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# Changes in.. North Dakota's Dairy Industry

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## Fewer Farmers Milking Cows

Only half as many farmers were keeping milk cows in North Dakota in 1964 as were keeping them in 1954. Census figures show 42,686 farms having milk cows in 1954 and 30,486 in 1959, as compared with only 21,329 farms with milk cows in 1964.

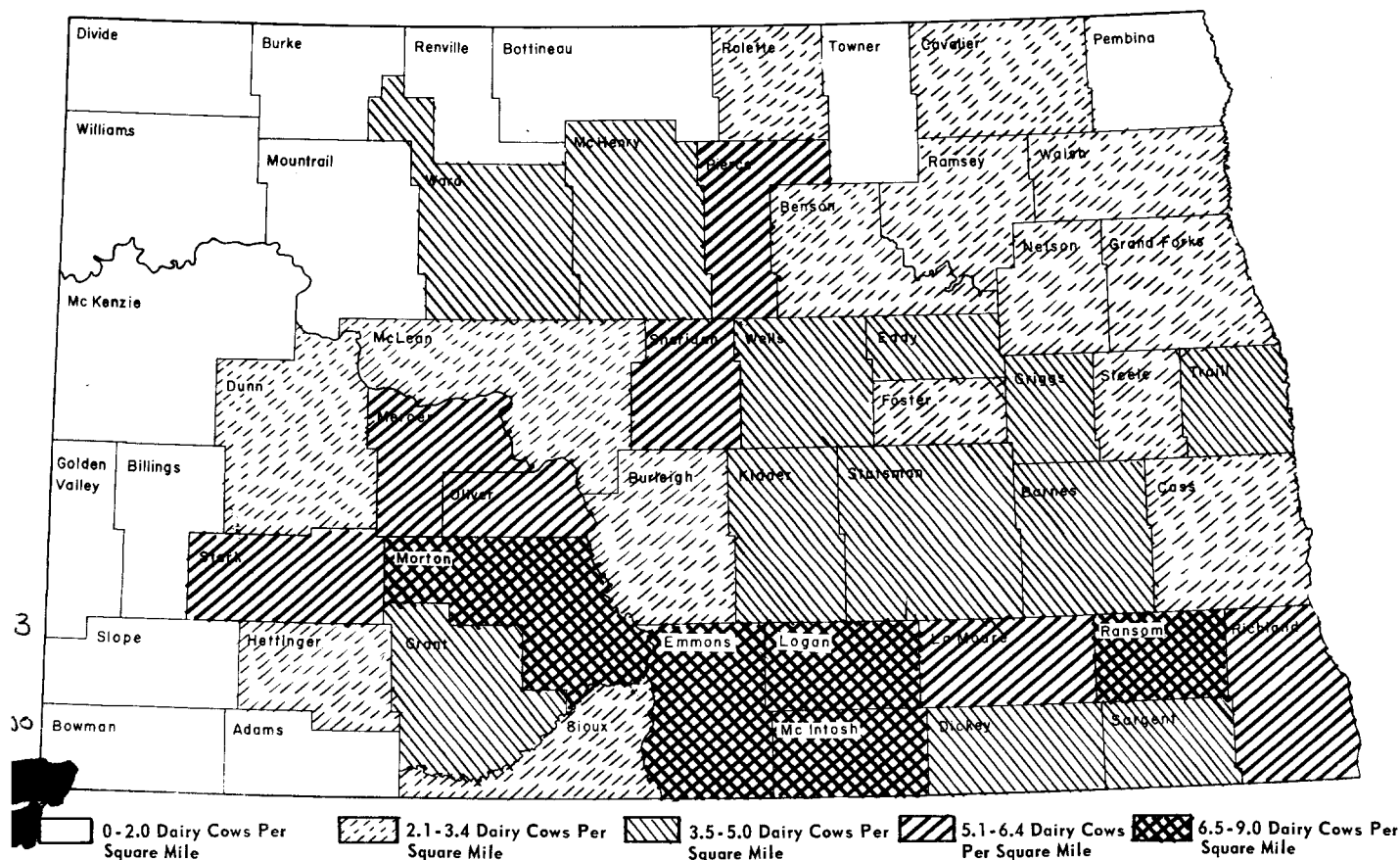
Lower profit margins from the dairy enterprise, more favorable prices for meat animals, and better than average crop yields during the past two years have been the major reasons why many North Dakota farmers have decided to quit dairying.

