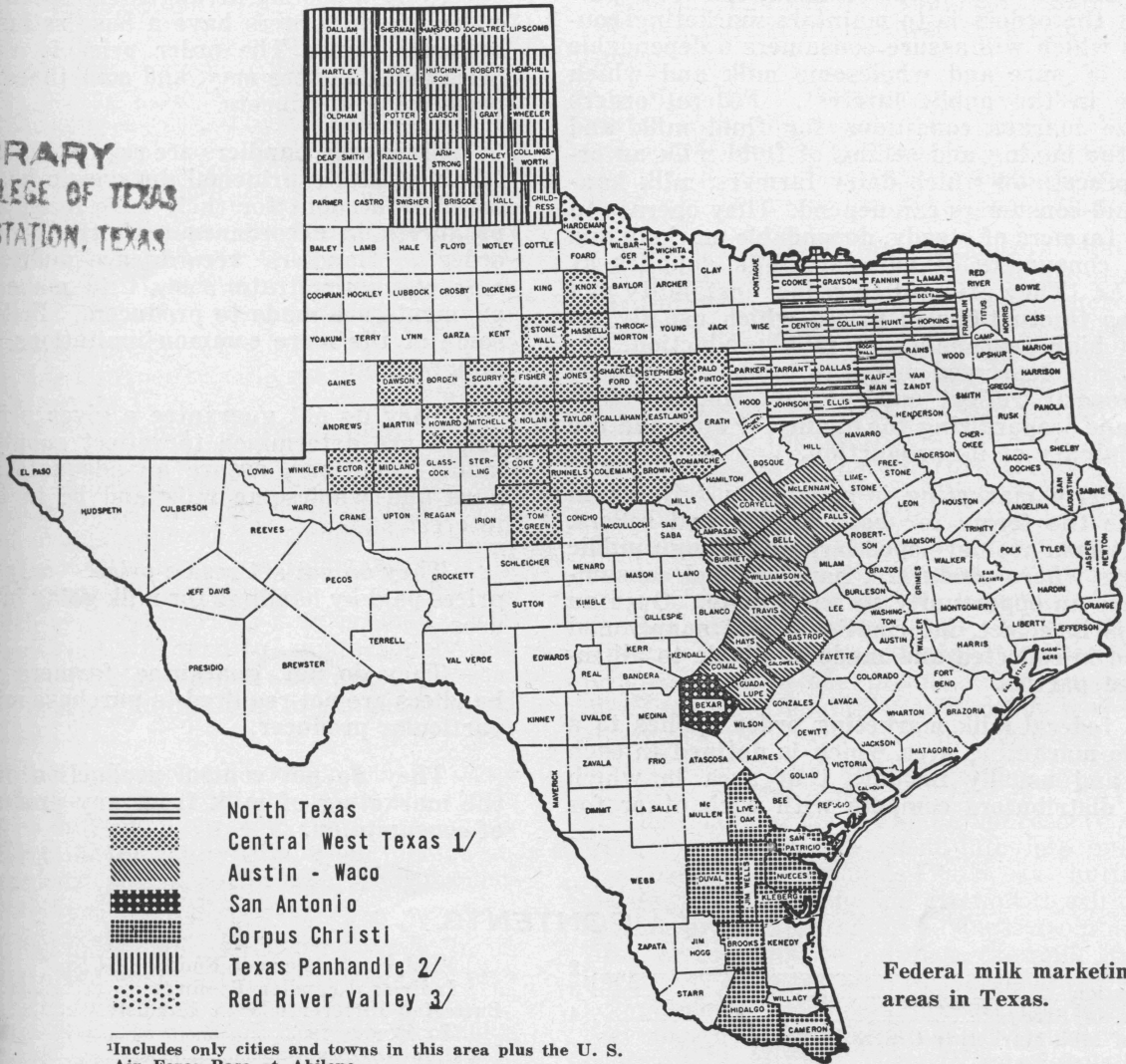


Marketing Milk under Federal Orders in Texas

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Federal milk marketing order areas in Texas.

¹Includes only cities and towns in this area plus the U. S. Air Force Base at Abilene.
²Also includes Beckman county, Oklahoma.
³Also includes eight counties in Oklahoma.

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SUMMARY

Some Texas dairy farmers have been marketing milk under federal orders since October 1951. In December 1959, 5,270, or 68 percent of Texas producers sold milk under the seven federal orders. In 1959 these producers marketed more than 1.8 billion pounds of milk, which was more than 72 percent of the whole milk delivered to plants and dealers by Texas dairy farmers.

Federal orders define the terms under which dairymen sell their milk to handlers. The purpose of the orders is to maintain marketing conditions which will assure consumers a dependable supply of pure and wholesome milk and which will be in the public interest. Federal orders stabilize market conditions for fluid milk and make the buying and selling of fluid milk an orderly process on which dairy farmers, milk handlers and consumers can depend. They operate to assure farmers of steady, dependable markets and assure consumers of adequate milk supplies at all times. They attempt to reduce instability and needless fluctuations in prices which usually result in high seasonality of milk production, unnecessarily depressed prices to producers that do not properly reflect supply and demand conditions, and jeopardizing the quality of milk and the dependability of its production.

Orderly marketing is sought by defining in advance the terms for both buyers and sellers. These terms are developed largely through public hearings where producers, handlers and consumers have an opportunity to participate. Once an order is in effect, information about supply and demand is collected and made available to all interested parties.

A federal milk marketing order applies to a specific marketing area which is defined in each order and usually includes that area in which major distributors compete with each other for sales.

Handlers within the market are the only ones regulated. Handlers usually are defined as a firm which purchases approved milk from farmers to sell in the marketing area. A handler must pay the minimum price, make accurate weights and tests and account for the way milk is used.

Under a federal order, handlers pay for milk in accordance with a classified pricing plan. Proceeds of the milk sales are distributed among producers by a pooling arrangement specified in the order. Some orders have a base rating or other seasonal plans. The order price is a minimum price and handlers may, and sometimes do, pay a premium to producers.

Since only handlers are regulated, the market administrator's principal duty is to be sure the handlers account for their milk receipts and pay producers in accordance with the terms of the order. Handlers' records are audited by the market administrator's staff to make sure full payments are made to producers. Following are some of the more common limitations of federal milk orders:

They do not guarantee a given price level—prices are determined to reflect supply and demand conditions, assure an adequate supply of pure and wholesome milk and be in the public interest.

They do not set resale prices—only minimum prices paid by handlers for milk going into various uses.

They do not guarantee farmers a buyer—handlers are not required to purchase milk from a particular producer.

They do not control production or prohibit the marketing of milk from any producing area of consumption.

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MARKETING MILK UNDER FEDERAL ORDERS IN TEXAS

RANDALL STELLY*

FEDERAL MILK MARKETING agreements and orders are authorized by Congress and administered by the U. S. Department of Agriculture. They are designed to promote orderly marketing of the sale of milk from producers to handlers or milk distributors and to assure consumers an adequate milk supply.

A basic function of this program is to establish minimum prices to be paid by handlers for milk delivered by producers. This includes classifying and pricing milk to handlers according to use and choosing a market-wide pool or an individual-handler pool as a basis for returning proceeds to producers. Auditing handler's uses and dissemination of market information supplement the pricing function. Transportation zones may be established under a federal order to reflect to handlers and producers the value of milk in the market place.

The Agricultural Marketing Act of 1937 authorizes the issuance of milk marketing orders. Under this Act the U. S. Secretary of Agriculture can regulate the minimum price producers receive for milk whenever he determines, from evidence received at public hearings, that existing milk prices are not reasonable in view of local costs of producing milk, and other economic conditions affecting the market supply and demand for milk and milk products in a marketing area. The intent of such price regulations is to provide prices to producers that will tend to equate supply and demand after making proper allowances for seasonal and cyclical fluctuations in production and consumption.

This is attempted by issuing federal milk marketing orders which legally define the terms under which milk handlers, who engage primarily in handling milk for fluid distribution in regulated city markets, purchase the milk from producers.

Milk has unique characteristics which, in its marketing, often results in suppressing the bargaining power of milk producers. Because milk is bulky and perishable and, accordingly, expensive to transport, it usually is produced near the point of consumption. It is not produced in specialized production areas of the nation and it is produced by large numbers of farmers. Because of its bulk and perishability, milk must be marketed promptly. It cannot be stored for market conditions to become more favorable, but must be marketed even when prices are unsatisfactory.

Milk production varies from season to season because cows respond to the favorable spring and

early summer weather and flush growth of good pasture crops. Consumers' demands in an urban market also vary from day to day (high on Saturday, low on Sundays and holidays) and from season to season (high in September and October when school begins and low in July and August when vacations are taken). Since milk cannot be stored, the industry should carry supplies with reserves sufficient to meet requirements at all times.

Milk has its own specialized transportation routes from the farm to the plant. When this transportation is controlled by the purchasing plant and no other route passes a producer's farm, the producer has no alternative market.

