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Developments in the Dairy Industry

United States - - Minnesota

HANDBOOK AND DIGEST

For Agricultural Extension Workers and Other Leaders
in the Dairy Industry

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Dairying is an important farm enterprise in Minnesota. During the last several years, the cash farm receipts from dairy products have constituted about 20 percent of the total. This does not include the income from veal calves and cull cows. Although dairying is a major enterprise in Minnesota, its importance has declined somewhat in relation to other farm enterprises. During the period of 1935-39, 27.8 percent of total cash farm receipts came from dairying compared with the all time low of 17.5 percent in 1950.

Regardless of what product is consumed, whether fluid milk and cream, evaporated and condensed milk, cheese or ice cream and regardless of whether butterfat is used in butter or some other form and whether skim milk is processed into powder for human consumption or is used for feed on the farm, it all comes from the same original supply of whole milk. The opportunity to shift milk to the various uses results in a close and sensitive relationship between the different dairy products.

Although there were some ups and downs, there was an overall increase in the demand for fluid milk and cream, cheese and ice cream since 1935-39. However, during this same period there was a sharp decline in the demand for butter. These changes in demand have had a definite effect upon the dairy industry.

1. There was a decided shift from the sale of cream from farms to the sale of whole milk because of the increased demand for dairy products containing both butterfat and non-fat solids, and foreign outlets for non-fat solids.
2. The strong demand for some milk products, such as fluid milk and cream resulted in an increase flow of milk into these channels.
3. Less demand for butter, and increased demand for products like cheese and ice cream required a shift in the use of butterfat.
4. Less milk production is required per capita because of a reduction in consumption of butter and the shift to the use of a larger proportion of non-fat solids for human food instead of animal feed.

Adjustments to changes in demand for dairy products have required shifts in the methods and procedures of producers, handlers, processors and distributors. For the dairy industry as a whole the processing, handling and marketing job is one of relating and fitting the total supply of milk to the total demand for the dairy products. It requires studying the existing demand for different dairy products, and the shift in demand, so that the supply of milk may be directed into those channels that will be of mutual benefit to producers and consumers. The price relationship between different dairy products will in large part determine the form in which milk will be used.

Agricultural Extension workers, dairy industry leaders, creamery directors and managers, and producer and consumer groups all have a responsibility to present facts, and to help inform producers, handlers, processors, distributors and consumers about the complicated pattern of producing and marketing dairy products. To assist in this big job the following dairy statistics are presented as reference material. An outline precedes the statistical tables, so that any section may be easily located. The statistical material was obtained and calculated from dairy reports published by the various Divisions of Agricultural Marketing Service, U. S. D. A., The Minnesota Federal-State Crop and Livestock Reporting Service and the Department of Agricultural Economics, University of Minnesota.

All figures given in this report for 1954 and 1955 are preliminary and subject to slight revision.

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Year	Hogs	Dairy Products - Milk and B.F.	Cattle and Calves	Lambs Sheep and Wool	Chickens and Eggs	Turkeys	Cash Crop	All Commodities Shown
(Million Dollars)								
1935-39	65.5	86.1	52.9	9.2	29.0	5.2	63.0	310.9
1940-44	162.6	138.8	96.6	14.3	80.5	12.2	114.0	619.0
1945-49	242.7	227.7	174.7	16.6	144.2	24.4	320.1	1150.4
1950	233.4	206.4	253.1	16.9	107.7	25.4	338.7	1181.6
1951	271.8	238.2	274.8	20.1	142.1	30.9	289.1	1267.0
1952	251.0	260.3	249.8	17.3	125.9	29.5	339.6	1273.4
1953	255.7	253.2	202.8	17.9	141.7	29.5	371.5	1272.3
1954	260.0	225.0	205.0	12.0	108.0	30.0	376.0	1216.0

PERCENT OF CASH FARM RECEIPTS FROM EACH COMMODITY

1935-39	21.1	27.8	17.0	3.0	9.3	1.6	20.2	100.0
1940-44	26.3	22.4	15.6	2.3	13.0	2.0	18.4	100.0
1945-49	21.1	19.8	15.2	1.5	12.5	2.1	27.8	100.0
1950	19.8	17.5	21.4	1.4	9.1	2.1	28.7	100.0
1951	21.5	18.8	21.7	1.6	11.2	2.4	22.8	100.0
1952	19.7	20.4	19.8	1.4	9.9	2.3	26.7	100.0
1953	20.1	20.0	15.9	1.4	11.1	2.3	29.2	100.0
1954	21.3	18.5	16.9	1.0	8.9	2.5	30.9	100.0

Note: 1. Cash receipts from dairy products were over 2 1/2 times as large in 1954 than the annual average for the pre-war years of 1935-39. This was largely the result of price increases because the volume of milk sold from Minnesota farms increased only slightly. Cash receipts from hogs and from cattle and calves increased over 4 times during the same period.

2. The percent of total cash receipts coming from dairy products has declined materially since the pre-war years of 1935-39. The percent coming from cash crops has increased considerably. A large part of this increase came from the sale of soybeans.

