



# **prices received by farmers**

**Manufacturing Grade Milk in Minnesota  
and Wisconsin, 1972-74**

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**CROP REPORTING BOARD**

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PRICES RECEIVED BY FARMERS FOR MANUFACTURING GRADE MILK  
IN MINNESOTA AND WISCONSIN, 1972-73

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 1975 will be reported on September 5, 1975.

These two-States produce over half (53 percent in 1974) 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 1974, the annual average of the monthly volume weights for Wisconsin was 57 percent of the two-State total, and for Minnesota, 43 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 1974 the butter and by-products group accounted for 22 percent of all manufacturing grade milk in the State; cheese, 31 percent; and the varied-products group, 47 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 1974 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 1972 through 1974, 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 1972 through 1974, 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 1 cent; 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 Market News reports issued by several offices of the Dairy Market News Service.

COMPARISON OF MINNESOTA - WISCONSIN MANUFACTURING GRADE MILK PRICE AND MILKFAT TEST WITH  
THE TWO-STATE AVERAGE OF FINAL ESTIMATES, BY MONTHS, 1972-74

YEAR AND MONTH	MINNESOTA -		FINAL		DIFFERENCE BETWEEN	
	WISCONSIN		TWO-STATES		FINAL TWO-STATE AND	
	SERIES		ESTIMATES		MINN - WIS SERIES	
	PRICE PER	MILKFAT	PRICE PER	MILKFAT	PRICE PER	MILKFAT
	CWT 1/	TEST	CWT. 1/	TEST	CWT. 1/	TEST
<u>1972</u>	DOLLARS	PERCENT	DOLLARS	PERCENT	DOLLARS	PERCENT
JAN	: 5.12	3.69	5.13	3.70	+ .01	+ .01
FEB	: 5.10	3.66	5.13	3.66	+ .03	0
MAR	: 5.15	3.64	5.14	3.65	- .01	+ .01
APR	: 5.07	3.63	5.07	3.62	0	- .01
MAY	: 5.03	3.61	5.04	3.60	+ .01	- .01
JUN	: 5.01	3.58	4.99	3.56	- .02	- .02
JUL	: 5.04	3.54	5.05	3.55	+ .01	+ .01
AUG	: 5.14	3.58	5.14	3.59	0	+ .01
SEP	: 5.23	3.66	5.26	3.68	+ .03	+ .02
OCT	: 5.41	3.78	5.45	3.80	+ .04	+ .02
NOV	: 5.59	3.82	5.58	3.81	- .01	- .01
DEC	: 5.63	3.76	5.65	3.78	+ .02	+ .02
SIMPLE AVERAGE						
1972	: 5.2100	3.6625	5.2192	3.6667	+ .0092	+ .0042
<u>1973</u>						
JAN	: 5.61	3.72	5.63	3.70	+ .02	- .02
FEB	: 5.57	3.65	5.63	3.65	+ .06	0
MAR	: 5.65	3.63	5.69	3.62	+ .04	- .01
APR	: 5.73	3.63	5.73	3.63	0	0
MAY	: 5.75	3.62	5.77	3.61	+ .02	- .01
JUN	: 5.80	3.60	5.77	3.56	- .03	- .04
JUL	: 5.83	3.56	5.89	3.53	+ .06	- .03
AUG	: 6.44	3.56	6.54	3.56	+ .10	0
SEP	: 7.07	3.66	7.23	3.66	+ .16	0
OCT	: 7.75	3.77	7.72	3.76	- .03	- .01
NOV	: 7.90	3.79	7.99	3.79	+ .09	0
DEC	: 8.15	3.75	8.17	3.76	+ .02	+ .01
SIMPLE AVERAGE						
1973	: 6.4375	3.6617	6.4800	3.6525	+ .0425	- .0092
<u>1974</u>						
JAN	: 8.28	3.72	8.26	3.72	- .02	0
FEB	: 8.27	3.67	8.25	3.66	- .02	- .01
MAR	: 8.26	3.64	8.25	3.65	- .01	+ .01
APR	: 7.84	3.64	7.80	3.65	- .04	+ .01
MAY	: 7.02	3.62	6.87	3.63	- .15	+ .01
JUN	: 6.38	3.59	6.41	3.60	+ .03	+ .01
JUL	: 6.34	3.57	6.29	3.53	- .05	- .04
AUG	: 6.45	3.57	6.47	3.57	+ .02	0
SEP	: 6.83	3.67	6.85	3.69	+ .02	+ .02
OCT	: 7.07	3.80	7.10	3.79	+ .03	- .01
NOV	: 7.03	3.83	7.03	3.82	0	- .01
DEC	: 6.64	3.79	6.68	3.78	+ .04	- .01
SIMPLE AVERAGE						
1974	: 7.2008	3.6758	7.1885	3.6742	- .0125	- .0016
36 MONTHS	: 6.2828	3.6667	6.2958	3.6645	+ .0130	- .0022