Several decades ago producers, starting in the larger eastern markets, began organizing themselves into cooperative associations to enhance their bargaining power. The cooperative movement was given impetus by the passage of the Capper-Volstead Act in 1923 which exempted cooperative associations and their bargaining activities from the Antitrust laws. Cooperatives first bargained for a flat price to apply to all milk which was sold to handlers regardless of its use. Inevitably one handler would be carrying a larger portion of reserve supply than another handler. Some of the reasons for this situation are (1) one handler carried a portion of another handler's reserve supply; (2) one handler's producers showed more seasonal variation in their production than the producers of another handler; (3) one handler's disposition varied more seasonally because of school contracts or other special outlets than another handler's; (4) different procurement policies. The only way an individual handler could handle his reserve supplies were to manufacture them into less bulky and less perishable products such as butter and cheese, to bottle them and attempt to sell them by cutting prices and taking business from a competitor, or to refuse to purchase the milk from producers. The latter alternative generally was not acceptable to producers because in most cases they had no other outlet which would yield any comparable return. The first alternative was not attractive to handlers since it returned them less than bottled milk. If handlers chose the second alternative they expected a price concession on this reserve milk. Then the handlers whose business they took sought a similar price concession on all of their milk to meet competition. At this point the flat price had become completely ineffective and the market was disordered.

A classified price plan under which reserve supplies were sold to handlers at prices more nearly reflecting the value of milk for use in

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manufactured dairy products was used in several of the larger markets about 1920. A classified pricing plan was developed by dairy producers' cooperatives in New England and tried on a voluntary basis in the 1920's. In the early 1930's these cooperative associations were instrumental in getting Congress to adopt such a plan. This plan considerably overcame the weaknesses which caused the flat price system to fall so long as the entire market operated under the plan. However, when the economic depression of the early 1930's came, the voluntary acceptance of the classified price plan waned and the plan fell from the same type of forces that wrecked the flat price plan.

Early in the depression the U. S. Congress enacted legislation authorizing emergency aid for many segments of the economy. The Agricultural Adjustment Act of 1933 gave specific benefit to milk producers and made provisions for licensing milk handlers. The Agricultural Adjustment Act of 1935 and the Agricultural Marketing Agreement Act of 1937 authorized milk marketing orders, superceding the licensing provisions of the 1933 law. Licenses and then milk marketing orders made the classified price plan mandatory for all handlers, established minimum prices for each class of utilization and provided for dividing the returns at minimum prices equitably among producers. Thus, the weaknesses of the voluntary classified price plan were overcome.

Originally the purpose of licenses and orders was to increase prices from their depressed levels. This could be achieved temporarily because prices were in a depressed position at the beginning of the program, and because emergency government programs in other agricultural enterprises and in fields of economic activity other than agriculture were being pursued contemporarily. But after a few years it became apparent that a permanent policy of increasing prices for milk could not be pursued in the absence of economic tools either to limit supply or bolster demand such as production controls, subsidies or production payments. Thus the milk marketing orders became, and are presently, primarily stabilizing influences rather than price raising influences. They achieve orderly marketing mainly by making the classified price plan and its companion, pricing and pooling aspects, mandatorily market-wide. They help to assure an adequate milk supply for a market. They define terms within the authorized limits, under which handlers buy milk from milk producers. These terms are defined in advance for both buyers and sellers which helps to achieve orderly marketing. Handlers and producers and all other persons interested in a local milk market can participate in the development of appropriate provisions of a milk marketing order through the public hearings and attendant public procedures for the issuance and amendments of orders. The public procedures which precede the issuance or amendment of milk marketing orders offer an opportunity for dairy industry leaders, specialists from colleges

and others to take part in the shaping of government decisions and regulations.

PURPOSE OF STUDY

From its beginning in 1951 to the present the marketing of milk in Texas pursuant to milk marketing orders has increased greatly. In 1951 more than 72 percent of the whole milk delivered to plants by Texas dairy farmers was marketed in accordance with provisions of milk marketing orders.

With this growth in the milk marketing order program has come an expanding need for information about milk marketing orders. Since most of the responsibility for initiating a milk marketing order and a great deal of the responsibility of determining its provisions through local public hearings lie with local persons interested in the market, effective operation of the program is enhanced by free, full and informed participation by these individuals. The specific objective of this bulletin is to help achieve that result.

Other objectives are (1) to indicate the importance of federal orders in Texas and the United States in terms of milk volume marketed and the number of producers selling milk under the regulations; (2) to outline the basic content and general provisions of federal orders; (3) to explain the reasoning and theory for the several components; (4) to show the operational computation of the basic pricing provisions and formulas; and (5) to summarize the procedures for establishing or changing orders.

SCOPE OF MILK MARKETING ORDERS IN TEXAS AND UNITED STATES

Prior to 1930, the Texas dairy industry was primarily a production-for-home-use industry. In 1925, about 70 percent of the milk produced was used on the farms where it was produced or sold in the form of farm-churned butter. During the 1930's the delivery of milk or cream to plants increased consistently and in the early 1940's with the increased economic activity brought by war production and the many military installations in Texas, dairying toward a production-for-sale industry hit a rapid pace.

During the 1930's and 1940's many of the Texas milk markets operated on a base and surplus plan. Most handlers purchased a total volume of base milk equivalent to their fluid milk requirements. This total volume of base milk was allocated to producers either on the basis of their current deliveries or on the basis of deliveries in some preceding base-making period. Base milk was paid for at some lower price. The base-surplus plan was subject to the same weaknesses as the voluntary classified price plan.

In Texas the first milk marketing order was established in October 1951, for the North Texas Milk Market. During that month 2,450 pro-

TABLE 1. NUMBER OF PRODUCERS DELIVERING MILK IN TEXAS FEDERAL ORDER MARKETS¹

Federal order markets	1951	1952	1953	1954	1955	1956	1957	1958	1959
North Texas	2,484	2,776	3,187	3,152	3,057	3,147	3,194	3,120	2,857
San Antonio		415	442	462	479	509	525	514	534
Central West Texas		539	599	736	752	751	654	553	510
Corpus Christi					447	386	386	428	412
Austin-Waco					593	512	463	414	373
Texas Panhandle						601	593	546	508
Red River Valley								129	134
Total all markets	2,484	3,730	4,228	4,350	5,328	5,906	5,815	5,704	5,328

¹Average number during the year. Data analyzed as of effective date of each marketing order: North Texas, October 1, 1951; San Antonio, July 1, 1952; Central West Texas, December 1, 1952; Corpus Christi, July 1, 1955; Austin-Waco, February 1, 1955; Texas Panhandle, February 1, 1956; and Red River Valley, November 1, 1958.

Producers marketed 38 million pounds of milk under the terms of the order. Since that time, orders have been established in the San Antonio, Central West Texas, Austin-Waco, Corpus Christi, Texas Panhandle and Red River Valley marketing areas (see cover). The designated marketing areas of these seven federal orders include all or parts of 106 Texas counties and regulated handlers obtain milk from producers located in 125 Texas counties and in several other states. During December 1959, 5,328 or 68 percent of the 7,770 Grade "A" producers in Texas sold milk under federal order regulations, Table 1.

Texas producers selling milk under federal order regulations marketed slightly more than 1.7 billion pounds of milk during 1959, Table 2. This was slightly more than 72 percent of the 2.5 billion pounds of whole milk delivered to Texas by Texas producers.

From 1951-59 the average daily milk volume delivered per Texas producer under federal marketing order regulations increased from 499 pounds per day to 910 pounds, or an increase of 82 percent, Table 3. From 1952-59 daily deliveries per producer increased from 543 to 861 pounds in North Texas, from 782 to 1,190 pounds in San Antonio and from 435 to 967 pounds in the Central West Texas Market. From 1955-59 daily deliveries per producer increased from 571 to 1,040 pounds in Corpus Christi and from 694 to 1,019 pounds in the Austin-Waco Market.

By January 1, 1959, 76 federal milk marketing orders were operating throughout the United States. About 40 percent of all the milk sold

wholesale and more than one-half of the milk eligible for fluid consumption in the United States is marketed and priced under the terms of federal milk orders. There are approximately 190,000 producers marketing their milk through the program. In many parts of the country the pricing of most of the milk sold by producers not operating under the program is directly or indirectly related to price levels established in federal order markets.

At present there are only four major milk markets in Texas that are not regulated by a federal milk marketing order (North East Texas, the Greater Houston area, the Lubbock-Plainview area and El Paso). However, the prices that producers receive for their milk in these areas are related indirectly to those established in adjacent federal order markets.

LIMITATIONS OF MILK MARKETING ORDERS

Milk marketing orders cannot guarantee any particular price level other than the level dictated by local supply and demand conditions. Although they operate to assure an adequate milk supply for a market, they do not guarantee any individual producer a market for his milk or any individual handler a milk supply, but they do establish minimum prices, uniform among all handlers from whatever source the milk comes. They do not prohibit milk marketing from any producing area into any other area. Milk marketing orders cannot control production. The relationship of milk supplies to demand must be considered. They do not establish sanitary standards, but

TABLE 2. TOTAL MILK DELIVERED BY PRODUCERS IN TEXAS FEDERAL ORDER MARKETS¹

Federal order markets	1951	1952	1953	1954	1955	1956	1957	1958	1959
	Million pounds								
North Texas	114	551	649	672	716	793	839	869	898
San Antonio		60	140	147	160	179	192	202	227
Central West Texas		7	105	132	143	162	158	166	180
Corpus Christi					47	106	121	143	156
Austin-Waco					127	142	135	134	134
Texas Panhandle						113	120	126	137
Red River Valley								6	37
Total all markets	114	618	894	951	1,193	1,495	1,565	1,646	1,769

¹Data analyzed as of effective date of each marketing order: North Texas, October 1, 1951; San Antonio, July 1, 1952; Central West Texas, December 1, 1952; Corpus Christi, July 1, 1955; Austin-Waco, February 1, 1955; Texas Panhandle, February 1, 1956; and Red River Valley, November 1, 1958.

each order is constructed according to the sanitary regulations of local governing bodies.