Year	Milk Cows on Farms -January 1	Milk Cows on Farms -Annual Average	Production per Cow		Total Pro- duction (million lbs.)	Production - per capita (lbs.)	Con- sumption -per capita (lbs.)
	(million)	(million)	Milk (lbs.)	Butterfat (lbs.)			
1925-29	22.4	21.4	4,437	174	94,673	797	798
1930-34	24.9	23.9	4,497	169	102,620	823	812
1935-39	25.0	23.5	4,403	174	103,656	803	791
1940-44	26.3	24.8	4,653	185	115,415	854	782
1945-49	25.7	23.3	4,999	198	116,622	809	750
1950	23.9	21.9	5,314	210	116,602	769	731
1951	23.7	21.6	5,313	210	114,841	744	707
1952	23.4	21.6	5,329	209	115,197	734	694
1953	24.1	22.2	5,449	211	121,149	759	688
1954	24.7	22.4	5,512	214	123,502	760	700
1955	24.4						

- Note: 1. The total number of cows on farms in the United States reached its peak in 1944 (annual average of 25.8 million), declined until 1951 and has increased slightly since.
2. Total milk production reached its peak of 123.5 billion pounds in 1954. This increase was largely due to the increase in production per cow.
3. Human population has increased more rapidly than milk production so that milk production per capita is at a comparatively low level. In 1870 there were 4 humans for every cow; during 1925-29 there were 5, and in 1954 there were over 7 humans for every cow.
4. The difference in per capita milk production and consumption is accounted for by milk fed on the farm, exports, and inventory changes.

Year	Milk Cows on Farm Annual Average (thousands)	Milk Production per Cow (lbs) (millions lbs)	Disposition of Milk (Butterfat Basis)						Total Milk Production
			Used in			Sale of Milk and Milk Products			
			Household of Producing Farms	Fed /1 Calves	As Farm Butter	As Cream	As Milk	Retail Milk and Cream	
1925-29		7,137	782	234	42	5,315	597	167	7,137
1930-34		7,766	781	227	24	5,795	752	188	7,766
1935-39	1,607	4,871	7,822	710	232	20	5,759	945	7,822
1940-44	1,697	5,121	8,685	589	264	9	5,690	2,009	8,685
1945-49	1,519	5,546	8,402	454	236	3	3,429	4,182	8,402
1950	1,349	5,980	8,067	403	227	2	3,615	3,760	8,067
1951	1,317	6,030	7,942	415	254	2	3,453	3,760	7,942
1952	1,313	6,160	8,088	385	249	(2)	3,110	4,290	8,088
1953	1,370	6,270	8,590	351	215	(2)	2,802	5,170	8,590
1954	1,394	6,180	8,615			(2)	2,632	5,400	8,615
		<u>Index (1935-39 = 100)</u>				<u>Percent of Total Production</u>			
1925-29		91	11.0	3.3	0.6	74.4	8.4	2.3	100.0
1930-34		99	10.1	2.9	0.3	74.6	9.7	2.4	100.0
1935-39	100	100	100	9.1	3.0	0.2	73.6	12.1	100.0
1940-44	106	105	111	6.8	3.0	0.1	65.6	23.1	100.0
1945-49	95	114	107	5.4	2.8	0.0	40.8	49.8	100.0
1950	84	123	103	5.0	2.8	0.0	44.8	46.7	100.0
1951	82	124	102	5.2	3.2	0.0	43.5	47.4	100.0
1952	82	126	103	4.8	3.1	0.0	38.4	53.0	100.0
1953	85	129	110	4.1	2.5	0.0	32.6	60.2	100.0
1954	87	127	110	4.1	2.4	0.0	30.2	62.7	100.0

/1 Milk consumed as milk, cream and farm butter.

(2) Information not available - very limited quantity.

Note: 1. The number of cows on farms in Minnesota is lower than in the earlier periods, but has remained fairly stable since 1950. Production per cow has increased almost continuously since the period of 1935-39, so that total milk production in Minnesota in 1954 was about the same as the annual average during the high production period of 1940-44.

2. In the late 20's and early 30's about 75% of all the butterfat produced in Minnesota was sold from farms in the form of cream. In 1954 only 30 percent of total production was sold in this way.

	Total Milk Production on Farms			Creamery Butter Production			American Cheese Production			Dry Milk Production		
	Percent of U.S.			Percent of U.S.			Percent of U.S.			Percent of U.S.		
	U.S.	Minn.	Total	U.S.	Minn.	Total	U.S.	Minn.	Total	U.S.	Minn.	Total
(MILLION POUNDS)			(MILLION POUNDS)			(MILLION POUNDS)			(MILLION POUNDS)			
1935-39	103,624	7822	7.5	1716	287.6	16.8	509.0	12.8	2.5	450.9	37.8	8.4
1940-44	115,415	8685	7.5	1727	299.6	17.3	769.0	26.5	3.5	772.9	115.4	14.9
1945-49	116,623	8402	7.2	1297	225.7	17.4	879.7	49.5	5.6	1010.2	246.7	24.4
1950	116,602	8067	6.9	1386	251.4	18.1	892.9	45.6	5.1	1122.4	225.2	20.1
1951	114,841	7942	6.9	1203	237.2	19.7	873.5	44.7	5.1	949.3	203.9	21.5
1952	115,197	8088	7.0	1188	247.7	20.9	849.8	47.4	5.6	1075.4	230.2	21.4
1953	121,149	8590	7.1	1412	267.7	19.0	1021.5	63.5	6.2	1433.1	289.5	20.2
1954	123,502	8615	7.0	1449	270.0	18.6	1022.5	64.6	6.3			
1955												

