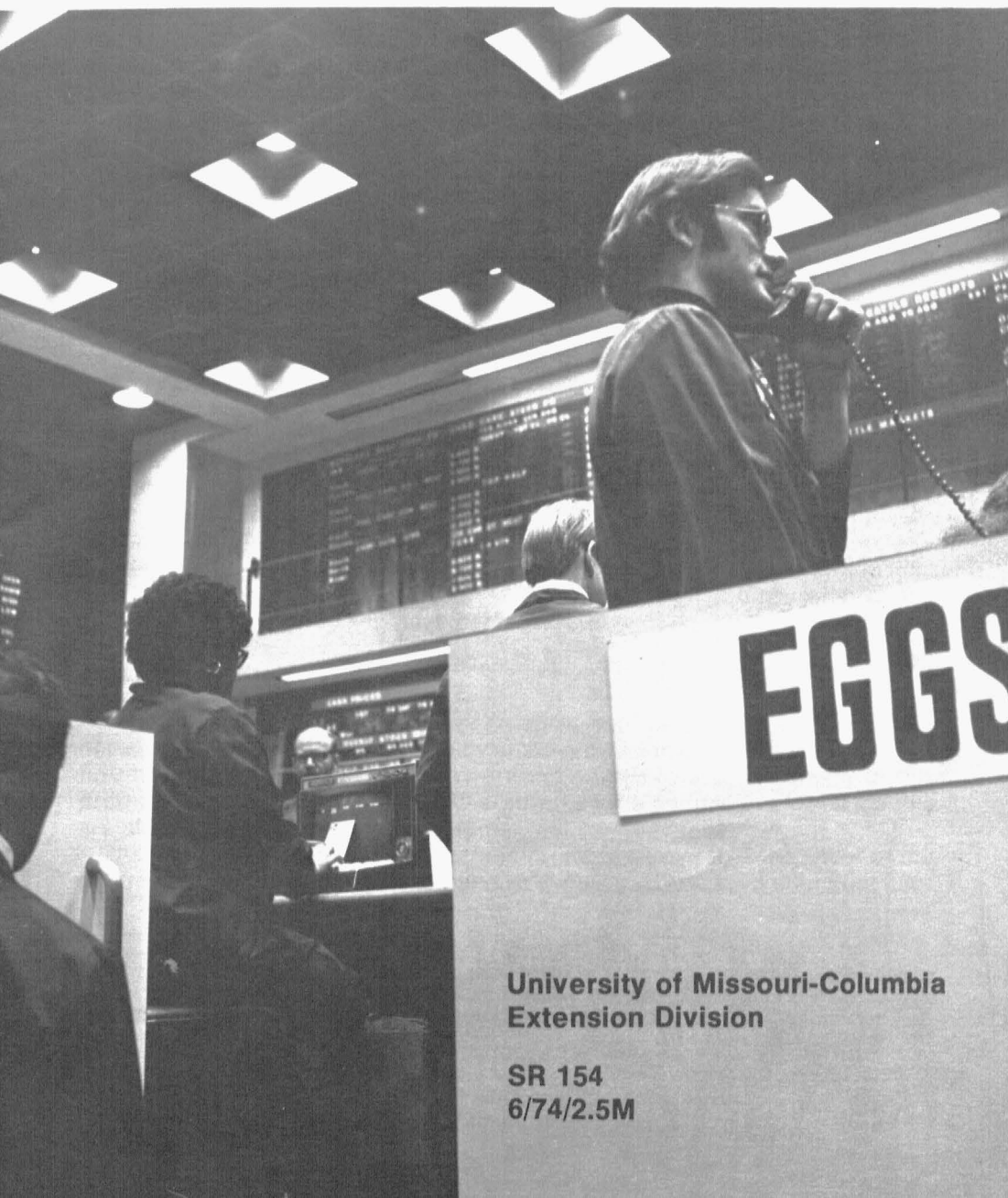


**A Study of
Fresh Shell Egg Futures Deliveries
and General Observation of
Futures Contract Deliveries**



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by Leonard A. Voss

Introduction

This publication is directed to people, particularly in the shell egg industry, who would like more information on the delivery system of the shell egg futures contract. It should also interest those who would like some insights on the delivery system for agricultural commodity futures contracts, particularly those relating to perishable and unstable commodities. This includes shell eggs and frozen pork bellies as perishable commodities. The unstable type of commodities would include live beef cattle, hogs, and feeder cattle. The live commodities do not retain their status. As they grow older, they change in weight and quality, etc., in contrast to grains that are stable, storable, and maintain a given quality over a long period of time.

Futures trading first started with the storable commodities such as grains. In early futures theory, storability was one of the requirements for a commodity to be futures traded. In recent years this concept was changed, and more and more commodities of all types are traded in the futures. However, the concept of delivery and the assumed impact of deliveries is still based on the grains. There are different factors at work and different considerations for the futures deliveries of the unstable or perishable commodities which will be referred to simply as unstable commodities.

Futures trading is for the economic purpose of shifting risk for the hedger. The speculator enters the trading arena and provides liquidity and takes the risk. Provision for deliveries are a necessary part of this futures trading system.

The other purpose of this publication is to report a detailed survey of the deliveries under the fresh shell egg futures contracts with particular emphasis on the deliveries in 1970 and some discussion with reference to delivery procedures which have originated since that time. If this publication can lead to a better understanding of futures trading through a discussion of the deliveries, the purpose will have been served.

Purpose of Delivery

The futures contract consists of an agreement on the part of the seller to deliver a specific quantity and quality of the product in a specified month in the future and the buyer of a futures contract agrees to accept delivery of this product under such conditions. All contracts for a commodity for all months are alike in specifications and volume.

As the sale is in the future, there is no requirement that the seller of the contract have the commodity in hand or even know where he might get it for

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the delivery of the contract in the future and the buyer of such a contract for some future delivery does not have to have any provisions to receive the commodity. The seller who is known as a "short" in the trade, because he is making a sale for future deliveries of commodities which he may not have, and the buyer who is known as a "long," as he is due to receive the commodity at some future date, can buy or sell the contracts at any time. Either a long or a short can initiate a contract. So the futures market is in reality a market of these contracts and not of the commodities.¹ Actually no contracts are even issued but the commodity exchange rules state the agreements. Also there is no name associated with the opposite side of the trade. A trader does not trade with a specific other trader. The prices established in the futures market for the contracts for the future may give some indication of the evaluation of what the price might be sometime in the future by people who are willing to buy and sell these contracts. This evaluation is far from accurate in many cases but it is often the only indication available.

