within narrow limits, the price level is subject to sudden and violent fluctuations. Every widening of the field makes for greater stability and steadiness in the level of prices. As improvements in transportation took place, they had the effect of bringing a larger and larger number of buyers and sellers within the range of a given market and thus made for stability in price. The perfection of cold storage made possible considerable buying and selling for future delivery as well as

for present needs. People were thus permitted to draw upon large areas for the supply of a given product and to equalize the conditions of supply the year around by transferring from the surplus seasons to those of relative scarcity. We have noted how the commission man was the sole intermediary for shipments to primary markets during earlier years. As the field of buying and selling gradually widened, however, with improvements in transportation and cold storage, and as the resulting conditions of marketing became relatively more secure, another class of middlemen from the larger centers of trade were attracted toward the business of dealing in farm produce. The method adopted was that of sending agents into country towns for the purpose of buying certain products including eggs, poultry, and butter for city shipment and at the same time selling other classes of goods such as fruits to be shipped to the locality from the primary market. The transactions thus carried on through travelling agents were ordinarily made with country merchants. Each agent carried a draft book from the firm he represented in the city. He would buy farm products such as eggs and butter from the country merchant and pay the price with a draft on his company. In order to safeguard the shipment of the farm products purchased, provision was made so that the country merchant could not cash the agent's draft unless it was accompanied by a bill of lading showing that the produce had been shipped to its proper destination. To this end a statement was printed across the face of the draft somewhat as follows: "Original shipping receipt positively must be attached to draft, otherwise it will not be honored." The territory of each agent usually included from twenty to thirty towns so situated along a railway that all the places could be visited every week or fortnight. Where men travelled thus from one community to another, it would not have been possible to cover expenses if the buying or selling had been limited to some one commodity. By dealing in a wide variety of products, some for purchase and others for sale, the field work could be carried on at a comparatively small expense on each of the various products handled.

This system of cash buying was started through agents from the Twin Cities more than twenty years ago. The business has been constantly growing until we now find cash buying firms with headquarters in the Twin Cities, Duluth, and in a number of the smaller cities such as Alexandria, Hutchinson, Paynesville, and Willmar, whose agents visit practically every community in Minnesota. These firms differ among themselves both as to the variety of products in which they deal and as to their method of handling these products. The firms are all alike, however, in that each of them does business on a fairly large scale. All of these firms cover relatively wide fields both

in their buying and in their selling, and for the purpose of this discussion will be designated as cash buying firms.

In order to appreciate the nature of the egg business carried on by cash buying firms let us take as one of our types a firm having its headquarters in one of the larger cities and engaging in both wholesale and retail business. Its transactions will include the handling of perhaps a dozen carloads of eggs daily. A large number of regular agents in the field provide for most of the buying. Additional purchases come through creamery men, country merchants, and wagon men or special travelling agents who are added to the force of regular agents during the months of heaviest buying for cold storage. Such a firm will also make purchases from time to time from other cash buying firms. Most of the smaller purchases are shipped in to headquarters in less than carload lots directly from country towns. A certain day each week is selected as shipping day from each town. The exact day chosen is usually determined in the light of the kind of refrigerator car service available. Egg purchases from the different country stores are assembled at the depot in time for shipment. In some instances the eggs will be candled locally and classified accordingly. Most of the time, however, no attempt of this sort will be made at the local station. The eggs, packed in cases, are then sent to headquarters in the city. Here all eggs are candled by experts whose knowledge, experience, and equipment enable them to classify eggs far more accurately than can be done in the local towns. While the average quality of eggs received at present is far superior to what it was five or ten years ago, shipments of eggs are still received in such condition that considerable room is left for improvement. The candling test of three shipments of eggs received by one large cash buying firm from country towns during the month of September reveals the following record:

GRADES FOUND IN THREE SHIPMENTS, SHOWN AS PERCENTAGES

Shipment	Firsts	Seconds	Cracks	Rots
A	67	19.0	8.0	6
B	73	10.0	10.0	7
C	86	7.5	1.5	5

The above eggs had been candled by country merchants and were reported in first-class condition. They were shipped in refrigerator cars and candled at the headquarters of the firm within four hours after arrival. The particular shipments referred to above are not cited as examples of average local candling. They show how necessary it is, however, to subject shipments to rigid inspection on arrival at the primary markets.

After all eggs have been candled and graded, several methods of disposal are open to the firm. Large numbers of "first-class" eggs may be sold directly to retailers, first-class hotels, or restaurants. "Seconds" may go to second-class eating houses, inferior retail firms, and bakeries. The last named class of establishments usually buys the "cracks" or "checks." Eggs classified below the above mentioned grades are not marketable for food purposes at all and are therefore worked over into some manufactured product.

Instead of selling in small amounts to retailers, the firm may prepare carload lots and ship to other primary markets. It is in this way that the surplus egg supply of the region is distributed over other parts of the country. Such shipments go east to Chicago or New York, to southern cities, or to primary markets on the Pacific Coast. In recent years an important outlet for such shipments has been afforded at Winnipeg and other Canadian cities.

The extent of carload shipments has now assumed important dimensions. Egg trains are speeded with dispatch to the leading primary markets of the East. Whether eggs are to be sold in small lots directly to retailers or indirectly through city wagon men or shipped in carload lots to other primary markets depends at any given time upon the state of the local market as compared with that at other points. This balancing of sales between local and distant buyers tends to equalize price conditions over large areas.

Still another method of disposing of the eggs is open to cash buying firms. This consists in either holding the eggs and placing them in cold storage or selling them to other parties who make a business of cold storage. In either case the effect is to remove the supply from the stock immediately available and to enlarge the reserves for seasons of relative scarcity. To the extent that the supplies for the time being are thus diminished, present prices will tend to be raised. After due allowance has been made for possible deterioration during the period of storage, for interest on the capital invested, and for the rental charge, the tendency will be to place in storage rather than sell for present use so long as the prospective future price offers greater inducements than present market quotations. Here again will be a balancing between two distinct markets. In the same way that the cash buyer weighs the relative advantages of selling in small amounts to local retailers or shipping in carload lots to other primary markets, so, too, will he weigh the comparative worth of sales in the present and sales at some future time. Moreover, the tendency toward equalization in prices between future and present uses will also be operative in the same way that prices tend toward equality over large areas.

If the business of trading in eggs is to have the advantages of the

wide field made possible by shipments to other primary markets and by storage for future sales, inducements must be at hand so that men will find it profitable to perform the middleman functions necessary in order to make these fields accessible. The interests of both farmer and consumer demand that the egg supply shall be distributed between local and distant markets and between present and future uses. Both kinds of distribution are necessary in order to prevent violent and wide fluctuations in prices.

The type of cash buying firm referred to above represents the larger companies which sell both at retail and wholesale and which also store supplies for the future market. Such firms may also enter into special agreements with parties to deliver eggs at some future date at a stipulated price based on present quotations together with charges for rentals and interest and customary losses from deterioration. Where this is done, the uncertainties of future price disturbances are practically eliminated for both buyer and seller.

The other types of cash buying firms do not attempt to exercise all the different functions enumerated above but rather limit their work to some particular line of activity. One firm may buy from country merchants on the basis of mailed quotations which are good on shipments made from local towns before specified dates. In this way purchases are often made without the aid of the field agent. The shipments thus received may be sold largely to the retail trade or to hotels and restaurants.

Another type of the cash buying firm is seen in companies ordinarily identified with the business of cold storage. These are found in both larger and smaller cities and do their buying through field agents or mailed quotations or, perhaps, through a combination of these methods. Their sales, however, are usually confined to carload lots which are shipped to other primary markets. The smaller storage plants usually make their purchases largely for the purpose of immediate sale, while larger firms may also hold considerable quantities of eggs for a future market.