- Note: 1. Minnesota is producing a slightly smaller percentage of the total United States milk supply than it did in 1935-39. The milk produced in Minnesota has been very close to seven percent of the U. S. total during the last several years.
2. Minnesota butter production declined greatly from 1935-39 to 1945-49. Since 1945-49 butter production in Minnesota has increased almost continuously, so that in 1954 it was fairly close to the 1935-39 average.
3. Minnesota is becoming a more important cheese state. A larger percentage of the total United States supply of cheese was made in Minnesota in late years compared with earlier years.

	Jan.	Feb.	Mar.	April	May	June	July	August	Sept.	Oct.	Nov.	Dec.	Monthly Ave.	Index of High Prod. Month (Low Mo=100)
	(Million Pounds)													
1930-34	7,751	7,386	8,430	8,875	10,463	10,660	9,787	8,793	7,929	7,758	7,298	7,526	8,555	146
1935-39	7,402	7,050	8,255	8,824	10,596	11,079	10,336	9,270	8,243	7,909	7,187	7,433	8,632	154
1940-44	8,212	8,057	9,348	10,096	12,127	12,252	11,502	10,459	9,162	8,531	7,679	7,991	9,618	160
1945-49	8,215	8,059	9,814	10,458	12,417	12,426	11,692	10,603	9,168	8,545	7,606	7,843	9,718	163
1950	8,378	8,199	9,785	10,387	12,034	12,138	11,497	10,570	9,184	8,658	7,800	7,972	9,717	156
1951	8,263	8,004	9,596	10,160	12,086	12,123	11,341	10,421	9,073	8,463	7,554	7,757	9,570	160
1952	8,151	8,155	9,430	10,148	12,073	11,896	11,027	10,265	9,131	8,660	7,884	8,377	9,600	153
1953	8,822	8,584	10,183	10,905	12,631	12,438	11,597	10,610	9,289	8,862	8,348	8,880	10,096	151
1954	9,202	9,001	10,683	11,280	12,999	12,600	11,558	10,474	9,369	9,021	8,474	8,841	10,292	153
1955	9,105	8,884	10,447	11,264										

	Percent Monthly Production Was of the Total Production for the Year												
1930-34	7.6	7.2	8.2	8.6	10.2	10.4	9.5	8.6	7.7	7.6	7.1	7.3	100
1935-39	7.1	6.8	8.0	8.5	10.2	10.7	10.0	8.9	8.0	7.6	7.0	7.2	100
1940-44	7.1	7.0	8.1	8.7	10.5	10.6	10.0	9.1	7.9	7.4	6.7	6.9	100
1945-49	7.0	6.9	8.2	9.0	10.7	10.7	10.0	9.1	7.9	7.3	6.5	6.7	100
1950	7.2	7.0	8.4	8.9	10.3	10.4	9.9	9.1	7.9	7.4	6.7	6.8	100
1951	7.2	7.0	8.4	8.8	10.5	10.5	9.9	9.1	7.9	7.4	6.6	6.7	100
1952	7.1	7.1	8.2	8.8	10.5	10.3	9.6	8.9	7.9	7.5	6.8	7.3	100
1953	7.3	7.1	8.4	9.0	10.4	10.3	9.6	8.7	7.7	7.3	6.9	7.3	100
1954	7.4	7.3	8.7	9.1	10.5	10.2	9.4	8.4	7.6	7.3	6.9	7.2	100
1955													

- Note: 1. There is a wide fluctuation in milk production from the high months of May and June to the low month of November. Because dairy products are consumed at a more uniform rate, dairy products in one form or another must be carried over from the months of high milk production to the months of low production. Storage costs must be covered out of the total income from the product. In addition to storage costs, those who store dairy products assume the risk of abnormal price fluctuations and expect a return for assuming this risk.
2. When the volume of milk in the high production months exceeds the volume in the low production months by 50 to 60 percent, processing plant facilities can not be operated at maximum efficiency. If a plant is equipped to handle the milk at the time of flush production, the facilities are not fully used during the season of lower supply.