Order Provisions

Milk marketing orders are enforced by the U. S. Courts, so they should be detailed and explicit about whom and to what extent they regulate.

Marketing Areas

A certain area is designated as the marketing area for each order to determine who becomes subject to a milk marketing order. The other regulatory provisions of the order apply to the purchase of milk for disposition in this marketing area. Ideally a marketing area should include all of the territory in which milk is distributed from plants or handlers subject to full regulation under an order. When a regulated handler is selling a large percentage of his milk in an area in competition with unregulated handlers, the marketing area needs to be expanded. Improved highways and other transportation facilities, improved refrigeration and better quality control have made this ideal market increasingly difficult to attain. Approximate uniformity of sanitary standards within a single marketing area is desirable.

Who Is Regulated

Persons regulated by an order are called handlers. In general all persons who operate plants at which milk is received from producers and processed for fluid distribution in the marketing area are handlers. In markets where the milkshed or supply area is large, the receiving and processing functions are sometimes separated in different plants with the milk being assembled and received from the farms in one plant (country receiving or supply plant) and then transported in large quantities to the processing (city) plant. In such cases the operators of both plants usually are handlers.

A handler is subject to one of two or three types or levels of regulation under an order: (1) full regulation, (2) partial regulation, or (3) exempt. Full regulation means that all milk received by a handler from producers must be classified and paid for according to classes and prices

prescribed in the order and that the handler is subject to all terms and provisions of the order. Partial regulation means the application of certain minimum payments with respect to Class I milk disposed of in the marketing area and the requirements for reporting receipts and utilization of milk. Partial regulation usually applies to handlers whose principle business is in the processing of manufactured dairy products and who market only a minor portion of their total fluid milk sales in the regulated market. Exempt handlers have no payment obligations under the order but are required to make periodic reports. The exempt status may include two kinds of operations: (1) a plant whose primary operations are in another marketing area regulated by another milk marketing order so that full regulation applies under that order; or (2) the operations of persons who produce, process and distribute their own milk (producer-handlers), intermittent operations which have negligible effect upon the market as a whole.

To facilitate determining whether a handler is subject to full or partial regulation, or exempt, detailed standards are established for each category. In those markets where actual or potential supply conditions may justify country receiving or supply plants, detailed standards also are necessary for such plants.

Standards of association with a market are prescribed in detail in an order and afford a means whereby plant operators elect either to enter the market, subject themselves fully to pricing and other order requirements and to participate in market pooling, or to provide only the amount of milk to the market which will avoid full regulation. The plant operators' decisions may be necessary to facilitate securing supplemental milk supplies at times when the market is in short supply. Unregulated plants may be willing to supply an occasional shipment of milk if the shipment exposes their operations to other regulations. Under the North Texas Order, for example, it has not been necessary to extend full regulation to plants who occasionally ship small volumes of bulk milk to North Texas processing plants.

Class I prices within a market are designed to attract an adequate and dependable supply

TABLE 3. VOLUME OF MILK DELIVERED PER DAY PER PRODUCER IN TEXAS FEDERAL ORDER MARKETS*

Federal order markets	1951	1952	1953	1954	1955	1956	1957	1958
	Pounds							
North Texas	499	543	558	584	642	688	720	763
San Antonio		782	869	888	922	970	1,016	1,092
Central West Texas		435	480	490	490	591	661	823
Corpus Christi					571	756	858	916
Austin-Waco					694	766	829	921
Texas Panhandle						514	553	632
Red River Valley								667
Total all markets	499	554	579	599	663	698	737	791

*Data analyzed as of effective date of each marketing order: North Texas, October 1, 1951; San Antonio, July 1, 1952; Central West Texas, December 1, 1952; Corpus Christi, July 1, 1955; Austin-Waco, February 1, 1955; Texas Panhandle, February 1, 1956; and Red River Valley, November 1, 1958.

market milk. To accomplish this purpose, it is necessary that the distribution of the higher returns from the sale of Class I milk be distributed among dairy producers who regularly supply the plants which have a real association with the market. Therefore, consideration must be given to the degree of association between a plant and the market before the plant is permitted pooling privileges under a market-wide pool. For example, if a handler distributed only 5 percent of his milk in a marketing area as Class I milk, manufactured the remainder into cheese, and was permitted to pool on such a market, he could draw a large amount of money from the pool. This would reduce the over-all blend price to be paid producers regularly supplying the market if more milk than the market average was used in manufacturing, or for Class II products at such a plant. In such a situation, the effects of the uniform price in encouraging or retarding production would be diluted.

Supply Plants

Some factors usually considered in deciding if such a country receiving or supply plant has sufficiently close association with the market are as follows:

1. Shipments of milk considered in determining the qualification of such plant may be related to the needs of the city plant for Class I milk to discourage uneconomic movements of milk as means of "riding the pool."
2. Milk should move from the supply plant to the bottling plant in sufficient quantities, at least in the short production season, to show actual association with the market.
3. Such supply plant should be under inspection or have approval of the appropriate health authorities to ship milk in the marketing area for distribution of Grade "A" milk to consumers.

Plants which qualify as supply plants and are pooled during the short production season when milk is needed most in the market usually are permitted to participate in the market-wide pool during the flush production season when regular shipments to the bottling plant may not be needed. This prevents uneconomic movements of milk to the market when it is not needed. Such movements would not only incur unnecessary trans-

portation costs but also might overtax the manufacturing facilities in the city.

CLASSIFIED PRICE PLAN

A milk marketing order contains a classified price plan. Classified pricing of milk means pricing it according to the use made of it. Products having similar economic value are grouped together in groups or classes, with a minimum price established for each class. Relative bulkiness and perishability of a product supplemented by any direct or indirect economic effects of the sanitary regulations is the primary cause for a product's economic value to vary according to location. In general, Class I milk includes milk which is disposed of without any substantial concentration by the removal of water and without being sterilized, and which usually is required by sanitary regulations to be made from Grade "A" milk. Because of its bulkiness and perishability, its value varies more according to location than the value of other farm commodities. Class I milk usually constitutes a market's primary requirements. All other milk usually constitutes the reserve supplies.

One or more other classes is provided for reserve milk supplies. These reserve supplies must be manufactured into less bulky and less perishable manufactured dairy products whose value varies less according to location than for fluid milk products.

Each federal marketing order sets forth a system of minimum class prices which are adjusted according to the butterfat content of the milk. Federal orders issued for markets which receive milk from wide areas include adjustment to reflect differences in the value of the milk at different locations.

The proportion of producer milk deliveries used in Class I in Texas Federal Order Markets is indicated in Table 4.

Pricing Formulas

Minimum prices established for milk by a milk marketing order are required by law to be at a level that will assure an adequate, but not excessive, supply to meet the demands of the market—including the necessary reserve supply—that is, at economic values. Milk marketing history has shown that supply or demand characteristics, or the general level of prices can

TABLE 4. PERCENT OF PRODUCER DELIVERIES USED IN CLASS I IN TEXAS FEDERAL ORDER MARKETS

Federal order markets	1951	1952	1953	1954	1955	1956	1957	1958	1959
North Texas	97.7	90.5	81.3	81.7	82.6	77.6	76.4	76.5	70.5
San Antonio		98.5	96.3	96.6	96.6	95.7	95.2	87.9	90.9
Central West Texas		96.1	90.0	90.2	91.1	82.3	86.1	88.7	86.2
Corpus Christi					98.5	97.5	94.0	95.0	86.1
Austin-Waco					91.8	89.1	87.7	92.9	93.8
Texas Panhandle						89.2	89.9	88.2	89.6
Red River Valley								91.2	85.6
All markets ¹	97.7	91.3	84.7	85.2	87.1	83.7	83.1	83.1	80.2

¹Weighted average of all markets, based on total deliveries and total Class I sales.

change in relatively large amounts during a short period of time, dictating an appropriate rapid change in minimum prices to comply with statutory price standards.

Many factors affect milk marketing, some of which cannot be accurately isolated and measured, but there are data which have been proven to be closely related to milk prices in certain markets. To help make appropriate and timely price changes, formula pricing plans have been developed using some of these data. In formula pricing the objective is to use price series that are associated closely with changing economic conditions affecting the supply of and demand for milk.

Formula pricing has been developed on a local or regional basis for one market or for a group of closely related markets to reflect the most important factors in the particular market or region and for which statistical measures are available.

Class I pricing formulas are of two general types. The most common type uses as a base the highest price resulting from two or more manufacturing milk price formulas plus a Class I differential, usually varying with the season, designed to reflect the added costs of producing Grade "A" milk. This type of formula is based on the value of ungraded milk when converted into certain manufactured products and takes into consideration the price of these products in determining producer milk prices. In many markets this price also is adjusted to reflect the current relationship between supplies and sales compared to a normal or standard relationship of Class I sales to supply measured by receipts from producers. This is an adjustment factor commonly referred to as a supply-demand adjuster. The other types of Class I pricing formulas are related to economic indices or factors rather than to manufacturing milk prices. These economic indices, or factors, are referred to as movers and include such measures as general wholesale prices, disposable consumer incomes and cost of production items. These economic type formulas also contain supply-demand adjusters.