● **Futures are not to buy or sell the commodity.** It is generally accepted that buying and selling in the futures is not for the purpose of disposing of or obtaining the commodity but is a way of registering a viewpoint on what the supply and demand situation might be at that future time, or it represents a price at which a trader might now be willing to buy or sell that commodity for at the future date. As will be explained later, it is possible for a trader to assure himself, "lock in," the price of his production or purchases at the price at which he trades the future contract. Therefore, very few of the contracts traded are ultimately settled by delivery.

So the object of the delivery provision of the futures contract which is a legal binding contract, is not to facilitate the delivery of the commodity or the purchase of the commodity, but the delivery provision is included to assure compliance with the contract. In other words, if a trader does not offset² his position in the futures market by an offsetting transaction before the delivery month, he is required to deliver or receive the commodity. In reality the delivery provision is included in the futures contract to assure that appropriate action will be taken in reference to either offsetting the contract, or as an alternative, delivering or receiving the commodity.

The delivery provision also acts to force the futures prices and cash prices into a predictable relationship in the delivery months. The futures and cash prices are forced together or near together by traders delivering and waiting for delivery if the prices are apart. This is more apparent in the storable than in the non-storable commodities.

Delivery Procedure

In all futures trading the short makes the decision to deliver a commodity. The commodity can only be delivered during the month in which the contract matures. As an example, April eggs can only be delivered in the month of April and September eggs can only be delivered in the month of September. The short is required to deliver the quantity of the commodity which is specified by

¹The trading takes place and is regulated by a commodity exchange or board of trade. Those will be hereinafter referred to as an exchange.

²To offset a contract is to make the opposite transaction of the original transaction thereby clearing the contract. If originally sold to buy back a contract or if original bought to sell a contract.

the contract. In eggs, he must deliver not more than 750 cases and not less than 720 cases. The quantity required for the delivery of the commodity is usually a unit in transportation, as an example, eggs are usually shipped via truck and a trailer load of eggs is between 720 to 750 cases. The commodity must be of the quality specified by the exchange. Usually a USDA grade is specified and the eggs must be graded by an official USDA grader within a specific number of days prior to delivery. This applies to practically all of the commodities that are delivered on exchanges. In other words, the quantity and the quality is clearly specified by the exchanges and a government grading source is used to certify the quality. The exchange rules specify the locations where the eggs can be made available. The short designates the delivery place. However, the new Western shell egg contract specifies that delivery shall be to the long's location with delivery arrangements made by the short. Delivery is accomplished at the exchange or board of trade by presenting the proper type of certificate through the broker who represents the short.

● **Delivery on any business day of the delivery month.** Delivery can be made on any trading day of the delivery month. Trading is usually from Monday through Friday mornings to early afternoon. Trading closes for the deliverable contract five to seven trading days prior to the end of the month. This is done to provide an opportunity to get all deliveries made without the confusion of trading.

When the short delivers the eggs, he does not know to whom he is delivering the ownership of the eggs. The eggs are actually delivered to the oldest long, the person who holds the oldest purchase contract. This is determined by the Clearing House of the exchange where all of the records are kept. When the notice of delivery is received, the Clearing House looks through the records, finds the oldest long of record, and notifies the broker representing that long that he has received a carload of eggs. The eggs are then the property of the long for his disposition and use. In some commodities it is possible to redeliver by selling a short contract and delivering the commodity again.

● **Longs can usually avoid getting delivery.** The delivery procedure is such that a non-industry member speculator might get the commodity. This gives rise to the commonly asked question "what is the dentist in Boston going to do with 750 cases of eggs?" The long does not need to put himself into position of receiving eggs as he can offset his contract prior to the delivery month. Even within the delivery month the information is available to the brokers as to what date of long purchases the current deliveries are being made. The long can be informed by his broker of the likelihood of delivery being imminent for him.

When the trading ceases for the current delivery month contract, all open contracts are settled by delivery by the end of the month. Anyone who is a long position will have to take eggs, and any short who has an open contract when trading ceases knows he will have to make delivery of the commodity before the end of the month. Violation of these rules by not making or taking delivery results in severe penalties not only for the trader but also for the broker involved. The penalty is severe enough that defaulting is extremely rare.

Shifting Risks

The justification for futures trading on the exchanges is primarily to shift risk by the hedging procedure. Through hedging in futures trading, it is possible to determine the approximate net price that will be received for the commodity to be sold or what will be paid for the commodity to be purchased sometime in the future. This is possible because of the cash-futures price relationships that normally exist in the month the contract matures. Usually the futures and the cash price come relatively close together or together during this delivery month.

The hedger is a price taker in that he takes the price that he can get when he places the contract on the market for price protection purposes. The price protection is supplied by the speculator who elects to trade because he thinks he can make some financial gain from market price changes. Therefore, the hedger provides trading contracts by placing on the market contracts to buy or sell at the market price. The speculator provides liquidity to the market by buying or selling these contracts.

The theory of hedging and basis for hedging trading procedure requires an extensive elaboration and there are publications relating to this. Therefore, in the interest of time and space, this will not be discussed in this publication.

Changes in Delivery Procedure

There have been some changes over time in the delivery location of fresh shell eggs on the fresh shell egg futures contract. While there have been some quality changes, the primary change of concern in this publication relates to where the eggs can be delivered.

Shell eggs have been traded on the Chicago Mercantile Exchange for a number of years, but the era of fresh shell egg trading started with the March, 1967 contract. Prior to this time cold storage eggs were delivered and the quality specifications were in terms of cold storage eggs. This contract was used primarily by egg products processors who then used older eggs.

The delivery on the March, 1967 contract was in terms of fresh shell eggs. However, the delivery of cold storage eggs was permitted at a discount that discouraged the delivery of cold storage eggs. Delivery was at designated cold storage warehouses. The delivery of cold storage eggs at a discount was permitted from the beginning of the fresh shell egg contract in March, 1967 through January, 1969 contract. The February, 1969 contract called for the delivery of fresh shell eggs only and these were delivered at cold storage warehouses. Then starting with the April, 1971 contract there was a major change as eggs were allowed to be delivered at either the approved cold storage warehouses or at approved egg packing plants. The dual location for deliveries remained in effect through the February 1972 contract. Beginning with the March, 1972 contract only delivery at approved egg packing plants was permitted. This rule remained in effect at the time of the writing of this bulletin. This has become known as in-plant delivery.