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, 1972-74 <sup>1/</sup>

YEAR AND MONTH	MINNESOTA - WISCONSIN SERIES	FINAL TWO-STATE ESTIMATE	DIFFERENCE BETWEEN FINAL TWO-STATE AND MINN-WIS SERIES
DOLLARS PER CWT.			
<u>1972</u>			
JAN	4.97	4.97	0
FEB	4.97	5.00	+ .03
MAR	5.04	5.02	- .02
APR	4.96	4.97	+ .01
MAY	4.94	4.96	+ .02
JUN	4.95	4.94	- .01
JUL	5.01	5.01	0
AUG	5.07	5.07	0
SEP	5.10	5.11	+ .01
OCT	5.18	5.20	+ .02
NOV	5.32	5.32	0
DEC	5.41	5.41	0
<u>SIMPLE AVERAGE</u>			
1972	5.077	5.082	+ .005
<u>1973</u>			
JAN	5.43	5.47	+ .04
FEB	5.45	5.51	+ .06
MAR	5.55	5.60	+ .05
APR	5.63	5.63	0
MAY	5.66	5.69	+ .03
JUN	5.73	5.73	0
JUL	5.78	5.87	+ .09
AUG	6.38	6.48	+ .10
SEP	6.91	7.07	+ .16
OCT	7.49	7.47	- .02
NOV	7.64	7.73	+ .09
DEC	7.94	7.95	+ .01
<u>SIMPLE AVERAGE</u>			
1973	6.299	6.350	+ .051
<u>1974</u>			
JAN	8.10	8.08	- .02
FEB	8.14	8.13	- .01
MAR	8.15	8.13	- .02
APR	7.73	7.68	- .05
MAY	6.93	6.78	- .15
JUN	6.31	6.34	+ .03
JUL	6.29	6.27	- .02
AUG	6.39	6.41	+ .02
SEP	6.69	6.70	+ .01
OCT	6.82	6.86	+ .04
NOV	6.76	6.76	0
DEC	6.41	6.46	+ .05
<u>SIMPLE AVERAGE</u>			
1974	7.060	7.050	- .010
36 MONTHS	6.145	6.161	+ .016

<sup>1/</sup> 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).

MANUFACTURING GRADE MILK: WEIGHTS USED TO CALCULATE THE MINNESOTA-WISCONSIN MILK PRICE SERIES, BY MONTHS, 1970-76 <sup>1/</sup>

MONTH	1970		1971		1972		1973	
	MINN	WIS	MINN	WIS	MINN	WIS	MINN	WIS
MILLION POUNDS								
JAN	705	768	653	673	601	636	564	644
FEB	712	758	625	648	575	603	539	603
MAR	788	863	708	759	667	718	626	716
APR	774	891	688	767	647	742	614	740
MAY	803	986	729	878	679	832	644	829
JUN	743	986	694	921	640	840	607	837
JUL	590	801	549	750	514	732	497	779
AUG	472	716	451	685	427	676	408	705
SEP	403	622	386	603	372	603	361	631
OCT	417	588	412	603	396	579	367	598
NOV	438	546	425	546	415	523	373	533
DEC	528	606	503	595	477	563	438	581
MILLION POUNDS								
1974								
1975								
1976								
	MINN	WIS	MINN	WIS	MINN	WIS	MINN	WIS
MILLION POUNDS								
JAN	533	623	510	572	477	566		
FEB	539	623	493	567	477	530		
MAR	604	713	568	652	542	626		
APR	592	738	556	674	533	644		
MAY	616	820	591	747	566	740		
JUN	592	851	574	755	546	751		
JUL	493	674	468	662				
AUG	406	601	394	591				
SEP	365	542	339	541				
OCT	400	528	338	506				
NOV	383	491	345	456				
DEC	458	535	417	505				

<sup>1/</sup> WEIGHTS SHOWN FOR JANUARY THROUGH JUNE ARE BASED UPON RECEIPTS OF MANUFACTURING GRADE MILK TWO YEARS EARLIER WHILE WEIGHTS FOR JULY THROUGH DECEMBER ARE BASED UPON RECEIPTS FROM A YEAR EARLIER.