The general types of formulas also are used to establish milk prices used in manufacturing. One method is to relate these prices to prices reportedly paid producers by plants engaged primarily in manufacturing dairy products. This method usually is referred to as the Midwest Condensery Price. The other method is to use prices in a central market, such as Chicago, for certain manufactured dairy products such as butter, nonfat dry milk and cheese and is commonly referred to as the butter-powder or butter-powder-cheese formula. From these prices a gross value per hundredweight of milk is computed. An allowance from handling then is deducted to arrive at the value of the milk for these products.

The current month's Class I price and butterfat differential usually are based on basic prices

for the preceding month, whereas the current month's price and butterfat differential for the reserve component of the supply usually are based on the current month's price. This is done to announce in advance the minimum price handlers will be required to pay for Class I producer milk since this class accounts for the greater amount of producer milk and involves the greatest return to producers.

Class Price Determination

Class I Price. In the North Texas Market for example, the Class I price each month is determined in three basic steps. The following is an explanation of how the December 1959 Class I price for that market was determined.

Step 1: Obtain a basic price (called the basic formula price) by taking the highest price of the following alternative prices for the preceding month (November 1959).

(a) Average Price Paid by 12 Midwest Condenseries—This price is reported to the market administrator's office at the end of each month and represents the average of the basic or field prices per hundredweight reported paid or to be paid for milk of 3.5 percent butterfat. Since the North Texas Order specifies that milk prices are to be based on 4 percent butterfat, it is necessary to convert the price announced for 3.5 percent butterfat milk to a value per hundredweight for 4.0 percent milk. The average price reported to the market administrator's office as paid by these 12 midwestern condenseries for 3.5 percent milk during November 1959 was \$3.146. Thus the \$3.146 divided by 3.5 and multiplied by 4.0 which yielded a 4 percent-condensery price of **\$3.595.**

(b) Butter-powder Formula Price—The butter-powder formula is composed of two parts: (1) the value of the butterfat in 96 pounds of 4 percent milk based on butter prices and (2) the value of the 96 pounds of skim milk based on powder prices.

The method used in the North Texas Order to get the value of the butterfat is as follows:

Obtain the average Grade "A" (92-score) bulk creamery butter price per pound as reported at Chicago and deduct 3 cents which represents a processing margin per pound of butter. Then multiply the results by 4.8 which represents the theoretical yield of butter in pounds with an 88 percent butterfat test. The average price reported by the U. S. Department of Agriculture for Grade "A" 92-score bulk creamery butter at Chicago during November 1959 was \$.6393 per pound. Taking this price and deducting 3 cents and multiplying the results by 4.8 yielded a butter value of **\$2.925.**

The method used in getting the value of 96 pounds of skim milk is as follows:

The North Texas Order required that the simple average of the weighted average of car lot prices per pound for nonfat dry milk solids, spray and roller process, respectively, for human consumption, f.o.b. manufacturing plants in the Chicago area, be used as the basic prices. From the simple average of the spray and roller prices, 5.5 cents is deducted (representing a processing margin per pound of powder) with the results multiplied by 8.5 (representing an approximate yield in pounds of powder from 100 pounds of skim milk), with the remaining results multiplied by 0.96. The last calculation (multiplied by 0.96) is performed because there are only 96 pounds of skim milk for which to calculate a value when made into powder. During November 1959, the weighted average spray-powder price was 12.63 cents, yielding a simple average of 13.025 cents. From this average price was deducted 5.5 cents with the results multiplied by 8.5 and the corresponding result multiplied by 0.96. This yielded a value of powder per the formula of \$.61404.

The value of butter according to the formula as calculated above (\$2.92464) plus the value of powder per formula (\$.61404) yielded a butter-powder formula price per hundredweight for 4 percent milk of \$3.539.

(c) Local Manufacturing Pay Prices—The North Texas Order specified as the third alternative basic price, the average of the basic or field prices reported paid or to be paid for ungraded milk of 4 percent butterfat content received from farmers during the month at the following plants: (1) Carnation Company, Sulphur Springs; (2) The Borden Company, Mt. Pleasant; and (3) Lamar Creamery Company, Paris. During November 1959 the average price per hundredweight paid by these three local manufacturing plants for 4 percent milk = \$3.183.

The North Texas Order requires that the Class I price for December be based on the highest of the prices established pursuant to (a), (b), or (c) above. Thus the basic formula price to be used in calculating the December Class I price = \$3.595.

Step 2: Having obtained the highest of the above three alternative prices, which represents a basic milk value when used for manufacturing purposes only, a Class I differential of \$2.20 per hundredweight is added each month from July through February and \$2.00 is added from March through June each year. This Class I differential reflects the extra or added economic value of Grade "A" milk in the North Texas Market over the basic value of manufacturing grade milk. This price may be termed the gross Class I price. Thus the differential used for the December Class I price computation = \$2.20.

The gross Class I price, 4 percent milk, for December 1959 = \$5.795.

Step 3: The next step is to adjust the gross Class I price by the supply-demand adjustment.

The theory behind this adjustment is that as producer deliveries and demand (sales) get out of balance, the price should be increased or decreased, depending on whether the situation is one of an over supply of milk or a shortage of milk. The supply-demand adjustment for the North Texas Market is obtained on a regional basis; that is, producer deliveries and net Class I utilization are combined for the North Texas, Central West Texas, Austin-Waco, San Antonio, and Corpus Christi Federal Order Markets. The relationship of producer deliveries to net Class I utilization is compared to a previously determined representative balance between Class I utilization and producer receipts. If the current relationship is greater than the representative balance, the price is reduced; if it is less than the representative balance, the price is increased. This phase of pricing is designed to adjust prices in line with current levels of production and sales within the marketing area.

The supply-demand adjustment per hundredweight, calculated for December 1959 = \$ —.06.

The net Class I price for the North Texas Market for December 1959 = \$5.735.

Components of the Class I price for December 1959 for the seven federal order areas in Texas are shown in Table 5. For the North Texas, Austin-Waco, San Antonio, Central West Texas, and Corpus Christi Markets, the supply-demand adjustment is calculated on the relationship between total producer receipts and total Class I utilization in these five markets. Differentials above the North Texas Class I price then are allowed the other four markets by an amount approximating the cost of transporting milk from the North Texas area.

Class II Price. In the North Texas Market the Class II price for April, May, and June of each year is the higher of (1) the butter-powder price less 20 cents (alternate price (b) previously explained), or (2) the average paying price of three local manufacturing plants (alternate price (c) outlined above) for the current month. During all

TABLE 5. CLASS I MILK PRICE COMPONENTS IN TEXAS FEDERAL ORDER MARKETS FOR DECEMBER 1959

Federal order markets	Basic formula ¹	Fluid differ- ential ²	Supply- demand adjustor ³	Other ⁴	Class I price
— — Dollars per hundredweight — —					
North Texas	3.595	2.20	— .06		5.735
San Antonio	3.595	2.20	— .06	.42	6.155
Central West Texas	3.595	2.20	— .06	.25	5.985
Corpus Christi	3.595	2.20	— .06	.78	6.515
Austin-Waco	3.595	2.20	— .06	.25	5.985
Panhandle	3.60	2.15			5.750
Red River Valley	3.595	1.95	— .15	.15	5.545

¹Manufacturing milk price used as base.

²Amount added to manufacturing milk price.

³Computed amount per formula on a five market area-wide basis except Red River Valley and Panhandle Markets.

⁴Differentials over North Texas Market Class I price except Red River Valley Market which is differential over Oklahoma City Market Class I price.

other months of the year the Class II price is the higher of the (1) butter-powder formula price, or (2) the local manufacturing plants' average pay price during the current month. Thus the Class II price for December 1959 was calculated as follows:

- (1) December 1959 butter-powder formula price per hundredweight for 4.0 percent milk calculated similar to that outlined for alternate price (b) (previously outlined) = \$3.453.
- (2) December 1959 local manufacturing plants' average pay price per hundredweight for 4.0 percent milk (alternate price (c)) = \$3.183.

December 1959 Class II price per hundredweight for 4.0 percent milk (higher of (1) or (2) above) = \$3.453.

One of the advantages of pricing formulas is that they are automatic and timely. However, it is impossible to construct a perfect formula to fit all situations and changing economic conditions. For this reason, formulas must be kept under review by interested persons so that appropriate modification and revision can be made as required.

The level of Class I price in any market generally cannot exceed for a very long time the cost of buying milk in another supply area and transporting it to the consuming market. Handlers will change their buying arrangements if they have such an advantage. One of the most important guides as to the proper level of Class I prices in a market is the cost of alternate supplies from other areas. The increasing mobility of fluid milk and wider overlapping of markets for packaged fluid products indicate that greater attention should be given to proper alignment of Class I prices.

Pooling Provisions

The classified price plan requires handlers to pay for milk on the basis of the use made of the milk and thus establishes the total amount to be paid to producers. Additional regulations are necessary to equitably apportion this money among producers.

The law requires that prices to producers be made uniform by one of two methods. One method, the market-wide pool, provides for a

minimum uniform price payable to all producers supplying the market. The other method is the individual-handler pool.