• **Specific delivery information.** Table 1 gives the information relating to deliveries for the three different periods of deliveries under the fresh, shell egg contract. The open commitments is the number of contracts for the next

month open at the close of the last business day preceding the delivery or current month. Commitments in terms of carlots is the same as commitment in terms of contracts since each contract is the delivery of one carlot of eggs. The number of open commitments at the beginning of the contract month has stabilized for group two and three and is considerably lower than in group one.

The deliveries are the original carlots of eggs delivered and not total deliveries in the case of groups one and two. Redelivery was permitted under group one and the total deliveries including redeliveries was 4,622 carlots on almost two and one-half times the number of original cars. The redelivery was at very little inconvenience to the trader as he merely sold a contract short and turned in the warehouse receipt.

In group two period warehouse and in-plant deliveries was permitted and the warehouse eggs were readily redeliverable. In-plant redelivery was permitted but this procedure consisted of transporting the eggs to a warehouse and having them reinspected which was almost the same as the original delivery. Group three period consisted of all in-plant deliveries and there was no provision for redelivery.

Table 1
Deliveries under Fresh Shell Egg Futures Contract
During Three Periods of Different Delivery
Procedure

	Group I 2/69 through 3/71	Group II 4/71 through 2/72	Group III 3/72 through 6/73
Open commitments* (carlots)**	63,517	12,787	19,920
Av. open commitments per month (carlots)	2,443	1,162	1,245
Deliveries*** (carlots)	1,939	1,580	2,079
Av. deliveries per month (carlots)	75	143	123
% of open commitments settled by delivery (carlots)	3.05	12.36	10.43

* For the next month's contract at end of last business day preceding the delivery month.

** One carlot is 600 cases for Group I, 700 cases for Group II and 750 cases for Group III.

*** These totals include only original cars delivered, not the redeliveries permitted in Group I and II.

Source: CEA and survey data.

The average number of delivery months that the contract was in existence was 26 months for group one procedure, 11 months for group two procedure, and 16 months for group three through June 30, 1973 when this procedure was still in effect. The average number of deliveries per month has increased from 75 for Group one and at the present time has averaged 123 carlots per month for group three for the 16 months of the contract to June 30, 1973. This is the production from one and three-fourths to two million hens for a 30 day month. It is also noted at the present time that deliveries are used to satisfy 10 percent of the contracts that were open at the beginning of the delivery month.

● **Futures a market for surplus eggs.** In futures trading, 10 percent of the current month contract settled by delivery is considered relatively high, particularly when the nature of shell eggs is considered a fresh, perishable commodity that declines in quality with time. The eggs in the group one period could be delivered at over 50 approved cold storage warehouses located in all parts of the country. In group three the eggs could be delivered at over 125 approved egg packing plants. In group two, delivery was permitted at either the warehouses or the approved egg packing plants. The quality specifications of eggs delivered on the futures contract is essentially that of U.S. Grade A large eggs. So in packing for delivery the packing plant placed cartonable eggs in cases loose rather than in cartons. Egg industry knowledge of warehouse storage, the convenience of storage in warehouses and later the greater ease of delivery from the packing plant led to a large number of deliveries as egg packers utilized the futures to merchandise surplus, loose, grade A large eggs. This information was secured through interviews with members of the industry who had delivered eggs or had received delivery of eggs. The egg futures provides a market for loose eggs at a time when moving loose eggs is a problem.

● **Changes in egg marketing.** It is well to back up a bit to note what has been happening in egg marketing. In the last 15 years, there has been a continual movement of the egg packing plants from terminal market assembly centers to the production sites. Economic reasons involved included less labor cost, lower general overhead cost, a supply of eggs close at hand, opportunities to divert undergrade eggs to other uses more readily and the operation of grading plants by those interested in production.

It is estimated that about 50 percent of all eggs are cartoned and go to the retail store. About 15 percent are sold to the institutional users and most of these are in the graded, loose form. The only other user of graded, loose eggs is the military and they only use about one percent of the total production.³ As egg marketing is becoming more structured the opportunity to market surplus, graded, loose eggs has become quite limited. Buyers and sellers have informal agreements on volume with paying price being in relation to some reporting or recorded price. Sellers like to know where the eggs are going and buyers like to know from whom they are getting eggs. This involves quality and volume. Many buyers have more confidence in quality from a regular source. Sellers have more confidence in the willingness and ability of the regular buyers to pay.

³Rogers, George B., Voss, Leonard A., *Readings on Egg Pricing*, College of Agriculture, University of Missouri-Columbia, 1971, p. 136.

Most eggs move from packing plants in cartons. Therefore when a packer has a surplus he cannot put in cartons, which carry a brand or retail store name, he tries to sell loose, graded eggs in the trade and the assumption (a valid one) is that such a seller is surplus. Packers report it frequently requires a number of telephone calls to sell such surplus eggs. Most packers prefer not to have it known that they have extra eggs as buyers try to take advantage of this. Selling through the futures market makes it possible to remain anonymous to a certain degree. The price is known and the eggs will be out of the plant in three days on the in-plant delivery procedure. So many packers are willing to market eggs through short futures sales. They do not seem to worry about who gets the eggs. As one of the egg packers pointed out, delivering eggs through the futures contract as a method of sale is truly selling eggs the "lazy" way. A legitimate market consists of a buyer and seller negotiating where the seller wishes to sell and the buyer wants the product.

● **Egg quality decline influences the use of delivered eggs.** Eggs decline in quality with time so the receiver does not have a constant quality value. So unless he has use for the eggs he must dispose of them soon. An unstable product in the hands of someone who has no need for it is a distressed product. Eggs delivered to someone who does not need them or have use for them are truly a distressed product. Added to this is the future contract requirement currently in effect that the eggs must be moved within three days, probably one or two days after the receiver finds out he has eggs, or pay a high charge for leaving them at the delivery point. So there is the situation of a distressed product at some distant location, usually in a production area.

If the eggs are received by an industry member he may use his industry contacts to get them transported to where he wants them or to get them sold. However, if sold, they need to move at distressed product prices in order to get them moved quickly. If the eggs are received by a non-industry member, he usually relies on a broker to get them sold for him and again the eggs move at distressed prices. Interviews indicate that the sale of these eggs are at five to twelve cents a dozen below the price for a similar pack and quality in the area. This is particularly true in periods of surplus.

