



prices received by farmers

**Manufacturing Grade Milk in Minnesota
and Wisconsin, 1971-73**

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CROP REPORTING BOARD

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PRICES RECEIVED BY FARMERS FOR MANUFACTURING GRADE MILK
IN MINNESOTA AND WISCONSIN, 1971-73

The Statistical Reporting Service of the U.S. Department of Agriculture publishes each month estimates of the average price received by farmers and the average milkfat test for milk of manufacturing grade for the preceding month for the two-State (Minnesota-Wisconsin) area. For example, the price for August 1974 will be reported on September 5, 1974.

These two States produce over half (54% in 1973) of the manufacturing grade milk marketed in the United States. The estimates relate only to manufacturing grade milk purchased from farmers and do not include Grade A milk diverted to manufacturing uses. The price concept used is that represented by dividing total dollars paid to producers, before hauling costs are deducted, by the number of hundredweight of manufacturing grade milk purchased from farmers. This is an estimate of the average price for all milk of manufacturing grade delivered in bulk tanks and in cans, f.o.b. plant or receiving station, before hauling costs are deducted. It includes bulk tank, quantity, or other premiums paid to producers, but excludes hauling subsidies.

Most of the basic and preliminary data needed for the preparation of the two-State average price and fat test of manufacturing grade milk are collected by the offices of the Federal-State Agricultural Statisticians in Minnesota and Wisconsin. These data come from regularly scheduled monthly reports submitted by plants receiving manufacturing grade milk.

After these data are summarized and analyzed by the Federal-State Statisticians, they are forwarded to Washington, D.C. for final review by the Crop Reporting Board and consolidation into the two-State average price and test.

The price and test estimates for a given month are derived from two factors: (1) the estimated average price and test for the base month, which is the month preceding that to which the estimate relates, and (2) an estimate of change from the base month to the month to which the estimate relates.

Estimated Price and Test for Base Month

The level for the base month, which is used as the benchmark, is based on reports from about 220 plants in Wisconsin and about 120 plants in Minnesota that purchase approximately 50 percent of all manufacturing grade milk sold by Wisconsin and Minnesota farmers. These reports give the total pounds of manufacturing grade milk received from producers, total pounds of milkfat in such milk and total dollars paid to producers.

The estimated monthly price and fat test for Minnesota and Wisconsin are weighted together by the total quantity of manufacturing grade milk purchased from farmers in each State. During the first half of any year these weights are based on data for the same month two years earlier. During the latter half of the year, weights are based on purchases for the corresponding month in the preceding year, since later data are available than during the first six months. The quantity weights, for weighting data for each State in computing the two-State average price, change each month and vary seasonally. In 1973, the annual average of the monthly volume weights for Wisconsin was 58 percent of the two-State total, and for Minnesota, 42 percent.

The 340 plants in the sample for the base month are well distributed geographically over both States, and represent all the major types of processing plants using manufacturing grade milk. At the end of the year, reports from all manufacturing grade milk plants in each State indicate close agreement with the monthly prices derived from the 340 plants.

Estimate of Change from Base Month

The estimate of change from the base month to the month to which the estimate relates is based primarily on reports from a sample of 110 plants distributed in the two States. These plant reports are also evaluated in terms of changes from the base month in wholesale prices of manufactured dairy products and historic price and fat test relationships. Estimated changes in price and fat test are applied to the State average for the base month to estimate price and fat test for each State for the month to which the estimates relate.

The sample for estimating change from the previous month includes 40 plants in Minnesota and 70 in Wisconsin. Plants in each area were classified according to type of products manufactured, and sample plants were drawn from each product class in each State. Plants that consolidate or go out of business are replaced by the same type plant of approximately the same size in the same general area.

In Minnesota, plants were classified originally into those making (1) butter and by-products and (2) other dairy products. Because of changing conditions, a new classification of Minnesota plants was made in 1963. Plants were reclassified into (1) butter and by-products; (2) cheese; and (3) varied products. Based on this method of classification, in 1973 the butter and by-products group accounted for 47 percent of all manufacturing grade milk in the State; cheese, 24 percent; and the varied-products group, 29 percent.