Market-wide Pooling. In a market-wide pool the total money value of all milk delivered by all producers to all handlers (pounds of milk in each class, multiplied by the minimum class prices) is combined in one pool. The pool is divided by the total amount of producer milk. All producers are paid not less than this uniform or blend price per hundredweight for their milk deliveries. The uniform price also may be adjusted for variations in the butterfat content of individual producer milk and other specified differentials.

In the North Texas Market, for example, the minimum uniform price is computed by multiplying the pounds of milk in each class by the class prices (adjusted for butterfat content) for each handler and combining the results into one total. This total value then is divided by the total pounds of milk delivered by producers. The resulting price represents the minimum price to be paid to each producer for all of his milk deliveries. This applies to all months except March, April, May and June in which base and excess prices are computed as described later in this bulletin.

The following is a simplified version of how the minimum uniform price is calculated, using the actual class prices figured previously and assuming there are only three handlers in the market, with each having the same amount of receipts (1,000 pounds) but utilizing varying amounts as Class I and Class II. The other assumption made in this example (Table 6) is that all of the milk in each class contained 4 percent butterfat, eliminating the necessity of adjusting prices to butterfat content.

Difference Between Class I and Uniform Price. The monthly Class I prices for milk in Texas Federal Order Markets are shown in Table 7. Table 8 indicates the minimum uniform price received by farmers for milk containing 4 percent butterfat in Texas Federal Order Markets and Table 9 shows the difference between Class I and minimum uniform prices received by farmers.

The average Class I price in all markets decreased 50 cents per hundredweight or 8.0 percent from 1956-59 while the minimum uniform price decreased 8.3 percent during the same period.

TABLE 6. DETERMINATION OF ACCOUNT DUE PRODUCERS UNDER A MARKET-WIDE POOL

Class of milk	Class prices, dollars per hundredweight	Handler A		Handler B		Handler C		Market totals		
		Milk, pounds	Cost, dollars	Milk, pounds	Cost, dollars	Milk, pounds	Cost, dollars	Total cost, dollars	Percent each class	
I	\$ 5.735	1,000	57.35	800	45.88	400	22.94	2,200	\$ 126.17	73.3
II	3.453			200	6.90	600	20.71	800	27.61	26.7
Total ¹		1,000	57.35	1,000	52.78	1,000	43.65	3,000	\$ 153.78	100.0

¹Total value, \$153.78 ÷ total deliveries, 3,000 = \$5.1260 (minimum uniform price due producers delivering milk containing percent butterfat).

TABLE 7. CLASS I PRICE FOR MILK CONTAINING FOUR PERCENT BUTTERFAT IN TEXAS FEDERAL ORDER MARKETS, 1951-59¹

Federal order markets	1951	1952	1953	1954	1955	1956	1957	1958	1959
	Dollars per hundredweight								
North Texas	6.13 ²	6.76	6.00	5.47	5.72	5.97	5.65	5.56	5.48
San Antonio		7.30 ²	6.99	6.00	6.16	6.39	6.08	5.97	5.90
Central West Texas		7.61 ²	6.35	5.78	5.97	6.22	5.93	5.81	5.73
Corpus Christi					6.56 ²	6.66	6.35	6.34	6.26
Austin-Waco					6.13 ²	6.35	6.03	5.94	5.86
Panhandle						5.75 ²	5.59	5.50	5.49
Red River Valley								5.29 ²	5.32
Average all markets ³	6.13	7.23	6.45	5.75	6.11	6.22	5.94	5.77	5.72

Simple average of monthly prices for the year in each market.

Data analyzed as of effective date of each marketing order: North Texas, October 1, 1951; San Antonio, July 1, 1952; Central West Texas, December 1, 1952; Corpus Christi, July 1, 1955; Austin-Waco, February 1, 1955; Texas Panhandle, February 1, 1956; and Red River Valley, November 1, 1958.

Simple average of prices in all markets.

Every year since 1953 the yearly average minimum uniform price in all markets has been below the Class I price by 20 or more cents per hundredweight. The larger percentage decrease in the average minimum uniform price reflects the lower proportion of producer deliveries utilized in Class I which amounted to 87 percent in 1955 and only 80 percent in 1959.

Producer Settlement Fund

Some handlers may have mostly Class I milk (highest value) while other handlers may have mostly milk in the lower value classes. This is true particularly in markets where one or a few handlers (frequently a cooperative association) specialize in the handling of reserve supplies. Thus in a market there may be wide variations among handlers in the utilization value and in the average cost of producer milk. Yet the order with market-wide pool requires each handler to pay the same minimum uniform price to all producers. The difference between what a handler pays producers and the utilization value of the milk is paid into or out of a special fund, a "producer settlement fund." Handlers with higher than average milk costs pay the difference between their cost and the average for the market into the settlement fund. This money, in turn, is paid out to handlers with lower than average costs. This results in an equalization of milk costs among handlers in accordance with the use made of the

milk by each handler and a uniform price to all producers. Using the computations in arriving at the uniform price, Table 10 illustrates how the equalization system works.

Individual-handler Pooling

In some markets the use value of milk is combined for each individual handler to determine a uniform milk price received by that handler. These are known as individual-handler pools. In these pools, the same computations are made in arriving at the value of the milk of each handler and all producers delivering their milk to a particular handler are paid the same minimum uniform or blend price per hundredweight (which also are adjusted for butterfat and other differentials specified in the order). Under this type of pool, the proportion of milk used in the different classes varies among handlers, and producers supplying one handler will receive a minimum uniform price different than producers selling their milk to another handler.

Table 11 illustrates how three handlers in a market stipulating \$5.735 per hundredweight for Class I milk and \$3.453 for Class II, and operating under an individual-handler pool, would arrive at the amount they pay producers for milk.

Each handler pays his producers for the milk according to the way he uses it. In this illustration Handler A pays a blend price of \$5.735 per

TABLE 8. MINIMUM UNIFORM PRICE RECEIVED BY FARMERS FOR MILK CONTAINING FOUR PERCENT BUTTERFAT IN TEXAS FEDERAL ORDER MARKETS, 1951-59¹

Federal order markets	1951	1952	1953	1954	1955	1956	1957	1958	1959
	Dollars per hundredweight								
North Texas	6.07 ²	6.50	5.57	5.10	5.31	5.39	5.13	5.03	4.91
San Antonio		7.25 ²	6.88	5.90	6.06	6.25	5.93	5.65	5.63
Central West Texas		7.39 ²	6.05	5.52	5.72	5.71	5.55	5.51	5.37
Corpus Christi					6.51 ²	6.57	6.16	6.19	6.00
Austin-Waco					5.93 ²	6.05	5.73	5.77	5.70
Panhandle						5.50 ²	5.38	5.26	5.28
Red River Valley								5.08 ²	5.03
Average all markets ³	6.07	7.05	6.17	5.51	5.91	5.91	5.65	5.50	5.42

Simple average of monthly prices for the year in each market.

Data analyzed as of effective date of each marketing order: North Texas, October 1, 1951; San Antonio, July 1, 1952; Central West Texas, December 1, 1952; Corpus Christi, July 1, 1955; Austin-Waco, February 1, 1955; Texas Panhandle, February 1, 1956; and Red River Valley, November 1, 1958.

Simple average of prices in all markets.

TABLE 9. DIFFERENCE BETWEEN CLASS I AND MINIMUM UNIFORM PRICES RECEIVED BY FARMERS IN TEXAS FEDERAL ORDER MARKETS, 1951-59¹

Federal order markets	1951	1952	1953	1954	1955	1956	1957	1958	1959
	Cents per hundredweight								
North Texas	.06 ²	.26	.43	.37	.41	.58	.52	.53	.51
San Antonio		.05 ²	.11	.10	.10	.14	.15	.32	.27
Central West Texas		.22 ²	.30	.26	.25	.51	.38	.30	.26
Corpus Christi					.05 ²	.09	.19	.15	.15
Austin-Waco					.20 ²	.30	.30	.17	.17
Panhandle						.25 ²	.21	.24	.21
Red River Valley								.21 ³	.21
Average all markets ³	.06	.18	.28	.24	.20	.31	.29	.27	.27

¹Simple average of monthly prices for the year in each market.

²Data analyzed as of effective date of each marketing order: North Texas, October 1, 1951; San Antonio, July 1, 1952; Central West Texas, December 1, 1952; Corpus Christi, July 1, 1955; Austin-Waco, February 1, 1955; Texas Panhandle, February 1, 1956; and Red River Valley, November 1, 1958.

³Simple average of prices in all markets.

hundredweight; Handler B pays \$5.278; and Handler C, \$4.365.

The individual-handler type pool is used in markets where each handler handles his own reserve milk supplies. In markets of this kind which also are short of milk supplies, this type of pooling helps to allocate available supplies among handlers according to their Class I needs. The handler with the highest proportion of Class I milk would have the higher minimum uniform price for producers, which would tend to attract producers from other handlers.

BUTTERFAT DIFFERENTIALS TO HANDLERS

In all Texas markets the class prices are computed and announced for milk testing 4.0 percent butterfat. Since handlers normally use milk containing more or less than 4.0 percent butterfat in the various classes, it becomes necessary to adjust the 4.0 percent price to a price commensurate with the average test of the milk in each class. This is done by increasing the price of milk when the average butterfat test is more than 4.0 percent and decreasing the price for milk having less than 4.0 percent fat. To do this, butterfat differentials for each class of milk are computed each month. A higher differential is allowed for butterfat utilized in Class I than in Class II. In the North Texas Order, for example, the Class I butterfat differential is computed by multiplying the average wholesale price paid per pound for 92-score bulk creamery butter at Chicago during the preceding month by 0.125.