PRICES RECEIVED BY FARMERS FOR BUTTERFAT IN CREAM - U. S.
(Average U. S. Mid-Month Prices Per Pound)

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Weighted Average	Range
													Annual Price	
(CENTS PER POUND)														
1925-29	45.8	44.3	45.4	44.0	42.5	41.4	41.2	41.4	43.2	45.3	45.8	46.9	44.0	5.7
1930-34	24.1	23.5	24.1	23.8	23.1	21.7	22.4	23.9	25.1	25.9	25.9	25.0	23.7	4.2
1935-39	31.4	32.0	30.1	29.3	26.6	25.6	26.4	27.3	28.5	29.2	30.5	32.1	28.8	4.9
1940-44	39.5	39.5	39.3	39.8	40.3	39.6	39.9	40.6	41.5	42.6	43.4	44.3	40.4	5.0
1945-49	66.0	63.8	63.9	63.4	61.8	61.5	66.5	67.2	69.5	69.0	68.0	70.9	65.6	9.4
1950	63.2	63.5	62.5	61.1	60.7	59.9	59.7	60.6	61.4	63.1	64.3	66.4	62.0	6.7
1951	71.6	71.8	70.3	69.1	70.7	70.5	69.5	69.0	69.3	71.1	73.9	79.3	71.1	10.3
1952	82.6	85.1	78.7	73.8	71.8	71.2	72.8	74.2	75.2	74.2	72.5	70.3	74.9	14.8
1953	68.4	67.5	67.0	66.2	65.6	65.1	64.9	65.2	65.7	66.6	67.2	67.0	65.8	3.5
1954	65.9	65.1	62.8	56.8	56.2	55.9	55.7	55.7	55.8	56.9	57.2	58.1	58.3	10.2
1955	57.5	57.5	57.5	57.1	56.7									

Index of Monthly Prices - Weighted Average Annual Price = 100

1925-29	104	92	103	100	97	94	94	94	98	103	104	107	100	15
1930-34	103	100	103	101	98	92	95	102	106	111	110	106	100	14
1935-39	109	111	105	102	92	89	92	95	98	101	106	112	100	23
1940-44	98	98	97	99	100	98	99	100	103	105	107	110	100	11
1945-49	101	96	98	97	94	94	102	103	106	105	104	108	100	14
1950	102	102	101	99	98	97	96	98	99	102	104	107	100	11
1951	101	101	99	97	99	99	98	97	97	100	104	112	100	15
1952	110	114	105	99	96	95	97	99	100	99	97	94	100	20
1953	104	103	102	101	100	99	99	99	100	101	102	102	100	5
1954	113	112	108	97	96	96	96	96	96	98	98	100	100	17
1955														

- Note: 1. There is a considerable price advantage during the low production months compared with the high production months. (Compare this table with Table E.)
2. There is a limit to how far seasonality in milk production can be adjusted. However, within limits milk producers could increase their net income by producing and selling milk when prices are seasonally high. Special attention should be given to improved feeding programs, pasture management, breeding and herd management.

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Monthly Average	Index of High Prod. Month (Low Month=100)
(MILLION POUNDS)														
1935-39	599	585	678	676	839	893	771	634	556	522	497	572	652	180
1940-44	712	705	816	802	945	954	826	673	552	535	532	644	724	179
1945-49	683	678	796	804	922	937	814	645	520	501	507	614	702	187
1950	687	696	828	800	865	892	749	582	460	452	474	582	672	197
1951	672	670	782	767	858	876	737	607	476	465	471	561	662	188
1952	621	660	758	770	913	887	737	594	487	480	519	662	674	190
1953	724	722	841	843	925	934	773	597	497	499	550	685	716	188
1954/1	769	760	884	865	917	926	740	576	476	480	539	683	718	195
1955/1	745	731	849	856										

(Preliminary)

Percent Monthly Production was of the Total Production for the Year

1935-39	7.7	7.5	8.7	8.6	10.7	11.4	9.9	8.1	7.1	6.7	6.4	7.3	100
1940-44	8.2	8.1	9.4	9.2	10.9	11.0	9.5	7.7	6.4	6.0	6.1	7.4	100
1945-49	8.1	8.0	9.4	9.5	10.9	11.1	9.7	7.7	6.2	5.9	6.0	7.3	100
1950	8.5	8.6	10.3	9.9	10.7	11.1	9.3	7.2	5.7	5.6	5.9	7.2	100
1951	8.5	8.4	9.8	9.7	10.8	11.0	9.3	7.6	6.0	5.9	5.9	7.1	100
1952	7.7	8.2	9.4	9.5	11.3	11.0	9.1	7.3	6.0	5.9	6.4	8.2	100
1953	8.4	8.4	9.8	9.8	10.8	10.9	9.0	6.9	5.8	5.8	6.4	8.0	100
1954	8.9	8.8	10.3	10.0	10.6	10.8	8.6	6.7	5.5	5.6	6.3	7.9	100
1955													

- Note: 1. Milk production in Minnesota is more seasonal than for the United States. (Compare Tables G and E.)
2. Milk production in Minnesota reaches a low level earlier in the fall compared with the United States.
3. November was the low milk production month in Minnesota during the earlier period of 1935-39. During 1945-49 and through 1952, it was October. In 1953 and 1954 September was the low month in milk production.