There are numerous interview reports that packers deliver eggs in the hopes of buying them back at three to eight cents or more below the local prices. They are often successful, according to reports. The buyers are then in a position to discount the eggs on a carton sale to retailers. Breakers are reported to buy back or buy delivered eggs to lower the cost of the raw materials going to the dried egg mixes on government contracts. Actually, the delivered eggs are usually bought at or below good quality breaking egg price levels.

● **Breakers a market for delivered eggs.** The present technology of breaking machines permits use of variable size eggs to be broken. Only reasonably clean eggs are all that is necessary as they go through a washer ahead of the breaking machines. Therefore the breakers are not interested in paying for the washing, sizing, and grading service which has already been added to the graded and sized loose eggs. It is estimated by some traders that 80 to 90 percent of all delivered eggs end up being bought for egg breaking stock. Someone may point out that when eggs are in short supply the delivered eggs may not move to the breaking plant, however, it must be remembered that if the

egg futures is used as a market for surplus, loose eggs then there will be very few deliveries at a time when there is no surplus. The packers will not have surplus eggs. Also, a packer who needs eggs to carton will buy at a sharply discounted price, as in practice packing line technology is such, and packers confidence is such, that the eggs are put through the grading and cartoning line like nest run eggs.

● **Egg futures prices below cash in delivery month.** The large number of deliveries has a strong tendency to drive the smaller speculators out of the market for the delivery month contract as they do not wish to take the risk of receiving eggs. Also, there is evidence that the professional traders now are taking the short side of the market. These two factors seem to be responsible for the tendency of egg futures prices to be considerably below the cash prices in the current month. When the futures price in the current month does not equal the cash price or come reasonably close to it, the hedging function is distorted. This relatively low futures price is an advantage for the short hedger but a disadvantage for the long hedger. All parties are best served when the cash and futures prices come together. When deliveries were not so frequent the futures price tended to be above the cash price which is also a disruptive hedging situation as this favors the long hedger and causes problems for the short hedger.

The futures contract is not likely to function properly when it is used to merchandise eggs. A primary function of a futures contract is to shift price risk to speculators who are willing to assume the risk in hopes of financial gain. When a contract is used to merchandise eggs the risk shifting device is partially abrogated as long time hedging does not take place. Many industry members now think of the shell egg futures as providing market protection not price protection. Those who want to deliver will hold a contract for only a short time. Many speculators lose confidence in the contract and deliveries tend to cause them to sell before the delivery month or early in the delivery month. The average speculator is willing to stay in the market in the current month and likes to do so but not when the contract is stacked in favor of the industry shorts and the speculator is likely to get eggs. As a result, very low relative volume is traded in the current month.

The marketing system operates most effectively and efficiently particularly on perishable commodities when the product flows smoothly from the producer or seller to the buyer. When eggs are delivered on the futures contract, the channel is disrupted and lengthened so marketing costs increase. Delivery on the futures market brings about a dislocation of supplies.

● **Sale of delivered eggs affects cash egg prices.** As far as marketing is concerned, the biggest impact of delivery of large quantities of eggs on the futures market occurs on the pricing system and the prices for eggs. When eggs are received by a non-industry member or by an industry member at a distant location, the eggs are likely to sell at distressed prices. The sale of 100 to 300 or more cars of eggs delivered in many months and an average of 123 cars over the sixteen month period since the current delivery rules have been used has a depressing effect upon egg prices. The price at which these eggs sell for is used as leverage by people in the industry to buy other eggs at a lower price. Also the sale price of delivered eggs gets into the price reporting system. The circumstances of the sale become lost, but not the price, so lower prices

are reported. Also the delivery month futures prices are below cash prices. This has a lowering effect on the reported prices of eggs.

It is generally accepted by economists that the buyers have more market power than the sellers in the egg industry. Therefore the distressed prices for eggs put another tool into the hands of the buyers who have market power. In periods of the earlier delivery procedure, the large traders tended to be on the long side of the market and the futures price in the delivery month tended to be above the cash market. This placed an advantage into the hands of the sellers but since they do not have the market power it did not become as potentially price disruptive as when the tool is placed in the hands of those who have the market power.

The large number of deliveries also is another tool for those who wish to attempt to manipulate prices.

● **Effect of deliveries on pricing.** It is so common that it is almost a truism that when there are many deliveries against the futures contract that the commodity futures price tends to decline. This is particularly observable in the fresh shell egg contract where as the number of deliveries stepped up, the futures price during the current month tended to always be under the cash price. This is an abnormal situation. The normal situation is that the futures price should be slightly higher than the cash price because of the cost and inconvenience of delivering the commodity. The thinking here is that the short would rather pay a slight premium in order to get his contract offset rather than go to the expense and inconvenience of delivering the commodity.

As the futures price in the current month declines, it has been observed that there is often a tendency for the cash price to follow this down to some degree. In months of large surplus, the effect of the lower futures price is even greater than in months when the surplus is not quite so large. The combination of the lower futures prices plus the receipt of the commodity by many longs who probably do not have need for the commodity, tend to lower cash prices. Both the lower futures prices in the current month and the slightly lower cash prices tend to get reported into the price reporting mechanism and the end result is that it has a tendency to lower the cash prices.

This is particularly true when the futures prices tend to be lower than the cash price in the current month and the many deliveries are selling at discounted prices as the buyers of agricultural commodities, in the form in which they are traded in futures contracts, tend to have much more market power than the sellers of these commodities. Therefore, they will and can use this opportunity to lower futures prices and some low cash price sales to lower the general price level of the commodity. In other words, due to the market power and the pricing situation that exists because of the many deliveries the net effect is to have a downward push on prices at this level. Also because these prices tend to represent the raw agricultural commodities there is an impact all the way along the line to the finished product.

● **Traders flee from deliveries.** There is a tendency to flee from deliveries. When many deliveries are being made, it is quite common to note the longs taking cover by selling to avoid having to take delivery. This is particularly true with the commodities that are unstable such as live animals or those in which there is a gradual, noticeable quality deterioration over time such as in fresh shell eggs. It is in these commodities that the flight from delivery is the greatest.

There is also a flight from delivery on the part of the shorts if it is believed, in the market that, some longs are standing for delivery. Then shorts often buy back their contract quickly to avoid having to make deliveries. This, of course, has a price increasing effect on the futures market. This is likely to occur in times of strong prices for the commodity.

The tendency for flight from delivery is becoming greater as the procurement in many commodities, particularly the unstable and perishable commodities, is becoming more structured. Therefore, the delivery has to be made out of the normal structured procurement channel and is frequently received out of the normal structured procurement channel.