TABLE 10. EQUALIZATION THROUGH THE PRODUCER SETTLEMENT FUND

Item	Handler A	Handler B	Handler C
Gross milk cost	\$57.35	\$52.78	\$43.65
Amount due producers (1,000 pounds x \$5.1260)	51.26	51.26	51.26
Pays into pool ¹	6.09	1.52	
Draws out of pool ¹			7.61

¹Total amount paid out of producer settlement fund = \$7.61.
Total amount received in producer settlement fund = \$7.61.
Difference = 0

Example: The average 92-score butter price per pound for November 1959..... \$.6390
Multiplied by..... 0.125
The December 1959 Class I
butterfat differential..... \$.080

The Class II butterfat differential is computed by multiplying the average price paid per pound for 92-score bulk creamery butter at Chicago during the *current* month by 0.110 during March, April, May and June, and by 0.115 during all other months of the year.

Example: Average 92-score butter price per pound for December 1959..... \$.6180
Multiplied by..... 0.115
December 1959 Class II
butterfat differential..... \$.071

Adjustments of the Class II price to the average butterfat test of Class II producer milk are made in the same manner as for Class I milk.

Handlers' usages of milk may require milk ranging in butterfat content from almost no fat

TABLE 11. DETERMINATION OF AMOUNT DUE PRODUCERS BY HANDLERS OPERATING UNDER AN INDIVIDUAL-HANDLER POOL

Use classification	Price, dollars per hundred-weight	Quantity, pounds	Value
HANDLER A			
Class I	\$5.735	1,000	\$57.35
Class II	3.453		
Total		1,000	\$57.35
Blend or uniform price =	$\frac{\$57.35}{1,000}$		= \$5.735
HANDLER B			
Class I	\$5.735	800	\$45.88
Class II	3.453	200	6.91
Total		1,000	\$52.79
Blend or uniform price =	$\frac{\$52.78}{1,000}$		= \$5.278
HANDLER C			
Class I	\$5.735	400	\$22.94
Class II	3.453	600	20.72
Total		1,000	\$43.66
Blend or uniform price =	$\frac{\$43.65}{1,000}$		= \$4.365

in skim milk to cream containing 40 to 50 percent fat. Because of this wide range of fat uses, many orders require an accounting for skim and fat. In such cases, receipts and utilization of all milk and milk products are segregated for accounting and reconciliation purposes into skim milk and butterfat. Some orders require computation and announcement of separate prices for skim milk and butterfat. Although an order may not prescribe announcement of separate prices for skim milk and butterfat, handlers or others frequently need to refer to prices for skim milk or butterfat in various proportions.

A butterfat differential is the difference in value between one-tenth of a pound of butterfat and one-tenth of a pound of skim milk. A hundredweight of milk containing 4.1 percent, or 4.1 pounds, of fat contains one-tenth of a pound more fat and one-tenth of a pound less skim milk than a hundredweight of milk containing 4.0 percent, or 4.0 pounds, of fat.

In the dairy industry, one-tenth of 1 percent of butterfat usually is referred to as a "point" of butterfat. The butterfat differential is the adjustment in price made for each "point" of butterfat.

Milk of 4.0 percent butterfat content contains 40 points (or 40 one-tenths of 1 percent) of fat. To adjust a price for 4.0 percent fat to a price for skim milk (zero percent fat) the product of 40 times the butterfat differential is deducted from the 4.0 percent price. Using the examples of the North Texas December 1959 Class I price of \$5.735 per hundredweight for 4.0 percent fat milk and Class I butterfat differential of \$.080, the price for Class I skim milk would be computed as follows:

Class I butterfat differential.....	\$.080
Times: points of fat in 4.0 percent milk....	40
Differential fat value of 40 points of fat....	3.200
Class I price per hundredweight of 4.0 percent milk.....	\$5.735
Less: differential fat value of 40 points of fat.....	3.200
Class I price per hundredweight for skim milk (0 percent fat).....	\$2.535

Similarly, a price per hundredweight of butterfat can be computed. One hundred percent butterfat would contain 1000 points of fat. Since 4.0 percent milk contains 40 points of fat, the 4.0 percent price would be increased by the difference, or 960 points of fat times the butterfat differential, as follows:

Class I butterfat differential.....	\$.080
Times: points of fat to increase 4.0 percent to 100.0 percent.....	960
Differential fat value of 960 points of fat.....	\$76.800
Add: Class I price per hundredweight of 4.0 percent milk.....	5.735
Class I price per hundredweight for butterfat (100 percent).....	\$82.535

Note that the difference between the Class I price for skim milk and for butterfat is \$80.00, which results as follows:

Points of fat differences between skim milk and butterfat.....	1000
Class I butterfat differential.....	\$.080
Differential fat value of 1000 points of fat.....	\$80.00

To Producers

The average butterfat content of milk delivered by producers usually is more or less than 4.0 percent. Thus it becomes necessary to adjust the minimum uniform price (producer price) to reflect the average butterfat test of each producer's milk by computing a butterfat differential for producers each month. In the North Texas Order the producer butterfat differential is computed by applying the average price paid per pound for Grade "A" (92-score) bulk creamery butter at Chicago during the month to the following table:

Butter price	Butterfat differential (cents)
20.0 to 29.99 cents	3
30.0 to 39.99 cents	4
40.0 to 49.99 cents	5
50.0 to 59.99 cents	6
60.0 to 69.99 cents	7
70.0 to 79.99 cents	8
80.0 to 89.99 cents	9
90.0 to 99.99 cents	10
\$ 1.00 to \$ 1.10 cents	11

The average price of Grade "A" (92-score) butter at Chicago during December 1959 was 61.87 cents per pound. Applying this price to the above table indicates a producer butterfat differential of 7.0 cents for that month. This means that for each 0.1 percent the average butterfat content of producer milk is more or less than 4.0 percent, the minimum uniform price will be increased or decreased, respectively, by 7 cents per hundredweight.

LOCATION DIFFERENTIALS

The value of the milk located some distance from the market is lower than its value in the market because of transportation costs involved in moving the milk to market. Milk moved a considerable distance to market may move directly from the farm with the producer paying the hauling costs. Another alternative is that a handler may build a country receiving plant or a processing plant near the supply area and transport the milk to the market place either in bulk or in packaged form. Sometimes such a country receiving plant is built by a handler who also is a co-operative association of producers. When a plant is built near the supply area for assembling and moving milk to a distant market, the handler operating the plant pays part of the costs of transporting the milk to market which would otherwise be borne by producers. To compensate

for this the federal order specifies a transportation allowance to the handler on the amount of milk moved. For example, the North Texas Market Order provides for 1.5 cents per hundredweight for each 10 miles that such plant is from the City Hall in Dallas, provided it is more than 110 miles. The transportation allowance or location differential represents the approximate cost of moving the milk to market.

Generally, there must be a need in the city plant for the milk as Class I for a supply plant to obtain a location differential on milk moved to a city plant.

Example: Suppose a milk plant is located 400 miles from the City Hall in Dallas, and has met all of the shipping and inspection requirements of the North Texas Order to qualify as a supply plant. Suppose further that producer receipts in that plant during the month amount to 3,000,000 pounds, of which 2,500,000 pounds moves to a pool processing and distribution plant in Dallas, with the remaining 500,000 pounds being made into condensed skim milk (Class II). Suppose also that the receiving handler has a Class I operation amounting to 4,500,000 pounds during the month and has no Class II utilization.

In this situation the supply plant would receive a location adjustment of minus 60 cents per hundredweight ($400 \div 10 \times 1.5$ cents) on the 2,500,000 pounds shipped, or \$15,000.00. This means that the supply plant's net cost would be reduced by \$15,000.00. The supply plant would pay his producers the Dallas blend price less 60 cents per hundredweight.

Using this example in connection with the class prices and minimum uniform prices for December 1959, the following illustrates the handler's net cost, producer pay and amount paid to the producer settlement fund.

Class I milk		
2,500,000 pounds @ \$5.735	=	\$143,375.00
Class II Milk		
500,000 pounds @ 3.453	=	17,265.00
Total milk pounds and value		
3,000,000 pounds	=	\$160,640.00
Less Class I location adjustment	=	(15,000.00)
Handler's net cost	=	\$145,640.00
Producer payments		
3,000,000 pounds		
@ \$5.126 =	\$153,780.00	
Less location adjustment @ 60¢ =	(18,000.00)	
Net producer payroll value =	\$135,780.00	
Amount to be paid to producer settlement fund =	9,860.00	

By varying the above conditions to include a Class II operation in the city plant, the method by which a location differential is denied when the milk is not needed for Class I in the city plant can be demonstrated. Assume now that the city plant had 1,000,000 pounds of milk used in Class

II, with total receipts and utilization summarized as follows:

Receipts		Utilization	
Supply plant	2,500,000	Class I	4,500,000
Producers	3,000,000	Class II	1,000,000
Total	5,500,000	Total	5,500,000

Under these circumstances only 5 percent (150,000 pounds) of producer milk is considered Class II milk. The remaining 850,000 pounds Class II utilization is considered supply plant milk with no location differential applicable. Thus the location differential of 60 cents would apply only to 1,650,000 pounds of milk for a total value of \$9,900.00.