Year	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
	<u>For Butterfat in Cream (cents per pound)</u>											
1940-44	42.0	42.0	41.0	42.0	43.0	42.0	42.0	43.0	44.0	45.0	46.0	47.0
1945-49	71.0	69.0	69.0	68.0	67.0	67.0	71.0	73.0	75.0	75.0	74.0	77.0
1950	69.0	70.0	67.0	66.0	66.0	66.0	66.0	67.0	68.0	70.0	72.0	75.0
1951	78.0	78.0	76.0	76.0	78.0	77.0	75.0	75.0	76.0	78.0	83.0	90.0
1952	91.0	94.0	83.0	79.0	77.0	77.0	79.0	81.0	81.0	80.0	78.0	76.0
1953	75.0	74.0	74.0	73.0	72.0	71.0	71.0	72.0	72.0	73.0	73.0	73.0
1954	71.0	71.0	70.0	63.0	62.0	62.0	62.0	62.0	61.0	62.0	62.0	63.0
1955	62.0	62.0	62.0	62.0	62.0							
	<u>For Milk Delivered to Creameries and Milk Plants (dollars per cwt.)</u>											
1940-44	2.15	2.10	2.05	2.05	2.10	2.10	2.15	2.20	2.30	2.35	2.40	2.40
1945-49	3.31	3.22	3.13	3.07	3.04	3.07	3.29	3.44	3.61	3.61	3.64	3.62
1950	3.05	3.00	2.95	2.90	2.90	2.85	2.90	3.05	3.25	3.35	3.35	3.45
1951	3.60	3.60	3.55	3.55	3.60	3.50	3.55	3.65	3.80	3.90	4.00	4.10
1952	4.10	4.10	3.85	3.75	3.65	3.60	3.80	4.00	4.15	4.15	4.05	3.75
1953	3.55	3.50	3.45	3.35	3.30	3.25	3.35	3.45	3.55	3.60	3.55	3.45
1954	3.40	3.30	3.20	2.95	2.90	2.85	3.00	3.10	3.30	3.35	3.30	3.25
1955	3.10	3.00	3.00	2.95	2.95							
	<u>For Milk Sold in the Twin City Market (T.C.M.P.A.) - Blended Price to Producers for Grade A Milk (dollars per cwt.)</u>											
1935-39	1.76	1.73	1.66	1.60	1.54	1.51	1.60	1.67	1.72	1.75	1.77	1.81
1940-44	2.33	2.30	2.29	2.31	2.34	2.35	2.40	2.44	2.52	2.53	2.54	2.56
1945-49	3.66	3.57	3.52	3.49	3.46	3.51	3.84	3.95	4.08	3.97	4.02	4.04
1950	3.41	3.39	3.22	3.22	3.26	3.25	3.43	3.63	3.63	3.64	3.67	3.79
1951	3.87	3.94	3.94	4.05	4.05	3.95	4.02	4.10	4.12	4.20	4.30	4.39
1952 (base)	4.49	4.54	4.36	4.36	4.26	4.26	4.34	4.70	4.72	4.72	4.62	4.12
(surplus)	4.19	4.23	4.01	4.01	3.89	3.89	no surplus					
1953 (base)	4.06	3.96	3.96	3.84	3.71	3.71	3.88	3.95	3.95	3.97	3.97	3.78
(surplus)	3.66	3.55	3.55	3.40	3.30	3.30	no surplus					
1954 (base)	3.68	3.62	3.56	3.32	3.20	3.20	3.40	3.45	3.52	3.56	3.62	3.48
(surplus)	3.28	3.22	3.15	2.96	2.88	2.88	no surplus					
1955 (base)	3.51	3.51	3.51	3.51	3.51							
(surplus)	3.00	3.00	3.00	3.00	3.00							

- Note: 1. A base and surplus plan of payment was established by T.C.M.P.A. beginning January 1, 1952. The base is established by the volume delivered during the months of short supply.
2. The milk referred to here as Grade A is for bottling and fluid milk consumption purposes.
3. The price paid for milk in the Twin City Market has been considerably above the average price paid at creameries and milk plants in the state. Municipal health and other regulatory standards require more capital investment and consequently more expense for farmers in producing and delivering milk for this market.

	<u>United States Production</u>				<u>Minnesota Production</u>				<u>Minnesota Milk Prices</u>			
	<u>High Month</u>		<u>Low Month</u>		<u>High Month</u>		<u>Low Month</u>		<u>High Month</u>		<u>Low Month</u>	
	(High Month = 100)				(High Month = 100)				(Dollars per Cwt)			
1935-39	100	June	65	November	100	June	56	November
1940-44	100	June	63	November	100	June	55	October	2.05	April	2.40	November
1945-49	100	June	61	November	100	June	52	October	3.04	May	3.64	November
1950	100	June	64	November	100	June	49	October	2.85	June	3.45	December
1951	100	June	62	November	100	June	51	October	3.50	June	4.10	December
1952	100	June	66	November	100	June	52	October	3.60	June	4.15	October
1953	100	June	67	November	100	June	52	October	3.25	June	3.60	October
1954	100	June	67	November	100	June	50	October	2.85	June	3.35	October

- Note: 1. Milk prices vary inversely with milk production, lower when production is high and higher when production is low.
2. Minnesota's milk production pattern is somewhat different than for the United States. This makes it possible to supply milk from Minnesota during seasons of the year when there is a short supply in some of the other areas.