## Dairy Cow Numbers Decline 44 Per Cent

Numbers of dairy cows on farms declined from 410,000 head January 1, 1955 to 262,000 head January 1, 1965. A further reduction of 31,000 head took place during 1965, leaving 231,000 head of dairy cows on farms in North Dakota as of January 1, 1966.

A further decline is expected during 1966 and into 1967, due to the farm worker shortage, anticipated higher prices for feed grains, and a larger wheat acreage allotment assured farmers in 1967. This downward adjustment in cow numbers is expected to level off in 1967, as

Figure 1. NUMBER OF DAIRY COWS PER SQUARE MILE BY COUNTIES IN NORTH DAKOTA, 1966<sup>1</sup>



<sup>1</sup> Dairy cows and heifers two years old and over kept for milk January 1, 1966

milk prices increase and as other farm enterprises become less attractive.

Table I shows the changes in number of dairy cows by counties from 1955 to 1966. This table also shows the per cent change in dairy cow numbers that has taken place in each county during the past year. Although North Dakota showed a 12 per cent decline in total number of dairy cows during 1965, the decline varied by counties from no change in Billings and Golden Valley counties to 28 per cent and 26 per cent in Bowman and Stark counties. No particular farming pattern seems to be associated with reduction in cow numbers.

The trend away from marketing farm separated cream has accelerated during the past year in North Dakota. Farmers with only a few dairy cows have sold their herds and gone into more profitable farming operations. Others have increased the size of their dairy herds to a commercial sized whole milk operation.

Figure I shows the average number of dairy cows per square mile by counties in North Dakota. Counties with the greatest density of dairy cows per square mile are McIntosh, Logan, Morton, Emmons and Ransom, in that order.

### Milk Production Down

Total milk production in 1965 was down nearly 8 per cent from 1964, as cow numbers declined and production per cow held nearly steady. The first seven months of 1966 show a 12 per cent reduction from the comparable period in 1965 (Table III). This reverses the trend of the past 15 years prior to 1965, where reduction in cow numbers was offset by increased milk production per cow.

### \$38 Million Farm Income From Milk & Cream

Farm income from milk and cream has remained relatively steady in North Dakota over the past 10 years, holding around \$38 million annually, with the exception of 1964 (Table II). A rise in cash income in 1964, with a decrease in pounds of milk marketed, is the result of slightly higher milk prices and dairymen switching from marketing farm separated cream to whole milk.

As the demand for American cheese has increased, and competition for limited milk supplies increased in the dairy states, cheese plants have moved to the midwestern states to obtain sufficient supplies of whole milk. Twelve cheese plants have been established in North Dakota since 1960. With limited milk supplies, cheese plants have substantially increased