SEASONAL PRICE ADJUSTMENT AND BASE PLANS

Although pooling arrangements were developed to equalize payments to producers for milk sold in a market, and classified pricing is intended as an improvement over the flat price method of payment, they fall short of substituting the role of price in balancing milk supplies with market needs seasonally.

Since the normal pattern of milk production results in a greater supply during the spring and early summer months than during the remainder of the year, various seasonal pricing plans are used to encourage milk production on a more even monthly pattern. The incentive for a more uniform pattern of milk production is provided for in federal milk order markets by seasonally variable class prices, seasonal price adjustment funds and base-excess producer payment plans.

The Class I pricing formula may provide a schedule of month-to-month price changes ranging from a low in May or June to a high in November or December.

In several federal order markets the pricing plan provides for deducting from the pool fund in certain months a portion of the payments due producers for milk. Payments withheld during specified months of normally high milk production are maintained in a special fund by the market administrator for distribution to producers during months of normally low milk production on the basis of their milk deliveries. Such a plan is commonly referred to as a fall premium plan.

Base-excess Payment Plan

In other markets, the base-excess plan, a seasonal pricing plan which relates the payment more directly to the individual producer's seasonal pattern of deliveries, is used. Frequently the plan of seasonally varying class prices is combined with either the fall premium or the base-excess plan.

The base-excess plan is used both with market-wide and with individual-handler pooling. Under such a plan the producer establishes a base

equal to the average daily quantity of milk he delivers during the months of normally low milk production, usually referred to as the base-forming period. During the subsequent base-paying period (season of flush production) the producer receives the base price for milk not in excess of his established base. Deliveries in excess of base are paid for at the lower excess price. Specific base-forming and base-paying periods are specified in the orders which provide for such plans.

Base Computation

The North Texas Market operates under the base-excess plan. In that market a base is computed for each producer each year by dividing his total deliveries of approved milk to handlers from September through December by the number of days for which delivery was made. During the following months of March through June each producer is paid base prices for an amount of milk not to exceed his daily base times the number of days in the month. For all deliveries over this monthly base the producer receives an excess price. This type of plan encourages milk production during the months of shortest production (September through December) and discourages excessive deliveries during the flush months (March through June).

Base Rules

In the North Texas Market producers establish a new base each year. In some orders there are provisions for developing a base by producers entering the market after the base-forming period. In some markets bases are transferrable to new producers who purchase the milking herd and equipment of producers already established in the market. In others free transfers are permitted, while in still others, transfers can occur only in certain prescribed hardship conditions.

Problems created by base plans include the interpretation of rules for transferring bases, the additional cost of administration resulting from the extra computational work, equitable solution and protection of the interests of landlords and tenants, rules for transferring bases and dissatisfaction by old established producers who already have made production adjustments conforming with previous provisions to new or proposed base rules.

REQUIREMENTS OF REGULATED HANDLERS

Federal milk marketing orders do not require handlers to purchase milk from certain producers or to purchase milk in specified quantities. However, federal orders do impose certain requirements on handlers, which will be discussed in the following paragraphs.

Compensatory Payments

A system of partial regulation sometimes is provided with payments applicable to Class I milk distributed in the marketing area by handlers who

are not primarily engaged in distributing milk in the marketing area. Partial regulation represents freedom from full regulation but provides the minimum amount of regulation to prevent economic advantage and any resulting market disorder which might come from complete exemption. In some orders an option is provided for the handler involved to select either full or partial regulation. Through partial regulation some handlers who do a relatively small part of their total business in a federal order market are relieved of the obligation of paying minimum class prices on all milk they buy from producers. However, to eliminate any price advantage that these handlers might have over fully regulated handlers on milk sold within the regulated market, such handlers are required to pay a compensatory payment on the quantity of milk sold in the regulated market. The payment is a rate approximating the difference between Class I price paid by fully regulated handlers and the value of such milk in alternative outlets outside the market. The alternative value may be the price paid for milk in manufacturing uses or a higher alternative use value, depending upon the markets involved.

There are other types of compensatory payments in operation in federal order markets. Some orders require handlers to make a payment to the pool when nonfluid milk products are used in fluid or Class I products. The rate of such payment usually is the difference between the Class I and Class II prices. Some orders also require handlers to make payments to the producer settlement fund when other source fluid milk products, which have not been priced as Class I in some other federal order market, are allocated to Class I when producer receipts are much higher than Class I utilization. The rate of this payment usually is the difference between the Class I and Class II prices subject to butterfat and location adjustments.

These compensatory payments are made to the equalization fund and the proceeds are distributed in the uniform market price to producers who regularly deliver milk to the market.

Allocation

An individual producer's milk usually is intermingled to become unidentifiable as soon as it reaches the plant or, since bulk tank handling of milk on the farm has become prevalent, as soon as it is removed from the producer's storage tank.

A plant may obtain milk supplies from several sources—producers, other local plants, supply plants, plants in other markets or dairy farmers who do not meet the order standards for defining a producer. If this plant does not use all of its milk supplies as Class I milk, some schedule of allocation should be provided to ascertain how much of the Class I utilization accrues to producers. Usually the allocation formula gives producers top priority on Class I milk. Each order

contains a detailed allocation procedure covering all sources of milk prevalent in that market.

Records and Reports

Another requirement imposed on handlers is that of maintaining and retaining records and filing reports. Each fully or partially regulated handler usually is required to send a detailed report each month to the market administrator showing all receipts of milk and dairy products by sources and the utilization of such receipts. The market administrator, who is the local government official responsible for administering the order, verifies the accuracy of these reports by examining the handler's books and records. If errors are found, an audit adjustment statement is issued by the market administrator.

The final objective of the reports and audits is to make sure that each handler accurately accounts for all of his milk and pays producers at least the minimum uniform price as announced by the market administrator. The prices established under an order are minimum prices and do not restrict handlers from paying prices in excess of these minimum prices.

ADMINISTRATION EXPENSES

The costs of operating a federal order are defrayed by assessments against handlers, usually based on the milk received from producers and on all other source milk allocated to Class I. Each order provides the rate of assessment which varies among markets. This usually ranges from 2 to 6 cents per hundredweight of milk handled.

In addition to auditing handlers' books and records and verifying their accuracy, the market administrator also calculates and announces the minimum prices for each class of milk and the producer minimum price for the market, or for each handler, according to the formulas specified in the order.

As a further protection for producers who are not members of a cooperative association, the market administrators of most orders are responsible for check weighing and testing for which a marketing service assessment is levied against individual producers.

PROCEDURE FOR ESTABLISHING FEDERAL ORDERS

Although a milk marketing order is issued by the Federal Government, it must be initiated by local industry leaders. Since the purpose of an order is to provide a market with an orderly marketing plan under government supervision and since the issuance of the order needs local producer approval, farmers through their cooperative associations usually start proceedings toward issuance of an order. The initiating group submits a complete proposed order for consideration. This means that a great deal of study is necessary before the request is made for an order.

Procedural steps taken by the U. S. Department of Agriculture in the issuance of a milk

marketing order include the holding of a public hearing after due notice, issuance of a recommended decision to which interested parties may submit written exceptions, issuance of a final decision, ascertainment of producer approval and issuance of the order.

Before a hearing is scheduled on a request for initiation of an order, the U. S. Department of Agriculture advises handlers and other interested persons that a hearing has been requested. This gives all persons an opportunity to make proposals they would like considered at the hearing.

To make certain sufficient study and preparation have been made to warrant the expenditure of money, time and effort necessitated by a hearing, the following points need to be established before a hearing is held on a new order:

1. That marketing conditions in the area are not orderly and that the contributory conditions can be improved by an order;
2. That facts and data about the market have been assimilated and will be presented at the hearing;
3. That a substantial majority of producers or the group making the request, support the request; and
4. That milk marketing in the proposed area affects interstate commerce.

Each provision of an order must be supported by evidence presented at a public hearing. Evidence includes facts, data, expert opinion and other information regarding the economic and marketing conditions in the area.

The public hearings usually are held in the locality to which the regulation applies. Evidence must be presented by a witness under oath of affirmation and recorded verbatim. Witnesses appear voluntarily. Anyone may testify and anyone may question a witness for clarification of his testimony if such testimony and questions are relevant to the issues under consideration.

A time immediately following the hearing is set for filing written arguments or briefs. The briefs only may present arguments and suggest conclusions from the evidence in the record. They may not be considered to the extent that they include or are based on evidence not in the hearing record.

After the briefing time has elapsed, marketing specialists in the U. S. Department of Agriculture study the hearing record and briefs and a recommended decision is prepared either proposing that an order be issued or that evidence in the hearing record does not justify an order. If an order is recommended, specific and complete terms and provisions are prepared along with supporting reasons based on the hearing record. To afford local interested persons further opportunity to participate in the establishment of an order, they are given a specified time after issuance

ence of the recommended decision to file written exceptions to it. The exceptions, like the briefs, are based upon facts in the hearing record, but they can take issue with conclusions made in the recommended decision by relying on evidence in the record justifying a different conclusion.