In Wisconsin, the plants were divided originally into four major product groups: (1) cheese; (2) butter and by-products; (3) condenseries; and (4) varied products. In 1973, plants were reclassified into three major product groups. The proportion of manufacturing grade milk purchased in 1973 by each product group was: (1) cheese, 85 percent; (2) butter and by-products, 5 percent; and (3) condenseries and varied products, 10 percent.

In both Minnesota and Wisconsin, the varied-products group consists mostly of plants which make butter, cheese, or other products in such proportions that they cannot be clearly classified in any one specific group such as primarily butter-making plants, primarily cheese-making plants, or condenseries.

These percentages are used as weights for combining reported price and milkfat test data by groups for the monthly manufacturing grade average price and milkfat estimates in each State. The percentages are based on final plant enumerations for the previous year and are changed once each year, approximately 5 months after the close of the calendar year, when enumerated data become available.

Data are collected from the 110-plant sample using a questionnaire mailed near the close of each month. This inquiry is designed to obtain information for the base month and for the first half of the month relating to: (1) quantity of manufacturing grade milk purchased, (2) quantity of fat included, (3) dollars paid, if available, (4) average price at average test, and (5) related information such as quantities purchased in bulk and in cans, and the base price for 3.5 percent milk and point differentials for fat. Space also is provided on the inquiry for the plant manager's best estimate of the average fat test and milk price for the last half of the month to which the estimate relates.

Comparison of Current and Final Estimates

The table on page 4 gives a comparison of the current Minnesota-Wisconsin manufacturing grade milk price at average test with the final estimate combined for the two States from 1971 through 1973, together with the corresponding comparison for milkfat percentage. The entries in the column headed "Final Two-State Estimate" are weighted averages of the final monthly prices for Minnesota and Wisconsin combined, using complete monthly marketings for each State as weights.

For the 3 years 1971 through 1973, the latest years for which complete data are available, the difference between the current Minnesota-Wisconsin estimates of price per hundredweight and the final data average 2 cents; the difference in milkfat test average is negligible.

Since the Minnesota-Wisconsin price for use in Federal milk orders is reported on a 3.5 percent milkfat basis, a table is included showing the same comparisons converted to a 3.5 percent basis. The price at average milkfat test is converted to a 3.5 percent basis using a milkfat differential per point (1/10 of one percent) that is calculated by multiplying the average price of Grade A (92-score) butter at Chicago by 0.120. This is the method specified in Federal milk orders.

Publication

The report for each month on price per hundredweight at the average milkfat test and on a 3.5 percent basis is issued about the 5th of the following month from the Wisconsin office of the Statistical Reporting Service, P.O. Box 5160, Madison, Wisconsin, 53705. This report is available on request. The price series is also published in the Dairy and Poultry Market News reports issued by several offices of the Dairy and Poultry Market News Service.

Comparison of Minnesota - Wisconsin Manufacturing Grade Milk Price and Milkfat test with the two-State Average of Final Estimates, by Months, 1971-73