The far-reaching importance of cold storage in widening the market in time as well as in space demands further emphasis. Few appreciate the extent to which the conditions of egg supply have been adjusted to the needs of the consumer at all seasons of the year by means of the storage system. Some there are whose limited and imperfect knowledge of conditions lead them to urge that cold storage should be abolished entirely. They have perhaps become familiar with certain abuses of the system, certain attempts to control supply and thus control prices. It may be, too, that experience with eggs kept in storage has revealed a deterioration in quality that has inspired general distrust as to the efficiency of the system. Both of

and May and a smaller portion during June, whereas the movement of eggs out of cold storage takes place mainly from October until February.

The effect of this distribution of supplies is seen in the lessened fluctuations of prices between the various seasons since cold-storage methods were adopted. Previous to 1900 we find wide variations in price for the different seasons, whereas recent statistics show a tendency toward greater uniformity in prices the year around.

The average price per dozen of fresh eggs in New York during the surplus seasons of the period 1880-1890 was $15\frac{1}{2}$ cents as compared with $17\frac{1}{2}$ for the period 1900-1910, as shown by Mr. Uerner, in his testimony before the United States Senate Committee on Manufactures. During the seasons of scarcity the average price during the former period was $26\frac{3}{4}$ cents and during the latter period, $29\frac{3}{4}$ cents. Regarding the last named figures, Mr. Uerner declares, however, that the average price of eggs in the season of scarcity would also be lower in 1900-1910 as compared with that of 1880-1890 if we take the average of freshly gathered and storage eggs. The conclusion that fluctuations in egg prices have been lessened since the introduction of cold-storage facilities has also been reached by the Massachusetts Commission appointed in 1911 to investigate the cold storage of food. From a study of the Boston market for the above periods they find that the average of the extreme fluctuations measured from the highest point to the lowest point in each year was a little lower for 1900-1910 than for 1880-1890. A similar conclusion was also reached in the investigation of the Federal Government as revealed in the report of the Secretary of Agriculture for 1911.

While fluctuations have thus been lessened, it appears that the annual price level of eggs during the decade 1900-1910 was a little higher than during the decade 1880-1890. This fact is explained by the Massachusetts Commission as due to certain other peculiar conditions affecting the egg market and is not to be attributed to the existence of cold storage.

While improvements have thus been made in the distribution of the egg supply, the real significance of the change has not become apparent to the average consumer. The questionable condition of eggs stored under the early method seems to have created a prejudice against cold-storage eggs which it is difficult to remove even after the system of storage has been radically changed. At no time was this prejudice more apparent than during the general crash in egg prices in the spring of 1910. Storage eggs were then sold with difficulty at one-half the price paid for fresh eggs.

With modern methods and facilities for cold storage no apology needs to be made for the condition of the stored product. The large

amount put away during early spring is stored under most favorable circumstances. The hen is usually in good physical condition and the eggs are surrounded by favorable climatic influences in the various movements from the nest to the storage plant. The situation would be very different if storage were attempted to any considerable extent during the summer months. The hens are then often in a semi-feverish condition and are disposed to set. The eggs are exposed to excessive heat at every stage of their movement to market. Presented in this condition for cold storage, the eggs have already undergone some change and can not be stored as safely for any great length of time. The result is that when summer eggs are placed in storage they are usually taken out again in the early fall, whereas spring eggs are kept for later fall and winter trade.

What has been stated thus far in regard to the merits of cold storage is not to be construed as a defense of those practices which aim to secure a control of supply. Wherever the avenues of distribution for any product are brought together into a few channels, attempts are apt to be made to dam up the supply and to the extent that egg-storage is left to a few large firms such a situation may be developed. As a rule, however, attempts to "corner" a market do not succeed. While it is true that successful corners have been created in rare instances for brief periods, it is also true that the greatest attempts at corners in modern times failed utterly and resulted in the financial ruin of those who made the venture. To the extent that the rise of cold storage invites attempts of this sort it presents the same grave problems that have arisen in connection with the distributive machinery for wheat or cotton. How evils of this character may best be minimized in the egg business presents a problem regarding which there are wide differences of opinion. Some would provide complete publicity from month to month regarding the number of eggs taken in and out of storage. To this end, a system of rigid public inspection has been advocated. It is held that such a provision would tend to discourage excessive concentration and at the same time prevent the holding of eggs beyond a safe time limit. On the other hand, there are those who maintain that publicity is useless and that the only need in connection with our modern cold-storage system is to distinguish between fresh and storage eggs and frankly recognize the identity of each in the regular course of trade. By giving the cold-storage egg a grade of its own and selling it as such, it is held that the public will soon recognize its merits as it has in the case of velvet chaff wheat and that the resulting increase in demand will likewise gradually remove any marked disparity between its price and that of the standard grade.

The above opinions reveal two distinct problems in connection

with modern cold storage: one relating to a control of the supply, the other brought on by the tendency of certain jobbers and retailers to offer storage eggs in the market as fresh eggs. Both problems involve evils, the prevention of which should engage our serious attention. Neither of these difficulties should be permitted to impair the efficiency of our modern machinery of egg-marketing. Suggested remedies which in the opinion of the writer may afford effective relief are presented in a later section of this paper.

Let us now summarize briefly the main headings discussed thus far. We have seen the restrictions and limitations of the early local market and the enlarged field afforded through the agency of the commission man. We have also noticed the further widening of the market in space and in time by means of improvements in facilities for transportation and cold storage. A study has been made of the types of cash buying firms that have occupied this larger market. Their buying has been done mainly from country merchants either through travelling agents or local dealers, or through the use of mailed quotations. The shipments received have been candled and graded at the primary market. The part to be sold has either been sorted for local retail trade or packed in carload lots for shipment to other primary markets, while portions to be held for a future market have been placed in cold storage.

In the meantime, it is important to notice what has become of the commission man who stood as the sole intermediary during the initial widening of the market beyond the limits of the local community. As soon as the country merchant confronted the alternative of selling to cash buying firms rather than shipping at his own risk to distant points, it did not take him long to make a choice. He preferred to sell outright and transfer the risks of shipment upon the buyer. The result was to force the commission man to enter the jobbing business and do his buying outright in order to get the trade of the country merchant. Because of such changes, the present cash buying firms are largely made up of recruits who formerly purchased the farmers' products on a commission basis. We are now in a position to appreciate how the rise of the cash buying firm has also brought about the passing of the commission man. Moreover, so complete a change has been wrought in this respect that little or no egg buying by commission men is now attempted from the primary markets except at some eastern points which will be discussed later. The field which once attracted no other class of dealers than those who served as agents on a commission basis has now been surrendered to the activities of the modern jobber. As soon as improvements in transportation and cold storage had made the operations of the primary market relatively more safe, it was natural that such men should prefer to

pre-empt the field outright. As jobbers they had themselves to account to rather than serve as agents for distant sellers. The business had become standardized to such an extent that men of integrity and ability could invest the necessary funds in the enterprise and make it pay. On the other hand, the irresponsible type of commission man that formerly flourished had gradually been crowded out. In egg-buying he could not compete with the jobber who purchased outright.