Year	Milk Production (Farm & Non-Farm)	Farm Use				Total Non-Farm Use	Non-Farm Use				Other Whole Milk	Ice/ ¹ Cream	Butter	Misc.
		Fed to Calves	Farm Butter	Milk and Cream Consump- tion	Total : Farm Use		Milk and Cream Consump- tion	Evap. and Cond.	Dried Whole Milk	Amer- ican Cheese				
(Million Pounds)														
1930-34	105,221	2,882	11,334	13,860	:28,076	77,145	: 28,400	3,917	104	4,099	1,215	3,001	34,810	1,599
1935-39	105,924	2,794	9,694	13,840	:26,328	79,596	: 29,240	4,799	149	5,224	1,520	4,041	34,801	- 178
1940-44	117,135	3,189	7,388	13,220	:23,797	93,338	: 34,580	7,447	690	7,761	1,958	5,544	35,289	69
1945-49	117,623	3,188	6,135	12,480	:21,803	95,820	: 41,160	7,790	1,314	8,842	2,504	7,981	26,754	- 525
1950	117,302	3,286	5,160	11,500	:19,946	97,356	: 42,200	6,942	952	8,972	2,883	7,808	28,641	-1,042
1951	115,341	3,450	4,910	11,500	:19,860	95,481	: 43,300	7,006	999	8,791	2,778	8,017	24,906	- 316
1952	115,597	3,349	4,514	11,400	:19,263	96,334	: 44,200	6,849	774	8,551	3,089	8,363	24,378	130
1953	121,449	3,334	4,321	10,800	:18,455	102,994	: 45,300	6,213	794	10,243	3,104	8,520	28,871	- 49
1954	123,702	3,355	4,202	10,500	:18,057	105,645	: 46,700	6,230	700	10,270	3,180	8,370	29,640	555
1955					:		:							

¹ Includes milk sherbert and ice milk not computed prior to 1943.

Percent of the Total Milk Supply Going into Various Farm and Non-Farm Uses

1930-34	100	2.7	10.8	13.2	: 26.7	73.3	: 27.0	3.7	.1	3.9	1.2	2.8	33.1	1.5
1935-39	100	2.6	9.2	13.1	: 24.9	75.1	: 27.6	4.5	.1	4.9	1.4	3.8	32.9	-.1
1940-44	100	2.7	6.3	11.3	: 20.3	79.7	: 29.5	6.4	.6	6.6	1.7	4.7	30.1	.1
1945-49	100	2.7	5.2	10.6	: 18.5	81.5	: 35.0	6.6	1.1	7.5	2.1	6.8	22.8	-.4
1950	100	2.8	4.4	9.8	: 17.0	83.0	: 36.0	5.9	.8	7.6	2.5	6.7	24.4	-.9
1951	100	3.0	4.2	10.0	: 17.2	82.8	: 37.5	6.1	.9	7.6	2.4	6.9	21.6	-.2
1952	100	2.9	3.9	9.9	: 16.7	83.3	: 38.2	5.9	.7	7.4	2.7	7.2	21.1	.1
1953	100	2.7	3.6	8.9	: 15.2	84.8	: 37.3	5.1	.7	8.4	2.6	7.0	23.8	-.1
1954	100	2.7	3.4	8.5	: 14.6	85.4	: 37.7	5.0	.6	8.3	2.6	6.8	24.0	.4
1955					:		:							

Note: 1. A smaller volume of milk was used directly on the farm in the later years. This is largely due to a decline in farm buttermaking. Dairy products re-sold to farm people are included under non-farm uses.

2. The percent of the total supply of milk used as fluid milk and cream (on and off the farm) increased from 40 percent in 1930-34 to a high of over 48 percent in 1952. In 1953 and 1954 it was slightly over 46 percent of the total.

3. The percent of the total supply of milk used for making cheese has increased while the percent of the butterfat used in butter has materially decreased compared with earlier years.

Table K

PRODUCTION OF MANUFACTURED DAIRY PRODUCTS - U. S.

Year	Butter (Mil. lbs.)	Index of Production (1935-39 annual ave. = 100)	American	Index of Production (1935-39 annual ave. = 100)	Other	Index of Production (1935-39 annual ave. = 100)	Evaporated and Condensed Milk	Index of Production (1935-39 annual ave. = 100)	Ice	Index of Production (1935-39 annual ave. = 100)
			Cheddar Cheese (Mil. lbs.)		whole milk cheese (Mil. lbs.)		Ice Cream (Mil. lbs.)			
1935-39	1716	100.0	509	100.0	160	100.0	2225	100.0	272	100.0
1940-44	1727	100.6	769	151.1	203	126.9	2034	91.4	406.	149.3
1945-49	1297	75.6	880	172.9	261	163.1	3590	161.3	591	217.3
1950	1386	80.8	893	175.4	300	187.5	3205	144.0	556	204.4
1951	1203	70.1	873	171.5	288	180.0	3228	145.1	569	209.2
1952	1188	69.2	850	167.0	320	200.0	3164	142.2	593	218.0
1953	1412	82.3	1021	200.6	324	202.5	2878	129.3	603	221.7
1954	1449	84.4	1022	200.8	332	207.5	2979	133.9	592	217.6
1955										

- Note: 1. Production of all other manufactured dairy products, except butter, increased. This was a response to increased population and increased demand for some dairy products, like cheese and ice cream.
2. Butter production has been low in comparison with other dairy products. This is the result of a decline in the demand for butter and lower per capita consumption. The increase in butter production during 1953 and 1954 is in large part the result of milk surpluses. The surplus butterfat was made into butter.
3. The production of evaporated and condensed milk has declined from the high average annual production during 1945-49, in response to a lower demand.