● **Reduction of the number of deliveries.** The reduction of many deliveries on the futures contract is normally accomplished by making the rules for delivery more restrictive and therefore more difficult so that the shorts do not look upon the futures contract as another way of merchandising their product. If the rules of delivery are such that the delivery is easily accomplished, there is a flight from delivery on the part of the longs, and the relaxed rules of delivery are responsible for many deliveries in the commodity. On the other hand, if there are severe restrictions in the rules that make delivery undesirable or difficult, the shorts tend to flee from delivery and there may be times when the longs stand for delivery as a manipulative effort. Then the shorts attempt to buy back their contracts if they do not wish to deliver and will bid the prices higher, which is usually the object of the manipulation. The type of manipulation achieved by standing for delivery is probably more easily recognized.

It can be argued that the standing for delivery under restrictive delivery situation is the exact counterpart of too many deliveries driving price down. The hypothesis is advanced that the impact on cash prices is probably not as great when futures prices are on the upside than when they are on the downside. There is more a tendency to disregard the futures prices when they are higher than cash prices as the market power is with the buyers. They are given much more consideration when they are below the current cash price. In the situation of the longs forcing the delivery and having an upward push on futures prices the sale of the delivered product at somewhat of a distressed price is balanced by the higher futures price. In other words, the negotiating impact of low futures prices on the cash price is much greater than the negotiating impact of high futures prices on the cash price.

It also might be well to point out that the prices for agricultural commodities may tend to be on the low side because of the market power situation therefore the upward push of the higher futures prices is beneficial.

Current experience indicates that probably there is more and greater manipulative effort when deliveries are scarce but solution to this is not make more deliveries and thereby ruin the purpose of the futures market which is hedging and price protection but the remedy is much closer surveillance in an effort to control this type of manipulative effort.

Initial Deliveries on Some Major Futures Contracts

As much has been said in this publication relating to the number of deliveries under the fresh shell egg futures contracts, it might be well to devote some space to the number of deliveries under other major futures contracts, both from the standpoint of determining whether the excessive number of deliveries is a problem only in fresh shell egg futures contracts or if it is common to other contracts and also for the purpose of getting a general perspective.

A comparison with other futures contract initial deliveries does not necessarily prove that there are no problems in any of the commodities if all deliveries run relatively the same percentage of the number of open contracts at the end of the last trading day preceding the contract month.

There is no convenient way of establishing a benchmark for the number of deliveries in comparison to the number of contracts traded. One that is frequently used is to calculate the percent the deliveries are of the open commitments at the end of the last trading day preceding the delivery month. Another method that can be used is to determine the comparison percent that the deliveries are of the total number of contracts traded during the life of the contract. Both of these leave something to be desired but are used in absence of any better comparison.

In relating deliveries to the number of open commitments at the beginning of the month, this does not take into account the fact that the number of open commitments may rise during delivery month of trading so that the number of deliveries can conceivably exceed the number of contracts open at the beginning of the month. A comparison to the number of contracts traded during the life of the contract is also fraught with problems because there often is a period of considerable high volume trading some months preceding the delivery months. Also some contracts are open longer than others and contracts for some months are normally traded more than others.

● **Discussion of specific commodity deliveries.** In Table 2 is given the information of futures contract deliveries based on the number of open commitments at the end of the last trading day prior to the delivery month. These are given for the contracts that were traded from the beginning of 1971 through mid 1973. The number of contracts traded for the various commodities differs because they have differing number of contracts open during the year. The highest number, of course, is shell eggs, which had a contract open every month during this period. The average open commitments is the total open commitments at the beginning of the trading of the contract month divided by the number of contracts. The number of deliveries is the number of initial deliveries. Some contracts have a redelivery provision whereby the receiver merely sells a contract short and redelivers the commodity within the limited time, usually not over two days.

The commodities are grouped by the contract market where the contracts are traded. It includes only those contracts which are regulated by the Commodity Exchange Authority. It will be noted that among the unstable commodities which are all those that are listed under the Chicago Mercantile Exchange, shell eggs has the highest percent settled by delivery. Live beef cattle and live hogs are quite low and frozen pork bellies is below eggs. The high month in number of deliveries is given in Table 2 to give some ideas of the column of the commodity that is taken through the longer marketing channel via delivery in the high month.

This may represent an added marketing cost as delivery through the futures adds to the length of the marketing channel. The storable commodities, which are listed in the remainder of the table, show a varying percent of the contracts settled by delivery with wheat at the Minneapolis Grain Exchange at 31.3% being the high. The percentage is lower for contracts which are traded in a relatively heavy volume, although there were a high number of cars delivered in the high month for each of the contracts.

Table 2
Initial Futures Contract Deliveries
1971 through mid-1973

Commodity	Number	CONTRACTS			
		Av. open Commitment	Av. no. deliveries	% open contracts settled by delivery	Number in high month of delivery
Chicago Mercantile Exchange					
Shell Eggs	31	1167	131	11.2	357
Live hogs	17	2268	74	3.2	155
Frozen Pork Bellies	14	3578	249	7.0	557
Live Beef Cattle	14	5803	177	3.0	700
Chicago Board of Trade					
Corn	13	9609	1013	10.5	2084
Oats	12	399	98	24.6	184
Soybeans	17	7966	1131	14.2	2124
Wheat	13	2895	160	5.5	427
Minneapolis Grain Exchange					
Wheat	13	461	144	31.3	416
Kansas City Board of Trade					
Wheat	13	1994	353	17.7	1760

Source: Commodity Exchange Authority reports.

● **Deliveries of unstable commodities disrupt the marketing channel.** It

can be argued that delivery of storable grain on the futures contract is not the disruption in the marketing channel that exists with the unstable commodities, as grains are usually stored in a warehouse somewhere anyway and the change of ownership consists merely of delivery of a warehouse receipt. The grain does not have to be moved but can be left there at the location and then move on into the marketing channel. There may be an extra ownership involved, but physically the grain is not moved and the movement of the commodity in the marketing channel is not disturbed. This is not true of the commodities listed on the Chicago Mercantile Exchange in Table 2, as all of these commodities, with the possible exception of frozen pork bellies, must be moved from the delivery point by the receiver.

The January 1973 soybean futures contract had 1,014 contracts open at the beginning of delivery month but there were 1,296 contracts settled by delivery or 128.3% of the contracts open. This was no doubt due to considerable trading during the delivery month in that contract and individuals purchasing contracts and standing for delivery. It is entirely possible that a special price situation created this situation where the longs thought the ownership of soybeans in a rising market would provide them with some financial gains.