Nevertheless, there are market conditions under which commission business still tends to be encouraged as compared with jobbing. During a period of rising prices jobbing is encouraged and a commodity may pass through the hands of several jobbers before reaching the retailer, while during a period of falling prices the jobber is constrained to hold back. Where prices are fairly steady or on the rise, he buys f. o. b. at country points. If conditions change and prices begin to fall, he is likely to change his terms to f. o. b. for his primary market or cease to purchase outright, offering simply to accept shipments on commission. At such times, therefore, the commission business will increase. On the whole, however, and during the greater portion of the year the handling of most of the products on the farm has now become a merchandise business and is handled by jobbers.

While the attitude of the jobber as a buyer varies with the trend of prices, his disposition to sell is likewise affected by market conditions. This was well illustrated by the flurry in the egg market which occurred in December, 1912. Owing to unexpected weather changes at that time, an unusual increase of fresh eggs was placed on the market and this caused no little uneasiness in the minds of those jobbers who were holding a considerable supply in cold storage. They realized the importance of hastening the unloading of storage eggs. While wholesale prices declined somewhat abruptly, the retailers did not lower their prices accordingly. This tended to prevent the jobber from disposing of his stock as rapidly as he otherwise would have done. His interests as well as those of the consumer were therefore adversely affected by the action of the retailers. This explains why jobbing firms welcomed the movement started at this time by women's leagues in certain leading cities to reduce the retail price of eggs.

Women's organizations undertook to purchase large lots from certain jobbers and sell directly to the consumer. While relatively little was actually handled in this way, it nevertheless had important effects, especially to the extent that it attracted the attention of the public to the merits of storage eggs. The practice of selling the better storage eggs as fresh, leaving inferior storage eggs to represent the storage product, had created a prejudice in the mind of the public against storage goods in general. The opportunity now afforded to test storage eggs on their merits was, therefore, a distinct gain to the

public while it at the same time enabled the jobbers to unload to better advantage during a period of falling prices.

There is no place in the entire commercial world where men compete more actively than do jobbers and commission men. Few realize how keen competition is in this class of business. In order to secure traffic they reach out to the local shipping points and bid for produce. Competition is keen, not only within a given market, but between different markets. Shippers watch the quotations for the Twin Cities, Chicago, Philadelphia, and New York and sell at the point that offers the best returns.

As a result of competition between jobbers within a given primary market as well as between different primary markets, the margin on which business is conducted has gradually narrowed until it is only a fraction of what it was ten or twenty years ago. Where the net margin on eggs was formerly one and one-half cents per dozen, it has now been reduced to a third or a quarter of a cent per dozen. The same is true in the handling of other produce as well. As the volume of business has increased, competition has forced down the net profit per unit of the product handled.

The improvement of refrigerator systems and the rise of large cold-storage firms has made possible other economies as well. Jobbers handle produce for the future, as well as for the present market. In order to do so they must be able to finance the supplies held in cold storage. Here the large cold-storage firm has been of assistance. It is able to loan money to dealers patronizing the storage plant, and enable the small dealers to hold in storage by giving them loans at a rate of say six per cent. Because of its superior credit the storage firm in turn borrows money at four and one-half or five per cent at the bank. The margin thus saved of one and one-half per cent when computed on the total amount of loans extended means a source of profit which some firms have declared sufficient to cover the office expenses for their entire business.

Aside from the business of extending loans, these large firms have also taken up the function of insurance. They insure the products placed in their care for the short periods of time desired and, in turn, take out with insurance companies longer time blanket policies in amounts sufficient to cover the risks involved. These longer time policies are secured at a relatively low premium cost, thus again furnishing a source of profit.

This handling of loans and insurance may in reality be considered a by-product industry. The costs on regular storing have been greatly reduced per unit handled because an important source of income is available from these by-product activities. Where such is the case, the small firm is unable to compete and the business becomes

more and more centered in a few large units. The effect thus far has been to cut down the margin on which jobbers handle products for the future market.

While jobbing has well nigh displaced the business of commission merchants in the primary markets of the Central West, it is of interest to note that the irresponsible type of commission men had a special inducement to leave the field in Minnesota as the result of a law passed fourteen years ago. Under the operation of that law each commission merchant must obtain a license from the Railroad and Warehouse Commission and also execute and file with the Secretary of State a bond to the State for the benefit of consignors. The amount of the bond and sureties are fixed by the Commission which may increase or reduce the amount from time to time.

When the law was first proposed it was intended to apply specifically to grain commission men because of flagrant abuses alleged in connection with that business. For instance, if a car of grain was received in the morning when wheat was selling at eighty cents and the price rose to eighty-two cents during the day, the commission man might return an account based on sales at the former figure and pocket the difference even though the sale was made at eighty-two cents. Under the new law commission men were compelled to indicate the exact minute and hour of the day when the sale was made. The law was also made to apply to other commission merchants handling farm products, although the specific requirements in other cases were not the same as for grain.

As might be expected, the commission merchants were at first opposed to regulation of this kind. Under the operation of the law, however, it has been found that these very restrictions have served to protect legitimate commission business. Leading commission men in the Twin Cities testify that the law has tended to increase shipments by helping them to secure the confidence of their patrons.

THE DIRECT METHOD OF EGG-MARKETING

While by far the greater part of Minnesota's egg supply is marketed according to the indirect method, described in the last section, whereby it passes through the hands of one or more middlemen on its way from the local community to the city retailer, there is a considerable and constantly growing portion which is being marketed by the direct method. As understood in this discussion, the direct method implies shipment by any one of several local agencies, including individual farmers, private companies, country merchants, or co-

operative associations, directly to the city retailer without the aid of jobbers, wholesalers, or storage firms.

The origin of this direct method has, in some instances, been due to the initiative of certain retail firms in the large cities which have gone into country towns and made definite provision for a regular supply to be furnished from week to week. More often, however, the initiative is to be traced to efforts on the part of certain agencies in the local communities themselves. In either case, it is only in comparatively recent years that this method has revealed results of a kind and on a scale sufficient to attract one's serious attention. Before attempting any comparisons between the direct and indirect methods of egg-marketing, it will be necessary to explain more fully the nature of the direct method.

Retailers in the large cities often find it difficult to furnish their customers with a sufficient supply of fresh eggs during all seasons of the year. Some of the most annoying experiences encountered in the retail trade have arisen in just this way. Customers insist upon fresh eggs and first-class butter, and merchants understand full well that continued patronage depends to a great extent upon how well wants of this kind are satisfied.

In order to insure a steady supply at all seasons of the year, some retailers go into the country and make yearly contracts with what they regard as reliable sources of supply. The contract may be made with the owner of a high-class farm to furnish the city dealer *all* the eggs sold from that place. The price paid is rarely agreed upon at some uniform figure for the entire year. It is usually placed at from two to five cents, in rare instances ten cents, above the market price and therefore varies with the different seasons of the year. One disadvantage in making such arrangements with an individual farmer is that the supply furnished is usually inadequate. For this reason, large stores which handle eggs in considerable quantities find it advantageous to make contracts with country stores or with creamery companies or other associations handling eggs. To insure uniformity in size as well as a steady supply, it is sometimes provided that the eggs must weigh not less than a minimum number of ounces to the dozen.

While a number of city retailers have thus sought out their own source of supply, by far the larger portion of egg-marketing according to the direct method owes its origin to the initiative of farmers or local companies. Where a farmers' organization or a private company drawing on supplies from a variety of people in the surrounding country attempts to establish its own market among city retailers, certain difficulties are encountered that are not easy to overcome. The fact that a group of farmers different in tastes and habits con-

tribute to the same supply necessarily lowers its standard as compared with what can be furnished by an individual farmer. The latter may acquire a good will which differences in the membership of a group render it impossible to duplicate. To the extent, however, that farmers band themselves together under the rules of an association, they are able to minimize the above differences to a great extent and for this reason we find that supplies furnished from associations sell at a good margin above the market price. They are often able to command as good a return as that from many high-class individual farmers. Nevertheless, the top price paid for the most select trade will be found to go to certain individual farms whose highly specialized methods place them in a class of their own.