	Full Skim- American Cheese	Cottage Cheese Curd	Cond. and Evap. Skimmilk	Cond. Skim Milk- Animal Feed	Non- fat Dry Milk Solids	Condensed and Dried Butter- milk	Dry Casein	Total Skimmilk Equivalents
(Million Pounds)								
1936-39	4	879	1,125	36	4,343	911	1,812	9,110
1940-44	21	1,246	1,706	50	5,980	1,169	1,213	11,385
1945-49	31	1,614	2,872	55	8,092	1,050	708	14,422
1950	28	2,018	2,210	36	9,888	1,087	662	15,929
1951	21	2,227	2,117	27	7,884	1,024	772	14,072
1952	14	2,343	2,074	23	9,774	981	267	15,476
1953	12	2,542	2,183	21	13,563	1,026	197	19,544
1954								
1955								
Percent of the Total Used for Each Product								
1936-39	.1	9.6	12.3	.4	47.7	10.0	19.9	100.0
1940-44	.2	10.9	15.0	.4	52.5	10.3	10.7	100.0
1945-49	.2	11.2	10.0	.4	56.1	7.3	7.3	100.0
1950	.2	12.7	13.9	.2	62.1	4.1	6.8	100.0
1951	.2	15.8	15.0	.2	56.0	5.5	7.3	100.0
1952	.1	15.1	13.4	.2	63.2	1.7	6.3	100.0
1953	.1	13.0	11.2	.1	69.4	1.0	5.2	100.0
1954								
1955								

- Note: 1. There has been a substantial increase in the use of skimmilk for manufacturing purposes.
2. A large proportion of the non-fat solids in milk produced on farms is still fed to livestock even though there have been substantial increases in the use of non-fat solids for human consumption in both fluid and manufactured form. Because a large proportion of the supply is still used for animal feed, any increases in demand for non-fat solids for human consumption can be met without increasing total milk production.
3. There has been a sharp decline in the proportion of the total skimmilk used for making casein.

Year	Dry Whole Milk	Malted Milk Powder	Dry Cream	Dry Skim - Human Food	Dry Skim - Animal Feed	Total Dry Skim for Human Food and Animal Feed	Dry Butter-milk	Dry Casein	Total Dry Milk Products
(Million Pounds)									
1935-39	19.5	.	.1	242.6	132.8	375.4	56.0		450.9
1940-44	89.5	33.6	.1	469.2	74.8	544.0	66.6		772.9
1945-49	173.2	36.4	.3	718.1	17.5	735.6	44.9		1,010.2
1950	125.0	30.7	.5	881.5	17.4	898.9	48.8		1,122.4
1951	131.0	33.3	1.1	702.5	14.3	716.8	45.5		949.3
1952	101.7	29.8	.9	863.2	25.3	888.5	47.1		1,075.4
1953	104.4	32.4	.7	1,213.0	20.0	1,233.0	57.1		1,433.1
Index of Production - (1935-39 Annual Average = 100)									
1935-39	100.0			100.0	100.0	100.0	100.0		100.0
1940-44	459.0			193.4	56.3	144.9	118.9		171.4
1945-49	888.2			296.0	13.2	196.0	80.2		224.0
1950	641.0			363.4	13.1	239.5	87.1		248.9
1951	671.8			289.6	10.8	190.9	81.2		210.5
1952	521.5			355.8	19.1	236.7	84.1		238.5
1953	535.4			500.0	15.1	328.4	102.0		317.8
1954									
1955									

- Note: 1. During the last several years, the production of dry milk in the United States has been from two to three times the production in pre-war years. In Minnesota, it has been about six to seven times pre-war production.
2. In the pre-war years a substantial volume of dry milk was used for animal feed. In recent years a much larger proportion of the total supply has moved into human food channels.

Year	Dry Whole Milk	Dry Whey	Dry Skim Milk - Human consump. (Spray)	Dry Skim Milk - Human consump. (Roller)	Dry Skim Milk Animal Feed	Total Dry Skimmilk Human and Animal Food	Dry Butter-milk	Dry Casein	Total Dry Milk Products
			(Thousand Pounds)	(Thousand Pounds)		(Thousand Pounds)			
1935-39	-	-	-	11,670(1)	7,341	19,011	15,844	2,941	37,796
1940-44	4,015	11,421	-	63,624(1)	3,454	67,078	28,700	4,217	115,431
1945-49	27,330	18,938	106,556	68,193	2,356	177,105	19,770	3,573	246,716
1950	15,904	23,927	123,023	37,451	2,280	162,754	18,961	3,614	225,160
1951	19,241	24,488	113,224	22,518	2,039	137,781	17,200	5,221	203,931
1952	10,459	13,107	149,368	38,311	3,706	191,385	14,274	971	230,196
1953	8,435	15,577	202,663	43,931	2,129	248,723	16,761	(2)	289,496
1954									
1955									

- (1) Total of dry skimmilk for human consumption - mostly roller process but some spray process powder included.
(2) Very limited production.