Table 2 emphasizes that there are considerable deliveries on the futures contract and again emphasizes that it would be desirable if the number of deliveries were reduced so the potential for disruption of the marketing channel and the added cost of marketing were held at a minimum and still provide a viable futures contract for the purpose of shifting price risk.

Specific Information on Shell Egg Deliveries

From information made available by the Commodity Exchange Authority, the author conducted personal interviews with half of the individuals involved in the initial delivery or ultimate receipt of eggs delivered during the last half of 1970. During this time there were 554 cars of initial deliveries and of these about half, 229, were redelivered one or more times during the trading period. The interviews were almost entirely with those making initial deliveries or being ultimate receivers of cars of eggs.

As is noted from Table 3 the number of individuals or firms involved in the six month delivery period was low, only 202. The redelivery information is for individuals making the first redelivery only; information was not obtained on subsequent redeliveries. When the 75 involved in redelivery only was subtracted from the 292 total, 127 remained.

There were less involved in delivery, 64, than in receiving, 70. Of the 64 making delivery there were 55 who only delivered. Of the 70 who received eggs 44 were receivers only. A large portion of those who redelivered were involved in redelivery only.

Table 3
Fresh Shell Egg Deliveries,
Individuals or Firms
July 1 - December 31, 1970

Individuals or Firms	202
Deliverers	64
Deliverers only	55
Receivers	70
Receivers only	44
Redeliverers*	99
Redeliverers only*	75

*Information obtained was on first redelivery only. Those who redelivered all eggs received were classified as redeliverers only. Those classified as receivers did not redeliver the eggs.

Source: Survey data.

From the total column on Table 4 it is apparent that those involved in the initial delivery or as ultimate receivers did not change their position as longs or shorts during the six month period. There were only seven involved in both delivery and receiving during the six months time.

• **Industry vs non-industry members involved in delivery.** The division between egg industry and non-egg industry members was made on the basis of information from brokers and the author's knowledge. As might be expected the non-industry members made few deliveries, only four were involved, but 33 were receivers. Over half of those redelivering were non-industry members. The number of non-egg industry members was probably biased low as brokers were classified as members of the industry since they had knowledge of the egg industry. In the interviews it was determined that

Table 4
 Individuals or Firms Involved in
 Fresh Shell Egg Deliveries
 July 1 - December 31, 1970

	Industry	Non-egg industry	Total
Deliverers only	51	4	55
Receivers only	20	24	44
Redeliveries only	32	43	75
Deliverers and receivers	4		4
Deliverers, redeliverers, and receivers	3		3
Deliverers and redeliverers	2		2
Receivers and redeliverers	10	9	19
Total	122	80	202
Minus redeliverers only	90	37	127

Source: Survey data

some were handling clients' accounts in the brokerage firm name and those clients were usually non-industry speculators.

● **Location of those involved in deliveries.** There were traders from 30 states, Canada and Mexico, involved in the delivery, first redelivery or ultimate receipt of eggs. Traders in four states made only redeliveries. Nine states were the location of only one deliverer or receiver while five states had only two. The five leading states were the location of 50 percent of the traders. These were California, Illinois, Texas, Arkansas and Minnesota. The trader locations were in major production states or related to the location of the futures trading (Chicago). Traders interviewed stated that the delivery was a method of selling eggs. This would account for many traders being located in the egg production areas. Also some industry members, notably egg breakers, used the futures to secure supplies. Breakers are located in production areas.

● **Concentration of involvement in delivery.** There were 15 traders who delivered 10 or more cars of eggs and eight were the final receivers of 10 or more cars. The largest involvement was 145 cars, all received in September, 1970, about 10 percent of the 554 cars delivered. Six deliverers accounted for 53 percent of the delivered cars. Combined date for delivery and final receiving shows that 50 percent of the 127 traders were involved with only one or two cars of shell eggs. This indicates that relatively few people were involved in the delivery and ultimate receiving of the 554 cars of eggs delivered during the last six months of 1970.

Three traders made 38 percent of all deliveries during the six month period. There were four traders who were the ultimate receivers of 33 percent of all the deliveries. Two breakers were large deliverers and receivers being second and third highest in deliveries and third and fourth highest as final receivers, each accounting for about 10 percent of the transactions. It would seem that any trader delivering or being the final receiver of these volumes of eggs had for some reason not made an effort to offset his futures position in the market.

• **Length of time contracts were held.** Information on the length of time the short contracts were held before delivery or long contracts before receiving eggs was available on 553 of the 554 initial deliveries and 781 of the 783 contracts on which eggs were received. The latter total is higher as it included deliveries that were later redelivered.

Eleven percent of the short contracts were held four calendar days or less. (Table 5) Trading days held were not calculated. The record shows 14 of 553 deliveries made the same day the short sale was made while eggs were received on the long purchase day for 11 of the 781 contracts. The number of short contracts held less than 10 days were 37 percent of the total while 66 percent were held less than 20 days before delivery. In contrast, 30 percent of the long contracts were held less than 20 days before the eggs were received. This table verifies interview information, namely that many industry members considered the futures as a market for eggs.

The high number of deliveries before and after trading closed held for less than 20 days indicates deliberate planning by many shorts to deliver eggs. The high number of deliveries after trading closed on contracts held five to nine days could result from packing plants selling short prior to closing of trading in order to be able to sell eggs through the futures during the approximate 10 day period of no trading at the end of each month. The oldest short contract was held 283 days before delivery and the oldest long contract had been in existence 251 days when the eggs were received.

Table 5
Calendar Days Contract Was Held Before Delivering
or Receiving Eggs—Fresh Shell Egg Futures
Contracts, July 1—December 31, 1970

Days	Before Delivering Eggs					Before Receiving Eggs						
	Trading open	Trading closed	Tot.	Accumul.		Trading open	Trading closed	Tot.	Accumul.			
			%	#	%				%	#	%	
0-4	48	14	62	11	62	11	14	15	29	4	29	4
5-9	63	73	141	26	203	37	38	18	56	7	85	11
10-19	90	71	161	29	364	66	71	81	152	19	237	30
10-39	36	31	67	12	431	78	130	173	303	39	540	69
40-79	21	23	44	8	475	86	165	30	195	25	735	94
80-159	30	6	36	6	511	92	29	0	29	4	764	98
160-284	20	22	42	8	553	100	17	0	17	2	781	100

Source: Survey Data

• **Contracts favor the shorts.** Interviews with industry members and traders and observations indicate that the present trading rules overwhelmingly favored the shorts. The price lowering impact from large traders who now obviously take the short side of the market often results in a current price below the cash price. This induces producer interests to take large long positions in some months for the purpose of trying to influence cash prices upward through increasing current futures prices.