Year and month	Minnesota - Wisconsin series		Final two-States estimates		Difference between final two-State and Minn.-Wisc. series	
	Price per cwt. 1/	Milkfat test	Price per cwt. 1/	Milkfat test	Price per cwt. 1/	Milkfat test
	Dollars	Percent	Dollars	Percent	Dollars	Percent
<u>1971</u>						
January	4.93	3.67	4.98	3.68	+0.05	+0.01
February	4.95	3.64	4.97	3.64	+0.02	0
March	4.91	3.62	4.91	3.62	0	0
April	4.92	3.61	4.89	3.61	-.03	0
May	4.84	3.59	4.86	3.58	+0.02	-.01
June	4.82	3.58	4.83	3.56	+0.01	-.02
July	4.82	3.56	4.82	3.55	0	-.01
August	4.84	3.59	4.85	3.56	+0.01	-.03
September	4.94	3.64	4.93	3.64	-.01	0
October	5.02	3.74	5.03	3.74	+0.01	0
November	5.07	3.78	5.10	3.78	+0.03	0
December	5.13	3.74	5.14	3.74	+0.01	0
<u>Simple average</u>						
1971	4.9325	3.6467	4.9425	3.6417	+0.0100	-.0050
<u>1972</u>						
January	5.12	3.69	5.13	3.70	+0.01	+0.01
February	5.10	3.66	5.13	3.66	+0.02	0
March	5.15	3.64	5.14	3.65	-.01	+0.01
April	5.07	3.63	5.07	3.62	0	-.01
May	5.03	3.61	5.04	3.60	+0.01	-.01
June	5.01	3.58	4.99	3.56	-.01	-.02
July	5.04	3.54	5.05	3.55	+0.01	+0.01
August	5.14	3.58	5.14	3.59	0	+0.01
September	5.23	3.66	5.26	3.68	+0.02	+0.02
October	5.41	3.78	5.45	3.80	+0.04	+0.02
November	5.59	3.82	5.58	3.81	-.01	-.01
December	5.63	3.76	5.65	3.78	+0.02	+0.01
<u>Simple average</u>						
1972	5.2100	3.6625	5.2192	3.6667	+0.0092	+0.0042
<u>1973</u>						
January	5.61	3.72	5.63	3.70	+0.02	-.02
February	5.57	3.65	5.63	3.65	+0.06	0
March	5.65	3.63	5.69	3.62	+0.04	-.01
April	5.73	3.63	5.73	3.63	0	0
May	5.75	3.62	5.77	3.61	+0.02	-.01
June	5.80	3.60	5.77	3.56	-.03	-.04
July	5.83	3.56	5.89	3.53	+0.06	-.03
August	6.44	3.56	6.54	3.56	+0.10	0
September	7.07	3.66	7.23	3.66	+0.16	0
October	7.75	3.77	7.72	3.76	-.03	-.01
November	7.90	3.79	7.99	3.79	+0.09	0
December	8.15	3.75	8.17	3.76	+0.02	+0.01
<u>Simple average</u>						
1973	6.4375	3.6617	6.4800	3.6525	+0.0425	-.0092
36 months	5.5267	3.6570	5.5472	3.6536	+0.0205	-.0034

1/ Average price for milk of average milkfat test.

Comparison of Minnesota - Wisconsin Manufacturing Grade Milk Price with
Final Two-State Estimated Price, for Milk of 3.5 Percent Milkfat Content, by Months, 1971-73 1/

Year and month	Minnesota - Wisconsin series	Final two-State estimate	Difference between final two-State and Minn.-Wisc. series
Dollars per cwt.			
<u>1971</u>			
January	4.79	4.83	+.04
February	4.83	4.85	+.02
March	4.81	4.81	0
April	4.83	4.80	-.03
May	4.77	4.80	+.03
June	4.76	4.78	+.02
July	4.77	4.78	+.01
August	4.77	4.80	+.03
September	4.83	4.82	-.01
October	4.82	4.83	+.01
November	4.84	4.87	+.03
December	4.93	4.94	+.01
<u>Simple average</u>			
1971	4.812	4.826	+.014
<u>1972</u>			
January	4.97	4.97	0
February	4.97	5.00	+.03
March	5.04	5.02	-.02
April	4.96	*4.97	*+.01
May	4.94	*4.96	*+.02
June	4.95	4.94	-.01
July	5.01	5.01	0
August	5.07	5.07	0
September	5.10	5.11	+.01
October	5.18	*5.20	*+.02
November	5.32	*5.32	* 0
December	5.41	5.41	0
<u>Simple average</u>			
1972	5.077	*5.082	*+.005
<u>1973</u>			
January	5.43	5.47	+.04
February	5.45	5.51	+.06
March	5.55	5.60	+.05
April	5.63	5.63	0
May	5.66	5.69	+.03
June	5.73	5.73	0
July	5.78	5.87	+.09
August	6.38	6.48	+.10
September	6.91	7.07	+.16
October	7.49	7.47	-.02
November	7.64	7.73	+.09
December	7.94	7.95	+.01
<u>Simple average</u>			
1973	6.299	6.350	+.051
36 months	5.396	5.419	+.023

1/ Prices have been converted from the average milkfat test to 3.5 percent using the milkfat differential specified in Federal orders (Chicago Grade A butter x 0.120).

* Corrections.