The farmers' association or private company confronts another difficulty in the unloading of surplus supplies during each spring season. During April and May the farmers find their shipments are very much larger than the regular retail customers in the cities are able to receive. How to dispose of this surplus without demoralizing the conditions of the regular market has given rise to different experiments. Some communities have been able to send their surplus to jobbing firms and because of good will already established realize more than the regular market price on such surplus shipments. Where the quality has become known to many consumers in the city, it has sometimes been possible to distribute surplus supplies among retailers other than those who are regular patrons.

Still another plan has been considered recently by some of the local associations. This contemplates the storage of surplus supplies locally. Thus far, however, no method has been devised sufficiently safe to encourage storage to any considerable extent. Until new light is shed on the ways and means of storing eggs, it is doubtful if local farmers' associations will find it profitable to attempt such a course.

In working up a market for local shipments we thus have two sets of problems; first, those connected with the disposal of a regular supply throughout the year, and, second, those regarding the disposal of added amounts during the season of surplus. The task of working up a regular market to be supplied throughout the year usually requires considerable time. The advice of those whose experience entitles them to be heard invariably is to go slowly. Good market connections can not be established in a month or a season. They must be built up gradually. So far as the care of the surplus is concerned the best experience thus far seems to point to a temporary extension of direct city retail trade and, more often, special shipments to jobbers.

The extent to which local communities may succeed in attempting egg-marketing according to the direct method can perhaps best be

appreciated by referring to the experiences and achievements of three localities in Minnesota.

In 1908 a private firm in a town of east central Minnesota began handling eggs in connection with its creamery business. The proprietor established a carton system whereby farmers bringing in eggs were required to stamp each egg so as to show the brand of the creamery and the number of the farmer. The eggs were placed in cartons, or paper boxes, made to hold an even dozen. These cartons were so

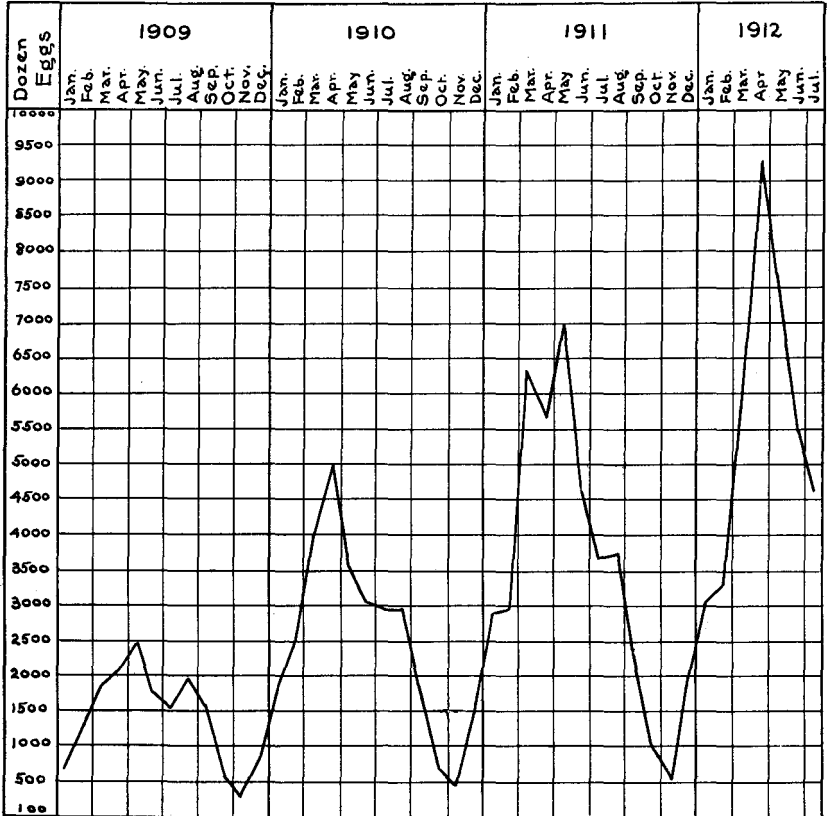


DIAGRAM II. Number of dozens of eggs purchased each month by a local private creamery in east central Minnesota.

shaped that they could be packed in regular egg-cases for shipment to the city. Each farmer signed an agreement with the creamery, pledging himself to comply with certain definite rules. Eggs were to be gathered twice a day. None were to be delivered which were more than eight days old. They were to be of uniform size and color, and clean. Until brought to the creamery they were to be kept in a cool, dry place. Besides stamping the individual eggs the carton

should also be stamped. All such eggs were to be sold to the above creamery.

During the first year the number of patrons bringing eggs to the creamery varied between thirty and forty. The number ranged between one hundred and one hundred and thirty during the second year, and between one hundred fifty and one hundred seventy-five the third year. During the last year more than two hundred patrons have been selling eggs at the creamery. The number of dozens of eggs purchased and shipped from the creamery has likewise increased

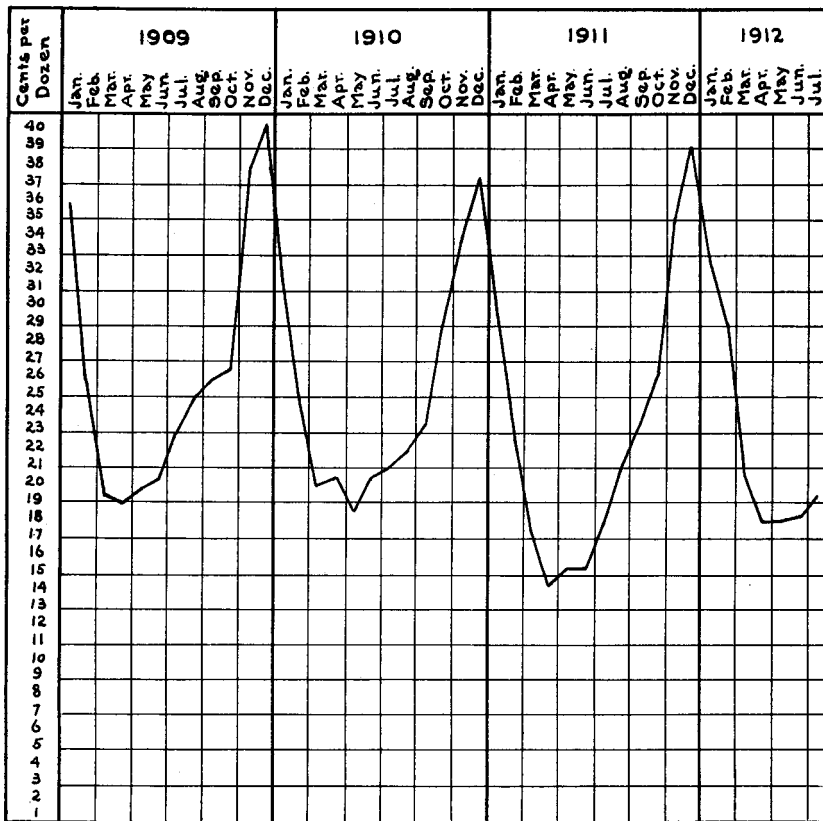


DIAGRAM III. Average price paid per dozen eggs each month at a local private creamery in east central Minnesota.

during these years. The largest business each year is during the spring months and the smallest, during the fall. The highest point is reached in either April or May, while the lowest has invariably occurred in November. The regularity in relative changes from season to season as well as the increase in business from year to year is shown in Diagram II. The average price per dozen paid to the farmer each month has also varied somewhat regularly from season to season, the

highest point being reached in December while the lowest price came during the surplus season in the spring. This is shown graphically in Diagram III. The positions of two curves, one showing the relative proportion of eggs shipped and the other indicating the relative amounts paid to farmers each month, are presented in Diagram IV. This brings out very strikingly the juxtaposition of high prices and low shipments in the late fall as well as that of low prices and surplus supplies in the spring.