There has been a tendency for a heavy volume of delivery in the first few days of the month. Some traders attribute much of this early month delivery volume to the redelivery eggs delivered the previous month. They say this method is used to dispose of unwanted eggs received from the previous month futures delivery and to sell delivered eggs purchased at a sharp discount.

● **Recommendations.** Recommendations are for considerations of changes that hopefully would improve the contract which was in effect in July, 1973. The basis for these recommendations is information from interviews with traders, research schedules, egg industry members, and observations by the author based upon knowledge of the egg industry.

1. *Reduce the number of deliveries.* Reduction in the number of deliveries will help restore the traditional price risk shifting function of futures trading. It does not seem that a market risk shifting function and a price risk shifting function are compatible. Markets are well organized and efficient and marketing through the futures is not a part of that marketing channel. The speculator has indicated by his actions that he is willing to take the price risk but his actions have shown that he is not willing to be a part of futures that function to shift market risk. Deliveries should be the threat that provides stability to the futures contract, in regard to compliance and cash-futures price relationships. The delivery of an unstable product presents special problems as the receiver has the time constraint operating that reduces the value of the product. If the quality were stable, such as in grains, he could dispose of the delivery at his convenience. Perishable products on the normal marketing channel usually become distressed products with a loss in operational pricing efficiency in the marketing process. The surplus at egg packing plants exists as loose graded eggs, as the markets for loose graded eggs have declined and are thin, particularly in the time of surplus. It is only natural that egg packers would seize on this opportunity to sell eggs through the futures. Therefore to reduce the number of deliveries on it is necessary to have some delivery restraints and rules. If trading in the fresh shell egg futures contract is for the purpose of ultimate delivery there will be a sharp reduction of trading when the general surplus does not exist. The hedging function is a more stable basis for futures trading.
2. *Require the delivery of U.S. Nest Run 20 percent AA quality eggs with the average net weight per case of 48 to 52 pounds.* Nest run eggs are those eggs which are the beginning phase of movement through the marketing channel. Commercial flocks are now generally large and the eggs are from hens of uniform age and breeding. Such flocks produce relatively uniform eggs. The Nest Run grade makes it possible to trade on size and quality without undue effort and expense of initial grading, sizing, and packaging in bulk form to be followed by another rehandling by the receiver prior to final cartoning. This grade of eggs will be satisfactory for grading and cartoning or for use by egg breakers. The breakers wash all eggs just ahead of the breaking machine and do not need to size or grade fresh eggs. Therefore the eggs will be equally valuable for grading to carton or for breaking stock. It is reasonable to expect that breakers and grading plants would be willing to pay near the going price for nest run grade for delivered eggs. This would avoid some of the present price depressing effect of the sale of futures delivered eggs.

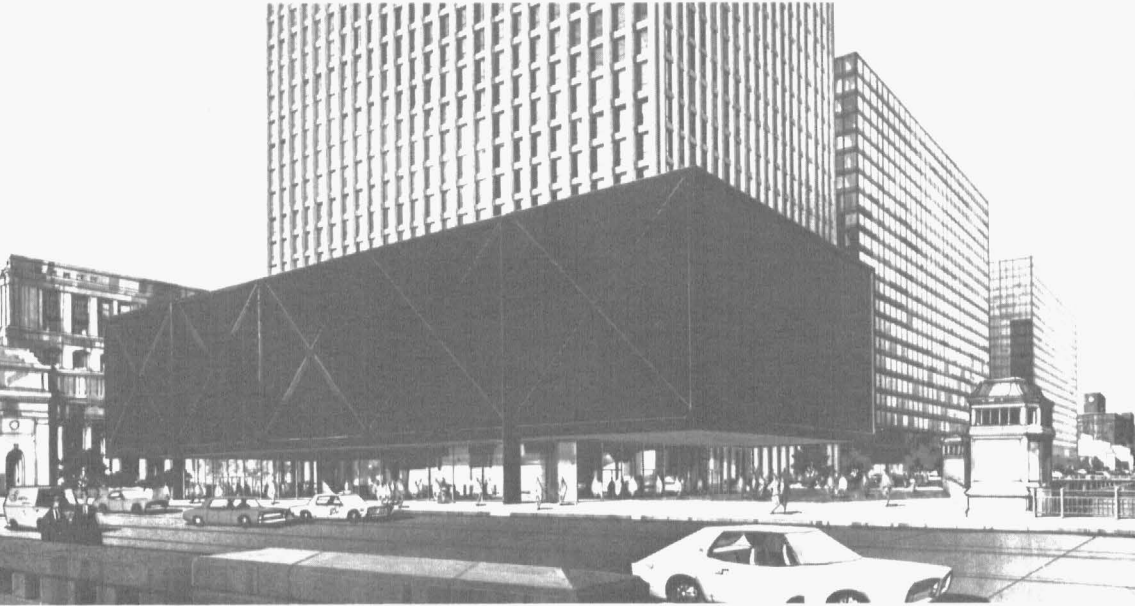
There should be no premium for eggs averaging excess of 52 pounds, but weighing from 43 to 48 pounds per case should be acceptable with a discount of a specific amount per dozen for each half pound by which the average weight per case falls below 48 pounds.

3. *Delivery by shipping certificate.* The shipping certificate obligates the issuing shipper to deliver a load of eggs from a plant upon demand of the certificate owner. The shipping certificate would give a considerable degree of flexibility to the long trader. If he does not want the eggs he may sell the certificate direct or through a channel established by the exchange. There should be a daily carrying charge for holding the certificate. There should be some restrictions on how long the certificate can be held and it should be required that the eggs be delivered during the delivery month.
4. *Shipment of eggs by the seller.* Since eggs are often delivered from isolated packing plants located in the production areas, the shipper should be required to provide the transportation to the destination and be reimbursed by the receiver for the shipping cost not to exceed a set amount for each unit of distance shipped.
5. *Inspection at destination.* Eggs shipped should be required to meet contract specifications upon arrival at the shipping destination. A USDA grader should make the inspection. The receiver should make the inspection request and the shipper should have the right to request an appeal inspection. Payment should be shared between the shipper and receiver. Provision should be made that the inspection is not required to accept the eggs.