When the allotted time for filing exceptions has passed, the recommended decision is re-examined in the light of the exceptions and a final decision is prepared. This decision is issued by the Secretary of Agriculture and represents the final position of the U. S. Department of Agriculture based on the hearing record and the other legal standards fixed by law. The order terms and provisions contained in the final decision will be issued and made effective if approved by producers. Producers either approve or reject the order as contained in the final decision. They cannot change it at this time. This limitation is necessary so that the Secretary of Agriculture may have authority to effectuate the "public interest" provisions of the law.

At least two-thirds of the producers supplying a market approves the issuance of an order if provision is made for market-wide pooling. If the order provides for individual-handler pooling, a 75-percent majority is required to approve the proposed order. Producer approval may be ascertained by a formal referendum, in which case the two-thirds or three-fourths requisite majorities are based on the number of eligible producers voting in the referendum. The law expressly provides that a cooperative association is authorized to express the approval or disapproval of an order for all of its members supplying the market. Thus a cooperative association whose membership includes not less than the two-thirds or three-fourths requisite majority of producers supplying a market has full power of approval or disapproval over an order.

The law requires that the handlers be given an opportunity to enter marketing agreements with the Secretary of Agriculture. When a final decision is issued, it also contains a proposed marketing agreement with the same regulatory provisions as the proposed order. This proposed agreement is submitted to all handlers. If all handlers sign the marketing agreement, the issuance of an order is not necessary. The marketing agreement represents a voluntary acceptance (somewhat in the nature of a contract) of the proposed regulation. If handlers of more than 50 percent but less than 100 percent of all the milk in the market sign a marketing agreement, the marketing agreement can be made effective for those handlers, and a complementary order can be issued by the Secretary of Agriculture to compel the remaining handlers to comply with the regulations. If handlers of less than 50 percent of the milk in the market refuse or fail to sign marketing agreements, no marketing agreement becomes effective, but an order applicable to all handlers may be issued.

Order Changes

Once an order becomes effective, it operates in the same fashion until it is amended, or until all or a portion of it is suspended or terminated; amendments should be promulgated in accordance with about the same procedures through which the issuance of the original order evolved. Amendments may be proposed and a hearing requested on them by an interested person. In actual practice amendments usually are proposed by one or more cooperative associations or by one or a group of handlers. Unless market conditions are such that consideration of the proposed amendment needs to be expedited, the U. S. Department of Agriculture, usually upon receipt of request for hearing, allows other interested persons a short time to submit any proposed amendments they want considered if a hearing is held. If all interested persons constantly study the order and its adaptation to market conditions, they will have submitted or be prepared to submit any proposals on short notice and also will be ready to participate in a hearing on short notice.

Order Termination

All or any portion of an order which ceases to perform its lawful purpose may be suspended or terminated. Suspension usually covers temporary conditions and usually comes about when market conditions change quickly in a way which makes the action compelling. If time permits, oral or written views regarding a suspension are invited from interested persons. Termination of an order or any portion of it usually results from permanent changes in economic or marketing conditions which render the terminated provisions in conflict with the law. Court decisions rendering an order or any portion of it not in accordance with law might constitute one basis for termination. The law requires termination of an order at the request of a majority of producers who produce more than 50 percent of the milk supply for the market.

Handler Recourse

Any obligation imposed by the market administrator pursuant to the provisions of an order should be authorized by the order; any provision of an order should be supported by evidence in the hearing record and authorized by law; and the law should be authorized by the U. S. Constitution. Any handler may challenge regulations on any of these grounds. This challenge first must be brought before the Secretary of Agriculture who decides, in view of the individual circumstances of the case and the intricacies of the market, whether the challenged regulation is legal. If the handler's challenge is unsuccessful at this level, he can ask the appropriate U. S. District Court to decide if the decision of the Secretary of Agriculture was in accordance with law.

IMPACT OF FEDERAL ORDERS

Milk marketing orders have functioned under a variety of economic and marketing conditions.

They originated during the economic depression with a price-raising objective when milk supplies were large. A few years later price stability replaced price enhancement as the objective. Orders operated during World War II and the economic climate of price ceilings, rationing of some foods, production payments and short milk supplies. They have operated since that time during increasing economic activity but with a declining level of agricultural prices since the early 1950's.

In the more than 25 years of the milk marketing order program, great changes have occurred in the fluid milk industry. Production per cow and size of herds have increased greatly and the quality of products at all marketing levels have been improved. Improved transportation and refrigeration have permitted milk to be hauled farther from farm to plant and plant to consumer. Plants have grown in size but have declined in numbers. Increasing proportions of milk are distributed through retail grocery channels with a corresponding decline in retail route distribution by plants. Nonreturnable and multi-quart containers largely have replaced the once-standard quart bottle. Currently bulk tank handling of milk on the farm is rapidly replacing the former, almost universally used, 10-gallon can.

The development of milk marketing orders has been such that the impact of all of these marketing changes have been met. Public consideration of these marketing changes with the participation of producers, handlers, state and college officials and government specialists has brought a higher level of confidence among industry segments and resulted in improvement of marketing systems. The complete and accurate market statistics resulting from the operation of an order has provided a basis for better marketing decisions by all segments of the industry.

New marketing problems continue to arise and should be met if orders are to operate satisfactorily. Problems remain to be solved concern-

ing the farm bulk tank system of handling milk. Wider disposition radii of plant distribution operations necessitate constant study of the size and extent of marketing areas, the application of the respective orders to a handler's plant disposition of milk in two or more marketing areas and the alignment of minimum prices between marketing areas. Solution of these and other existing problems and new problems which cannot be anticipated now will require continuing cooperative serious study and aggressive action by all interested persons. Many of the problems of the past which could be dealt with on the local market level now have grown to encompass wider territory and several markets. Satisfactory solution of such problems can only be found and effected on an over-all basis with the participation of parties from all markets involved.

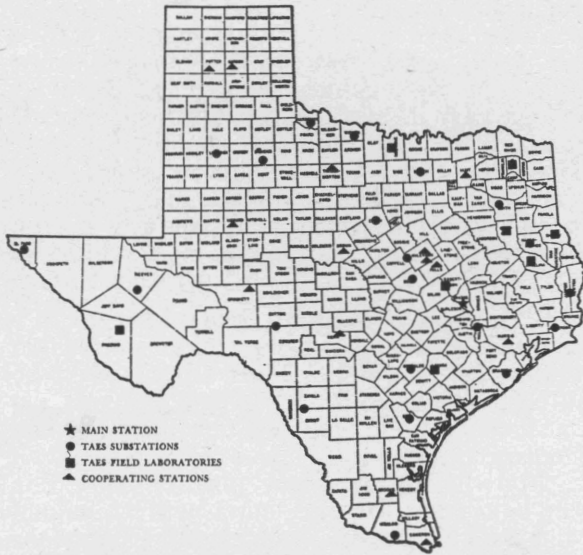
The pattern of operations set by milk marketing orders has established a place and responsibility for handlers, cooperative associations and state and federal officials in meeting marketing problems. Each of these segments should continue to carry his responsibility.

ACKNOWLEDGMENTS

Appreciation is expressed to the marketing administrators of the seven federal milk marketing orders in Texas for furnishing information on producer numbers, milk deliveries and utilization of producer milk in each market area. Special acknowledgment is made to the marketing administrator of the North Texas Milk Marketing Order and his staff for their helpful suggestions in composing and presenting the material in this bulletin.

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Location of field research units of the Texas Agricultural Experiment Station and cooperating agencies

State-wide Research



The Texas Agricultural Experiment Station is the public agricultural research agency of the State of Texas, and is one of the parts of the A&M College of Texas.

ORGANIZATION

IN THE MAIN STATION, with headquarters at College Station, are 16 subject matter departments, 2 service departments, 3 regulatory services and administrative staff. Located out in the major agricultural areas of Texas are 21 substations and 9 field laboratories. In addition, there are 14 cooperating stations owned by other agencies. Cooperating agencies include the Texas Forest Service, Game and Fish Commission of Texas, Texas Prison System, U. S. Department of Agriculture, University of Texas, Texas Technological College, Texas College of Arts and Industries and the King Ranch. Some experiments are conducted on farms and ranches and in rural homes.

OPERATION

THE TEXAS STATION is conducting about 400 active research projects, grouped in 25 programs, which include all phases of agriculture in Texas. Among these are:

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|--------------------------------------|---------------------------------|
| Conservation and improvement of soil | Beef cattle |
| Conservation and use of water | Dairy cattle |
| Grasses and legumes | Sheep and goats |
| Grain crops | Swine |
| Cotton and other fiber crops | Chickens and turkeys |
| Vegetable crops | Animal diseases and parasites |
| Citrus and other subtropical fruits | Fish and game |
| Fruits and nuts | Farm and ranch engineering |
| Oil seed crops | Farm and ranch business |
| Ornamental plants | Marketing agricultural products |
| Brush and weeds | Rural home economics |
| Insects | Rural agricultural economics |
| | Plant diseases |

Two additional programs are maintenance and upkeep, and central services.

Research results are carried to Texas farmers, ranchmen and homemakers by county agents and specialists of the Texas Agricultural Extension Service

AGRICULTURAL RESEARCH seeks the WHATS, the WHYS, the WHENS, the WHEREs and the HOWS of hundreds of problems which confront operators of farms and ranches, and the many industries depending on or serving agriculture. Workers of the Main Station and the field units of the Texas Agricultural Experiment Station seek diligently to find solutions to these problems.

Today's Research Is Tomorrow's Progress