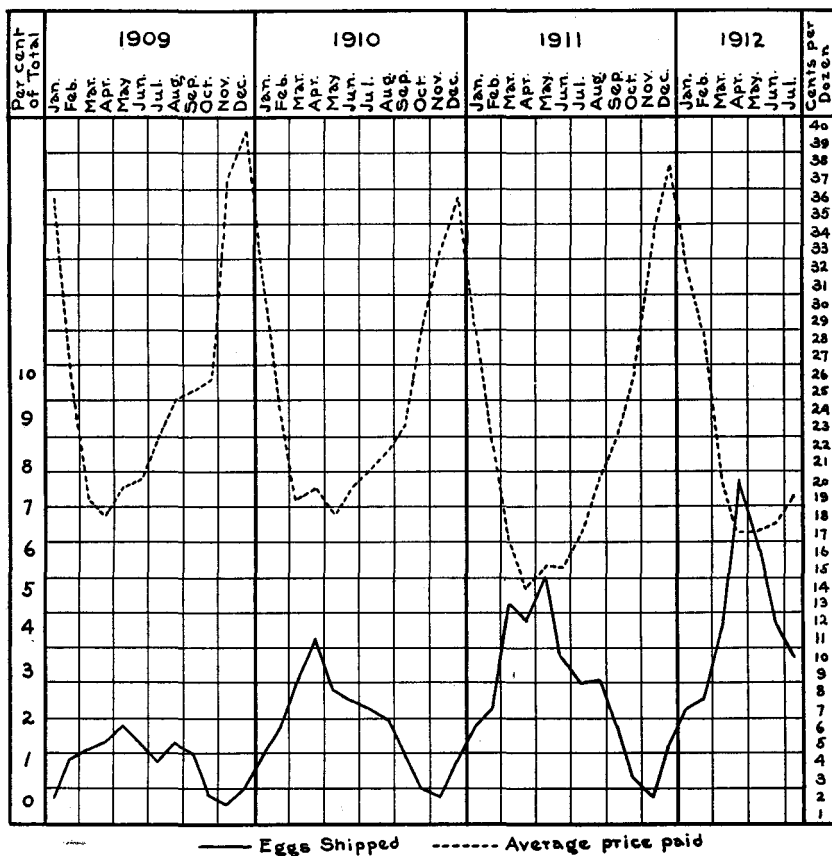


DIAGRAM IV. Relative proportion of eggs shipped each month from January, 1909 to August, 1912, at a private creamery in east central Minnesota; also the average price paid per dozen each month.

Where the local farmer is paid twenty-one cents a dozen, the local buyer sells in Duluth to retailers for twenty-three cents. The Duluth retailer pays the express charges which approximate one cent a dozen. The local margin of two cents consists of one cent per dozen charged by the creamery man for handling and one cent for the cost of cartons and rented cases. The retailer in Duluth buying at twenty-

three cents sells for twenty-nine cents. His margin of six cents includes one cent for express, leaving five cents for handling. These eggs sell in Duluth for five cents more than the market price during at least nine months of the year.

Besides shipping to retailers the creamery man has also secured a certain amount of first-class hotel trade. During the spring season surplus shipments have been made to eastern markets at top prices.

Previous to 1908 whatever eggs were brought to this town were taken in trade by country merchants. Since that time farmers have been receiving cash. Payment is made by checks drawn on the local bank. When the egg-buying was first taken up by the creamery the merchants feared that such handling of eggs with cash payment would injure their business and lead farmers to patronize catalogue houses. To allay such fears the creamery men urged patrons to cash their checks at the stores rather than at the bank. Later experience has convinced the merchants that they as well as the creamery men and the farmers have benefited by the change.

The main difficulty in this creamery man's experience with the egg business has been to get the farmers to furnish a uniform grade of eggs. With the wide variety of chickens represented in the community eggs of different sizes and colors are mixed together. In order to encourage uniformity they adopted the plan for a while of paying one cent more per dozen for white eggs than for brown eggs. This induced a number of the farmers to get rid of their old stock and invest in white leghorns. As a result, the average grade of eggs furnished has been steadily improved.

A community in east central Minnesota deserves our attention in this connection because of what it has accomplished through co-operative effort. The farmers of Askov could not get cash for their eggs and butter during the early years. These products had to be brought to the stores and traded for groceries. The farmers wanted to get away from the trade system because they were in need of money to pay taxes, insurance, and other obligations. This led them to organize a farmers' club nearly five years ago. Later, in May, 1909, they began the egg-selling business. One of the members of the club took charge and stipulated two times a week when he would receive eggs at a certain room in town. The eggs were to be paid for when the returns came in. This man furnished his services gratuitously and there was no charge for the use of the room. It was soon found inconvenient, however, to keep the farmers waiting before paying for the eggs. The purpose of starting this method to begin with was to afford cash payment. The egg branch of the farmers' club therefore decided to borrow money and establish a reserve fund in order to pay cash. An additional reason for establishing the

reserve fund was the fact that local merchants had suddenly begun to pay cash for eggs purchased. From the very beginning each egg was stamped with the number of the farmer and the brand of the society. Eggs were placed in cartons on which was printed a statement urging buyers to report the eggs not found satisfactory. The rules regarding the handling of eggs were similar in many respects to those already cited. In order to insure good quality one of the by-laws stipulated a fine of fifty cents for each egg received that was not good.

The most serious problem in marketing eggs at Askov has been that of getting a market. Changes have been made from time to time in the market selected for shipment. There has been a shifting between sales to retailers and sales to jobbing firms. Finally, during the last summer, a shift was made to a retailer in another primary market. The best results seem to have been secured from shipments made to retailers. With them the prices have been such as to cause general satisfaction among farmers. The main difficulty encountered at Askov came last spring when there was a surplus. To unload this it was necessary to go to the jobbers. These, however, did not care to take the eggs unless they were to receive all eggs shipped out by the association. Moreover, the regular retail customers did not want the eggs sold to other retailers in their neighborhood. This made it practically impossible to unload the surplus by an extension of the retail trade. It was finally necessary to sell all the eggs to the jobbing firms. A little later the egg business which had been handled in connection with the farmers' co-operative creamery was given up by the butter-maker because of the pressure of other work. Since then it has been taken care of in connection with the farmers' feed business.

The average net price per dozen received by the farmers each month from July 1, 1911 to July, 1912 is shown by the dotted lines in Diagram V. On the same diagram may also be seen a continuous line indicating the average price paid the farmers by the private creamery described above. It will be noticed that there are greater fluctuations in the price received by the farmers' co-operative association at Askov than in the prices paid to farmers by the private creamery. These greater fluctuations at Askov are to be explained partly by the changes made in markets. In any case, however, the variation in prices paid by the private creamery would be less abrupt because of the policy of leaving the figures untouched for regular periods regardless of market changes.