The common practice in the industry is for eggs to be inspected or approved upon receipt. Considerable data shows that if eggs are properly packed and shipped the loss in quality due to shipping is very small or almost negligible.

6. *Deliver eggs F. O. B. delivery point.* The delivery of eggs F. O. B. delivery point would mean that the freight allowances would be removed. There was an economic justification for freight allowances based on Chicago delivery as most eggs were delivered from the midwest and tended to move to or through Chicago. This is no longer true. There are many concentrated production areas in the United States and eggs tend to move in many directions from all points. In the interviews it was determined that there were many instances where eggs in the southeast moved to Texas, eggs from California went to cities in the mountain states, and in most cases the receiver was closer to the delivery point than he was to Chicago. It is difficult to justify why a chance location of the deliverer or the receiver should provide an economic advantage or disadvantage through the transportation allowances.
7. *Require all deliveries to be made in new cases.* It is quite common for buyers to specify that eggs be delivered in new cases. This procedure would insure that the eggs are received in good cases. It would also help prevent the redelivery of the same eggs as it is some added expense to recase the eggs to redeliver in new cases.
8. *Simplify the paper work associated with delivery payments.* Traders who have made only a few deliveries or received only a few cars of eggs often complain about the confusing papers they received in connection with the

settlement of the contract. Examination shows that these papers are quite extensive. They relate to calculations based on the settlement price which is not very well understood in the field. Papers sent to the trader should show the rate per dozen, total price, commission involved and any other charges and the net amount. The other papers should be kept at the clearing house.



Chicago Mercantile Exchange headquarters and trading facilities building.

Summary

The economic justifications for futures trading in agricultural commodities is to shift the risk of adverse price changes for the hedger. The speculator provides liquidity and takes the risk in return for the opportunity for financial gain from price changes. The delivery provision is included as the contract is an agreement to provide the commodity or accept the commodity if the contract is retained beyond a specified date.

The purpose of a future therefore is not to buy or sell the commodity. The delivery of a commodity is usually outside the normal marketing channel and to someone who may have an adequate supply or someone who does not deal in the commodity. In either case the marketing channel is either disrupted or lengthened, either of which is inefficient, adds to marketing costs and may have a cash price decreasing effect.

The fresh shell egg contract is an example of delivery to dispose of surplus eggs. The contract in effect in 1973 provided for the delivery of fresh, graded, loose packed shell eggs at egg packing plants. The marketing procedure now is such that the surplus of fresh, graded shell eggs is difficult to dispose of by packing plants. From March, 1972 through June, 1973 shell egg deliveries

averaged 123 carlots per month, equivalent to the production from 2 million hens for a 30 day period. Ten and four tenths percent of the contracts open at the beginning of the delivery month were settled by delivery. Shell eggs are an unstable commodity as quality declines with age so the receiver does not have a constant quality value. An unstable product in the hands of someone who has no need for it is a distressed product. Shell eggs delivered at the packing plant had to be removed within three days or a penalty was incurred. It was determined from interviews that receivers frequently sold eggs to a breaker or back to the packer at three to eight cents discount below local prices. There were numerous reports of packers delivering eggs in hopes of buying them back at such discounts, with good success.

These sales had a price decreasing effect in cash egg prices as the sales without the circumstances got into the cash egg price reporting system. It was estimated that 80 to 90 percent of all delivered eggs ended up being used as breaking stock which meant they were bought at breaker stock prices not at loose, graded egg values. The large number of deliveries drives many speculators out of the futures market in the delivery month as they do not want to take the risk of receiving eggs. Studies also revealed that the professional traders were taking the short side of the market. Those factors seem to be responsible for the futures prices being considerably below the cash prices during the delivery month. When the cash and futures prices do not come together the hedging function of the futures market is distorted.

Data from the commodity exchanges for regulated commodities shows that deliveries as a percent of open contracts at the beginning of the month settled by deliveries varied from 3.0 percent for live beef cattle to 31.3 percent for wheat at the Minneapolis Grain Exchange for 1971 through mid-1973. As a group, the deliveries of non-storable commodities were lower than for the storable grains and soybeans. However the unstable commodities deliveries are more disruptive to the marketing channel as the delivery of grain merely involves the exchange of a warehouse receipt.

A detailed analysis was made of all fresh shell egg futures contract deliveries made during the last six months of 1970. There were 554 initial deliveries. There were only 127 individuals or firms involved. Of these, 57 delivered initial cars and 63 were ultimate receivers. There were 7 who both delivered and received during the 6 month period. Only 4 non-egg industry members were involved in delivery and 33 in receiving. In addition there were 75 traders who were involved in the first redelivery only.

There were traders from 26 states involved in delivery or receiving. Over 90 percent of the traders were located in 5 states, California, Illinois, Texas, Arkansas and Minnesota. All of these states are major production areas except Illinois, the location of the Chicago Mercantile Exchange. Producers were selling eggs via futures. Egg breakers, also located in production areas, used the futures to secure breaking stock.

There were 15 traders who received 10 or more cars and 8 were final receivers of 10 or more cars. Three traders made 38 percent of all deliveries and six accounted for 53 percent. Four traders were the final receivers of 33 percent of all deliveries in the six month period.

Eleven percent of the short contracts were held 4 calendar days or less before delivery. Deliveries were made the same day of the short contract sale in 2.5 percent of the cases. Contracts held less than 10 days were 37 percent and

66 percent less than 20 days before delivery. Only 1.4 percent of the longs received eggs the day they purchased contracts and only 30 percent of the contracts were held less than 20 days before receiving eggs. This verifies interview information, that many industry members consider futures as a way to sell eggs. The oldest short contract was held 283 days before delivery and the oldest long contract had been purchased 251 days before eggs were received. Industry members in interviews state overwhelmingly that the contract favored the shorts.

The tendency for heavy delivery volume the first days of the months was attributed by traders to redelivery of eggs delivered the previous month.

Recommendations for improvement of the contract in effect on July 1, 1973 based on interviews, research schedules and industry knowledge of the author are:

1. Reduce the number of deliveries.
2. Require the delivery of US Nest Run grade eggs.
3. Delivery by shipping certificate.
4. Shipment of eggs to be made by the seller.
5. Inspection at destination.
6. Deliver eggs F.O.B. delivery point.
7. Require all deliveries in new cases.
8. Simplify the paper work associated with delivery settlement.



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