TABLE I CHANGES IN NUMBER OF DAIRY COWS BY COUNTIES\*  
NORTH DAKOTA JAN. 1, 1955-65-66

Howard J. McLeod					Extension Dairy Marketing Economist				
County	No. of Dairy Cows			Percent Change from 1965-66	County	No. of Dairy Cows			Percent Change from 1965-66
	1955	1965	1966			1955	1965	1966	
Adams	3,300	1,800	1,600	-11%	McLean	11,700	6,800	5,800	-15%
Barnes	10,900	7,600	6,000	-21%	Mercer	7,500	6,200	5,600	-10%
Benson	10,200	5,200	4,500	-13%	Morton	14,000	13,600	13,000	-4%
Billings	1,400	1,500	1,500	00%	Mountrail	6,100	2,900	2,400	-17%
Bottineau	9,000	3,300	2,600	-21%	Nelson	8,300	3,800	3,400	-11%
Bowman	2,100	1,400	1,000	-28%	Oliver	5,200	4,300	3,900	-9%
Burke	3,600	1,200	1,100	-8%	Pembina	4,900	2,100	1,800	-14%
Burleigh	7,500	5,400	4,800	-11%	Pierce	9,000	6,000	5,400	-10%
Cass	11,000	7,800	6,000	-23%	Ramsey	8,000	3,400	3,000	-12%
Cavalier	9,600	4,200	3,400	-19%	Ransom	7,600	6,200	5,600	-10%
Dickey	8,000	4,700	4,100	-13%	Renville	3,900	1,500	1,400	-7%
Divide	3,500	1,600	1,400	-12%	Richland	12,500	8,300	7,500	-10%
Dunn	6,600	5,700	4,800	-16%	Rolette	6,200	3,500	3,000	-14%
Eddy	5,300	2,900	2,500	-14%	Sargent	7,800	4,500	4,100	-13%
Emmons	14,200	11,500	10,600	-8%	Sheridan	10,000	6,000	5,600	-7%
Foster	3,900	2,500	2,100	-16%	Sioux	2,300	2,600	2,500	-4%
Golden Valley	1,400	1,000	1,000	00%	Slope	1,900	1,200	1,000	-17%
Grand Forks	9,300	3,800	3,400	-10%	Stark	9,400	8,200	7,700	-26%
Grant	9,400	7,800	7,400	-5%	Steele	4,900	2,600	1,900	-23%
Griggs	6,000	3,400	2,700	-21%	Stutsman	17,000	10,900	9,500	-13%
Hettinger	6,300	4,000	3,200	-20%	Towner	5,000	2,300	2,000	-13%
Kidder	8,400	7,000	6,600	-6%	Trail	6,500	3,800	3,000	-21%
LaMoure	11,500	7,500	6,800	-9%	Walsh	8,500	3,800	3,300	-13%
Logan	12,800	8,400	7,800	-7%	Ward	12,200	8,000	7,200	-10%
McHenry	12,600	8,000	7,000	-12%	Wells	11,400	6,700	5,400	-20%
McIntosh	12,600	9,200	8,500	-8%	Williams	4,400	2,400	2,100	-20%
McKenzie	3,400	1,800	1,500	-11%	TOTALS	410,000	262,000	231,000	-12%

\* Dairy Cows and heifers 2 years old and over kept for milk. North Dakota Crops and Livestock Statistics, NDSU & USDA cooperating.

TABLE II MILK COWS, MILK PRODUCTION, MARKETINGS,  
and CASH RECEIPTS NORTH DAKOTA 1950-1965<sup>1</sup>

Year	Milk Cows <sup>2</sup>	Total Milk Production	Milk <sup>3</sup> Marketed	Ave. Prod. Per Cow	Cash Receipts Milk & Cream
	No. Head	Mil. lbs.	Mil. lbs.	lbs.	000's dollars
1950	427,000	1,699	1,397	4,530	\$34,603
1955	410,000	1,758	1,534	4,850	37,007
1960	305,000	1,731	1,586	6,250	38,693
1964	276,000	1,669	1,558	6,840	41,026
1965	262,000	1,541	1,438	6,790	38,201
1966	231,000				

<sup>1</sup>Milk production, disposition & income USDA Statistical Reporting Service

<sup>2</sup>Number dairy cows & heifers 2 yrs. old & over kept for milk Jan. 1 each year.

<sup>3</sup>Total milk marketed as whole milk and cream.