The third example to be cited in this connection of a local community which has practiced successfully the direct method of egg-marketing is that of the farmers at Dassel. Here, as at Askov, the first form of co-operative effort was the organization of a farmers'

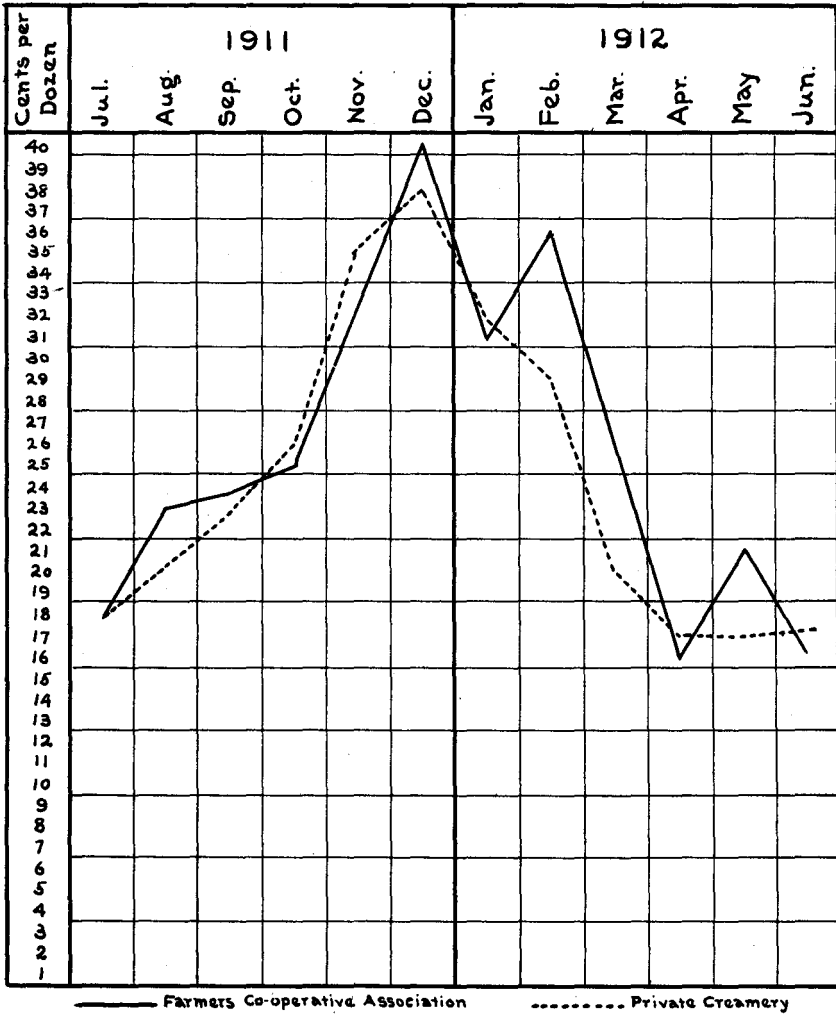


DIAGRAM V. Average prices paid farmers for eggs each month from July, 1911 to July, 1912, by a farmers' co-operative association and by a private creamery.

club. Two years later, in 1909, the carton egg business was started. Rules similar to those already mentioned were adopted regarding the care and handling of eggs. At first eggs were stamped individually. Last year, however, this was abandoned. Since then eggs have been placed in cartons and these have been stamped in place of stamping the individual eggs.

According to the statement of the local management the stamping of individual eggs is unnecessary, it being found that the stamping of cartons serves the same purpose. Moreover, by leaving eggs un-

stamped they encountered less difficulty in disposing of the surplus stock in the spring. The occurrence of the latter difficulty a year ago was the main cause in changing to the present method.

According to the new plan another improvement has been made aside from the method of stamping. Eggs are now divided into three grades:

1. Standard or best, weighing 25 ounces or over.
2. Medium, weighing 24 ounces.
3. Lower grade, weighing 23 ounces to the dozen. No eggs weighing less than 23 ounces to the dozen are allowed in cartons. Such eggs may be shipped, however, in separate cases.

Great importance is attached to the new plan of grading by weight and paying according to weight. The price variation is one cent between each grade. If the lower grade is worth twenty-five cents, the medium will bring twenty-six cents, and the best, twenty-seven cents per dozen.

Before this plan was adopted rules or fines had been used by the farmers but with little avail. On the other hand, after the grades were established by weight and payment made accordingly, the farmers began to take steps to supply the heavier or larger eggs. As a result, a movement was started to improve the quality of fowls as rapidly as possible. Before the change was made many eggs came in weighing as little as nineteen ounces to the dozen. Since that time the farmers have gradually adopted the habit of keeping the small eggs for household use. The great bulk of the eggs now marketed average twenty-five ounces to the dozen.

The new plan of grading eggs according to weight has reacted favorably upon average price returns received by the farmers at Dassel. A year ago the margin received above the market price during the surplus season was one cent a dozen. Last spring it was never less than two cents a dozen. This margin varies for different seasons of the year, running as high as six or eight cents above the market price during late fall and early winter. For the entire year the margin above market quotations for "firsts" averages three cents.

When the handling of eggs in cartons was first started by the farmers at Dassel, they experienced considerable difficulty in working up a market. It was necessary to demonstrate that the product they handled was superior to the average shipments sent to the larger cities. Although these difficulties have now been entirely overcome, the Dassel farmers realize that it is necessary to go slowly in building up a trade and that each locality must work up its own market very carefully. Not only has the regular market been established successfully among retailers, but the surplus during the season of over-

flow has gone to jobbers at a price not to exceed one cent per dozen below that received on regular shipments.

COMPARISONS AND CONCLUSIONS

In comparing results under the direct and indirect methods of egg-marketing it is important at the outset to consider the expenses for services which are now required under the indirect method and which do not appear in the list of charges under the direct method.

Important among these is the expense involved for storage. We have seen how the shipment of regular supplies is made to city retailers under the direct method and how surplus stock during the spring months is prevented from demoralizing the market with regular customers by resorting to the jobbers' trade. This simply means that those employing the direct method find it necessary to utilize the indirect route during the critical season of the year in order to protect their own method. By doing so they are able to shift the responsibility of adjusting the unequal distribution of supply at different seasons according to the regular demands of the consumer. In this way the machinery which handles products shipped under the indirect method is also called upon to take care of the surplus stocks from the direct method. Stated in other words, the whole expense of carrying over supplies from seasons of plenty and redistributing them according to consumers' wants at times of relative scarcity devolves upon the indirect method. As already explained, the invention utilized in making this possible is that of cold storage.

The services involved in cold storage under typical conditions in the Twin Cities incur a carrying charge of two and one-half cents per dozen from spring until January first to cover interest, rentals, and insurance. The jobber, however, who holds eggs during this period assumes the risk of being able to unload his holdings so as to meet the above carrying charge in addition to the original purchase price. He counts on selling at a higher figure than the sum total of items enumerated above and because of this incentive he has been induced to remove a certain stock from the season of surplus. Just what profit is thus secured varies among jobbers in the same primary market and among the different primary markets. It also varies with the kind of eggs handled and with the season of the year when they are unloaded. It involves not merely the risks attendant upon market changes during a storage season, but other considerations as well.

Within the same primary market will be found dealers whose superior knowledge of marketing conditions or whose superior equip-

ment or greater capital enable them to buy to better advantage as well as to sell at an advance over what is secured by weaker competitors. As between different primary markets, other things being equal, there is added expense incurred in the larger primary markets over that of smaller primary markets.

In New York City, the large scale handling involved has given rise to the presence of both a commission man and a jobber in the chain of middlemen between the shipper and the retailer, whereas the commission man has been practically eliminated in the Twin Cities.

The various items of expense to be included under middleman charges for the handling of eggs in New York City have been set forth in a report recently issued by a committee of the New York State Food Investigating Commission, and are indicated in the following table which is quoted almost exactly. This table is supposed to show the accumulation of charges on eggs based on a hypothetical basic price of twenty cents per dozen.

ANALYSIS OF RETAIL PRICE OF EGGS IN NEW YORK CITY

Producer's price.....	\$0.20	\$0.20
Shipper's charges:		
(a) Labor in collection and packing.....	.005	
(b) Cases, fillers, and packing.....	.0073	
(c) Transportation charges to city.....	.0106	.023
Commission for handling.....	.01	.01
Jobber's charges:		
(a) Cartage from dock to store.....	.00133	
(b) Candling and grading.....	.00666	
(c) Storage and insurance.....	.016	
(d) Jobber's profit and charges.....	.01	
(e) Delivery to the retailer.....	.004	.038
Retailer's charges:		
(a) Operating expenses, 10%.....	.0271	
(b) Retailer's profit, 5%.....	.01497	.042
Price paid by consumer, \$0.313.....		\$0.313

In the light of such information as the writer has been able to secure, certain modifications would have to be made in the above table in order to reflect the operations and charges in the Twin Cities. The commission man's margin of one cent per dozen would not appear in a statement for the latter markets since the jobber's returns cover the profits of the only intermediary between the country merchant and the city retailers. Modifications would also need to be made under what is termed shipper's charges. These are largely handled by the country store-keeper in the Twin City territory, and the practice of the latter, as already stated, is to pay the farmer as much as is received from the jobber after deducting proportionate expenses for transport and other necessary items.

While the above mentioned differences would make the middleman charges less, there are other factors which operate in the opposite direction. Twin City dealers place the expense and loss on candling and grading at twice the amount shown in the above table. The higher figure is declared necessary in order to candle eggs when they are placed in storage and again when they are taken out of storage and placed in new fillers. The difference here referred to is due to the fact that New York City supplies are mainly received in carload lots from packers who have already candled the eggs in a manner that involves far less waste than is incurred on shipments from local merchants to jobbers in the Twin Cities. This contrast will be referred to again.

Thus far certain considerations connected with the indirect method have been discussed which are not attached to the direct method. Such is the case with carrying charges including interest, rentals, and insurance which must needs be met in connection with cold storage. Inseparably linked with this is the risk feature due to uncertainty in future price and which is shouldered by jobbers at a variable margin determined by competitive bidding.

In addition to the above differences there are other contrasts between the direct and indirect methods which we shall now consider. Most important among them is that of the quality of eggs shipped from local communities under the two methods. We have already noticed the miscellaneous quality of eggs supplied under the indirect method. A mixture of different sizes and colors as well as varying degrees of quality confront the jobber. He must subject the stock to several processes such as candling, sorting, and repacking. Not only these operations themselves but also the losses from portions either entirely unsalable or marketable only as inferior goods add to the middleman's charges. This additional cost, moreover, is not an expense necessarily inherent in the indirect method. It arises mainly as the result of the "case-count" policy of paying by the dozen regardless of quality which has almost invariably been adopted in the past wherever the indirect method has been applied.

In contrast with this we find another policy applied under the direct method of egg-marketing. Here the central idea emphasized is the superiority in the quality of service rendered. Every part of the mechanism is constructed with this primary aim in view. Only eggs of the best quality will be received. The organization is so perfected as to fix responsibility on each individual who contributes to the supply. It has been found impossible to assemble a product such as eggs from a large number of farmers and at the same time insure the quality unless individual responsibility is absolutely fixed in every case. This means that each farmer must be held responsible

for the quality of eggs he furnishes and, at the same time, be remunerated according to the standard of quality furnished. It is then, and only then, that the farmer renders his best service, the consumer receives the best quality, and the middleman charges are kept at a minimum.

As soon as any policy is adopted other than that of offering remuneration according to the quality of the service rendered, we immediately introduce counteracting forces which lead to different results all along the line from the producer to the consumer. This is well illustrated under the early method where the country merchant accepted the eggs of the farmer by "case-count" and gave a flat rate per dozen regardless of quality. This rewarded dishonesty, penalized integrity, and led to flagrant discrimination. The equalization of prices among farmers meant that those furnishing eggs of inferior quality received a subsidy at the expense of those who contributed a high-class product. Moreover, to the extent that the country merchant charged higher prices for his wares because of inducements given to the farmers' trade, it meant that other purchasers at the store were compelled to buy at a higher price. In this way the farmers furnishing eggs were, as a class, subsidized at the expense of the other patrons of the country merchant. This is not all, however. Under a "case-count" system applied with no reference whatever to quality, there will arise similar differences as between different localities shipping to the same primary market. The community furnishing eggs of low quality may be subsidized at the expense of localities sending a superior grade. While the honest farmer in a given locality is thus taxed for the benefit of his dishonest or careless neighbor; while all patrons except those trading in eggs are compelled to pay the country merchant higher prices because of the egg business and as a direct contribution to it; and while enterprising communities aiming at higher standards are compelled to pay tribute to those that pay less attention to quality; while all these forms of subsidy are encouraged under a "case-count" system, it is to be noted that the tendency in every instance is to discourage improvement in quality and offer every inducement to level downwards the standard of the product furnished.

Moreover, this same policy has increased to a large extent the expense of the middleman operations between the producer and the consumer. Aside from the unnecessary outlay involved in transportation expenses to primary markets on unsalable products, and aside from the enhancement of risk because of the uncertainty of the proportion of loss to be deducted in estimating price from primary markets, there is added a considerable expense in sorting and assembling the miscellaneous product. Such operations are directly charge-

able almost entirely to the wastefulness of the "case-count" policy. The expense thus added can be materially reduced only by adopting the policy of handling eggs on a "loss-off" basis. This does not imply that the "loss-off" system will entirely do away with middlemen operations of this kind. It does mean that such expenses will be materially lessened, however.

The extra expense attached to the handling of eggs under the "case-count" system is difficult to estimate. It means a waste that amounts to many millions of dollars annually. Because of the wide extent of the practice, every state in the Union pays heavy tribute in the name of this antiquated policy. It is one of the important factors to be considered in tabulating the present day cost of living.

The pressure of this heavy tribute has led to signs of revolt in certain states. Two years ago investigations carried on by the Bureau of Animal Industry of the U. S. Department of Agriculture revealed the enormity of losses of this kind in Kansas. Federal representatives of the Bureau of Animal Industry interested the Kansas Carlot Egg Shippers' Association in a movement to improve conditions. At a meeting held in Topeka, Kansas, in June, 1910, the shippers entered into an agreement to buy strictly on a "loss-off" basis after July 1, 1910.

The resolutions adopted were as follows:

"First: That Dr. Crumbine, Secretary of the State Board of Health, have cards and circulars printed and mailed to every merchant that handles eggs in the state of Kansas, the association bearing the expense.

"Second: That buyers send out circulars to their patrons through their offices, relative to their attitude on the marketing of eggs.

"Third: The term designating loss-off includes all rots, spots, blood rings, and leakers.

"Fourth: That Dr. Crumbine and G. C. Bowman shall draft and have printed circulars to be sent to shippers for distributing to their patrons.

"Fifth: That buying on a loss-off basis shall commence July 1, 1910.