TABLE III MILK PRODUCTION BY MONTHS<sup>1</sup>  
NORTH DAKOTA 1964-1965-1966

Month	Millions of Pounds			Percentage change from 1965
	1964	1965	1966	
				- or +
Jan.	128	123	107	-13%
Feb.	140	126	110	-12.7%
March	153	139	124	-11%
April	155	145	129	-11%
May	175	172	148	-14%
June	174	176	154	-12.5%
July	166	165	145	-12%
Aug.	146	132	123	-7%
Sept.	117	101		
Oct.	106	86		
Nov.	97	81		
Dec.	112	95		
Total	1,669	1,541		

Milk production in 1965 down 7.7% from 1964.

<sup>1</sup> Milk production USDA Statistical Reporting Service

prices they pay farmers for whole milk since the last quarter of 1965. This opportunity to increase dairy income has prompted many North Dakota farmers to switch from marketing farm separated cream to whole milk.

#### Butter Leading Manufacturing Product Cheese Production Expanding

Creamery butter is still the leading manufactured dairy product in North Dakota although more and more milk has been shifted to cheese manufacturing plants. Creamery butter production dropped from 56,867,000 pounds in 1960 to 42,082,000 pounds in 1965 (Table IV). Although many dairy farmers marketing milk at cheese plants have disposed of their milk cows, others have converted from cream to whole milk production. Cheese production in North Dakota has remained about the same during 1964 and 1965. The production of cottage cheese, ice cream, and ice milk have shown increases in 1965 over 1964 (Table IV).

Non-fat dry milk for human consumption, manufactured by North Dakota plants in 1965 was 13,858,000 pounds compared to 15,135,000 pounds in 1964. North Dakota butter plants,

manufactured over 3 million pounds of dried buttermilk in 1965.

TABLE IV DAIRY PRODUCTS MANUFACTURED IN  
NORTH DAKOTA 1950-1965

Year	Creamery Butter	American* Cheese	Creamed Cottage Cheese	Ice Cream	Ice Milk
	000 Lbs.	000 Lbs.	000 Lbs.	000 gal.	000 gal.
1950	44,534		166	1948	101
1955	51,726		588	1980	309
1960	56,867	813	908	2,522	645
1964	49,295	15,475	976	2,840	820
1965	42,082	14,027	1,076	2,911	869

\*In addition to American type cheddar cheese, cheese plants in North Dakota produced 1,237,000 pounds of American type partial skim milk cheese in 1965.

#### MILK PRICES CONTINUE TO RISE

Prices paid North Dakota diarmen for Grade A and manufacturing grade milk has increased over the past three years (Table V). Grade A milk prices shown are average or blend prices that dairy plants in North Dakota paid producers for milk used for bottling, with the surplus Grade A milk diverted to manufacturing products (butter, ice cream, cheese) and paid for at the same price. Milk is not classified as to its use in North Dakota at the present time.

TABLE V AVERAGE ANNUAL PRICES PAID  
FOR 3.5% MILK IN N. DAK. 64-66

	1964	1965	1966 est.
	\$/cwt.	\$/cwt.	\$/cwt.
Grade A milk	3.64	3.75	4.15 est.
Manufacturing Grade Milk	2.87	2.93	3.57 est.

Higher milk prices are the result of declining milk supplies and continuing strong demand for fluid milk and other dairy products, particularly cheese. Higher prices for American cheese have resulted in higher prices paid producers for manufacturing grade milk. Blend prices paid for Grade A milk 3.5 per cent B.F. in August, 1966 in North Dakota were around \$4.50 per cwt. compared to \$3.78 in August, 1965. Prices paid producers for manufacturing grade milk increased even more, from \$2.95 per cwt. in August, 1965 to around \$4.00 and more per cwt. in August, 1966. The present milk supply situation combined with a strong demand for milk and dairy products indicates that milk prices will continue as high or higher in 1967 than in 1966.

With dairy cow and heifer numbers down and with meat prices remaining high, it appears it will be two to three years before cow numbers reach a level which could raise total milk production much above current levels. However, Grade A milk supplies could increase rapidly, if farmers producing manufacturing grade milk converted to Grade A.

With current milk prices over \$4.00 per cwt. the outlook for the dairy farmer appears good for 1967.