"Sixth: That the members of the Association shall sign the following agreement:

'We, the undersigned egg-shippers, hereby agree that from and after July 1, 1910, we will buy all eggs loss-off, said loss-off to include all rots, spots, blood rings, and leakers.'"*

Assistance in promoting the movement among buyers in Kansas was given by the State Agricultural College and a number of

*Lannon, Harry M., and Opperman, Charles L. *The Improvement of the Farm Egg*. Bul. 141. B. A. I., U. S. D. A., p. 18. 1912.

state officials. Placards signed by the State Board of Health were posted in retail stores all through the state warning against the sale of eggs unfit for food and calling attention to the provisions of the state law on the subject. The effect of this movement has led to important changes in the Kansas egg business. Other states have begun to take up the matter in a similar way. Last spring the carlot shippers of eggs in Minnesota entered into a similar agreement. An active campaign of education has been carried on through the Extension Division of the Department of Agriculture at the University of Minnesota to encourage an abandonment of the "case-count" system. Already a marked improvement in the quality of eggs handled is apparent. A considerable number of merchants in all parts of Minnesota have begun buying on a "loss-off" basis.

Nevertheless, serious problems are still before us. With the development of the indirect method and its highly organized machinery at the primary markets, there has come an inevitable concentration in the marketable egg supply. With the perfection of cold storage facilities has also arisen the evil of selling storage eggs as fresh eggs. The public will tolerate neither the possibility of a monopoly in the supply of the product nor the practice of misrepresentation as to quality.

In the opinion of the writer, no single remedy affords adequate protection. Practical relief is undoubtedly to be found partly in preventing a narrowing of the distributing channel between the producer and consumer by encouraging the establishment of as many routes as possible according to the direct method and partly in remedial legislation providing for suitable publicity and for the protection of quality.

So far as the use of the direct method is encouraged, it will not only afford additional channels between producers and consumers and thus diminish the chances for concentration in the control of supply, but also cause improvement in the quality furnished. This follows from the fact that the direct method is necessarily built upon a policy which gives return in direct proportion to the standard of quality supplied. To the extent that such a policy is adopted more and more under the indirect method, improvements in quality will follow also. In any event, the intervention of middlemen will tend to prevent the degree of response to consumers' wants made possible under the direct method. This incentive to furnish high-grade eggs at all times without any opportunity for a compromise is destined to elicit the approval of public opinion for a further extension of shipments by the direct route.

Nevertheless, the fact remains that large scale handling necessitates the use of indirect agencies and that indirect routes must

continue to furnish avenues of delivery for surplus stocks to other markets and for a considerable quantity which is likely to be marketed without reference to superiority in quality.

It is in the handling of such products that the evil of misrepresentation may arise, a protection against which is not adequately provided to consumers under present methods. Foremost among these abuses is that of selling storage eggs as fresh eggs. The remedy to be applied can not be found in any appeal to self-interest but demands the aid of state intervention.

Fortunately, it is not necessary for the writer to suggest any new or untried theory of regulation. The above abuses have been felt in many of the older commonwealths and legislation has already been enacted and applied sufficiently to enable us to draw conclusions as to results.

The state laws already passed which present most nearly the model statutes on the subject are those of Indiana and New York. Both of these laws were enacted in the spring of 1911 and have thus been in operation long enough to furnish at least a preliminary test.

The Indiana law contains nine sections, the leading provisions of which may be summarized as follows: Products kept in cold storage thirty days are considered storage products. Food products placed in cold storage, excepting such as are removed for interstate shipment, must be stamped, either upon the product itself or on the package containing such product, with the date when taken into storage and the date when removed from storage. No storage product is to be offered for sale in the state unless it is marked according to the above provision. The period of storage is limited to nine months. Each storage firm must keep an accurate record of all receipts and withdrawals. The State Board of Health is to have access to those records at any time. Storage eggs must not be sold as fresh eggs, but must be accompanied by suitable means of identification wherever offered for sale. Anyone desiring to maintain a cold-storage or refrigerating warehouse must secure a license from the State Department, such license being issued on condition that certain standards, acceptable to the State Department, be maintained and being revokable whenever such standards are not maintained. The enforcement of the law is vested in the State Board of Health and certain penalties are specified for the violation of any of its provisions.

The New York law contains similar provisions for the stamping of products when taken in and out of storage and also specifies that storage goods must be represented as such whenever offered for sale. Its time limit is ten months instead of nine, however. A new provision is added where the New York law prohibits the return of food to cold storage when once released for the purpose of placing the same

on the market for sale. Regarding the publicity of records, the New York law also varies somewhat. Instead of simply requiring cold storage firms to keep records of what is taken in and withdrawn to be accessible to the State Department at any time, as provided in the Indiana statute, the New York law requires such firms or corporations to transmit reports three times a year to the State Department of Health on blanks furnished by the latter. Such reports are to give itemized particulars as to the quantity of each and every food-stuff in storage or in control of said person or persons, corporation or corporations.

The approval of the above measures, after more than a year's experience under their operation, has been expressed not only by state officials charged with the administration of the law but it has also been secured from prominent jobbers and warehousemen who at first were opposed to such legislation. Moreover, the investigations of commissions and special committees in other states that have considered the formulation of a model cold-storage law have led to the recommendation of the main provisions in the above named statutes. This is true of the majority report of the Massachusetts Legislative Commission of 1912 appointed to investigate the subject of the cold storage of food and also of the proposed model law recommended by a committee of five representing state and national food commissioners.

A synopsis of their proposal is submitted by the writer as the product of the ripest thought and experience thus far applied to the formulation of a model statute relating to the regulation of cold-storage business and the sale of cold-storage products.

For the purposes of the law, cold storage is construed to mean a place artificially cooled to a temperature of 40° Fahrenheit or below, but is not to include such a place as a private home, hotel or restaurant, or a refrigerator car. It applies to articles of food such as fresh meat and fresh-meat products, except in process of manufacture, fresh food, fish, game, poultry, eggs, and butter, kept in cold storage for a period exceeding thirty days. Any person, firm, or corporation desiring to operate a public cold-storage or refrigerator warehouse must secure a license from the state department. Such license shall be issued subject to requirements regarding standardization of conditions and may be revoked whenever there is failure to meet such requirements. Accurate records of receipts and withdrawals are to be kept by all such cold-storage firms and reported every three months to the state department. No article of food intended for human consumption shall be placed in cold storage if diseased, tainted, or deteriorated in any way. The inspection and supervision of all cold-storage or refrigerating warehouses in the state is to be vested in the State Board

of Health or the State Food Commission. Authorized agents of the state department are to have access to such warehouses at any time for purposes of inspection and enforcement of the various provisions of the law. All articles of food when placed in cold storage shall be marked plainly on the containers in which they are packed or on the individual articles with the date when taken in, and when removed from cold storage shall be marked with the date of withdrawal. The time limit for the period of storage of any article of food shall be twelve months. Uncooked articles of food which have been put in cold storage shall not be offered for sale unless accompanied by suitable means of identification. No article of food taken from cold storage and placed on the market for sale to consumers shall be returned to cold storage.

Proper rules and regulations for the enforcement of the law are to be made by the State Department, and penalties are specified for the violation of any of its provisions.

While the bodies referred to have recommended the above provisions for state law, the opinion is also gaining ground that adequate regulation of the cold-storage system necessitates federal inspection and control.

Moreover, the provision preventing misrepresentation, as where storage eggs are sold as fresh, must be made to apply to retail as well as to wholesale or jobbing trade. This need was forcibly impressed upon the public during the recent flurry in the egg-market. The practice of selling the better storage eggs as fresh and leaving only inferior grades to sell as storage eggs has led the consumer to judge all storage products accordingly. No slight credit is due the recent women's movement in this connection, as carried on at several of our leading primary markets, because of its influence in bringing to the attention of the public the real merits of cold-storage goods.