Index of Production - 1935-39 = 100 Annual Average

Year	(3)						
	Dry Skim Milk - Human consump. (Spray)	Dry Skim Milk - Human consump. (Roller)	Dry Skim Milk Animal Feed	Total Dry Skimmilk Human and Animal Food	Dry Butter-milk	Dry Casein	Total Dry Milk Products
1935-39	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1940-44	545.2	47.1	352.8	181.1	143.4	305.4	305.4
1945-49	1497.4	32.1	931.6	124.8	121.5	652.7	652.7
1950	1375.1	31.1	856.1	119.7	122.9	595.7	595.7
1951	1163.2	27.8	1377.8	108.6	177.5	539.5	539.5
1952	1608.2	50.5	1066.7	90.1	33.0	609.0	609.0
1953	2113.1	29.0	1308.3	105.8	-	765.9	765.9
1954							
1955							

- (3) Index of production for all dry skimmilk for human consumption including spray and roller process.

- Note: 1. Minnesota has become the leading state in the production of milk powder. During the last several years about 1/5 of the non-fat milk powder (dry skimmilk), 1/10 of the whole milk powder and nearly 1/3 of the buttermilk powder produced in the United States was produced in Minnesota.
2. The large increase in the production of dry milk in Minnesota reflects the great shift from the sale of cream from farms to the sale of wholemilk.
3. The proportion of milk powder produced by the "spray process" has increased greatly over a period of years. "Spray process" powder has a market price advantage over "roller process" powder because it is more easily reconstituted. In recent years, the improvement in spray process equipment has speeded up the shift. The demand for "instant" powder is a further encouragement to the use of the spray process.

FOREIGN TRADE IN DAIRY PRODUCTS (1)
RELATED TO TOTAL PRODUCTION - U. S.
(Million Pounds)

	Exp. (2)	Imp.	Net Import	Net Export	Total U. S. Prod.	Percent Net Exports were of U.S. Production	Percent Net Imports were of U.S. Production
<u>Butter</u>							
1935-39	1.4	9.3	-	7.9	1716	-	.46
1940-44	38.9	6.0	32.9	-	1727	1.91	-
1945-49	15.6	3.0	12.6	-	1297	.97	-
1950	26.3	--	26.3	-	1386	1.90	-
1951	21.9	.1	21.8	-	1203	1.81	-
1952	.9	.5	.4	-	1188	-	-
1953	24.6	.1	24.5	-	1412	1.74	-
<u>Cheese</u>							
1935-39	1.3	56.6	-	55.3	669	-	8.27
1940-44	173.1	22.2	150.9	-	972	15.52	-
1945-49	156.2	18.7	137.5	-	1141	12.05	-
1950	54.6	56.2	-	1.6	1193	-	.13
1951	81.0	52.3	28.7	-	1161	2.47	-
1952	3.8	49.2	-	45.4	1170	-	3.88
1953	20.1	56.2	-	36.1	1345	-	2.68
<u>Cond. and Evaporated Milk</u>							
1935-39	30.6	-	30.6	-	2225	1.38	-
1940-44	496.2	-	496.2	-	2034	24.40	-
1945-49	649.9	-	649.9	-	3590	18.10	-
1950	178.0	-	178.0	-	3205	5.55	-
1951	232.3	-	232.3	-	3228	7.20	-
1952	126.7	--	216.7	-	3164	4.00	-
1953	152.3	-	152.3	-	2878	5.29	-
<u>Dried Whole Milk</u>							
1935-39	3.1	1.7	1.4	-	19.5	7.18	-
1940-44	24.5	-	24.5	-	89.5	27.37	-
1945-49	100.1	-	100.1	-	173.2	57.79	-
1950	62.6	-	62.6	-	125.0	50.08	-
1951	59.5	9.0	50.5	-	131.0	38.55	-
1952	42.3	37.4	4.9	-	102.0	4.8	-
1953	46.1	5.9	40.2	-	106.0(3)	37.9	-
<u>Dried Skim Milk</u>							
1935-39	2.7	4.5	-	1.8	375.4	-	.48
1940-44	129.5	-	129.5	-	544.2	23.80	-
1945-49	237.6	1.7	235.9	-	735.6	32.07	-
1950	331.1	2.5	328.6	-	898.9	36.56	-
1951	224.1	1.0	223.1	-	716.8	31.12	-
1952	59.5	.6	58.9	-	885.3	6.65	-
1953	182.5	.4	182.1	-	1233.0	14.77	-

(1) 1954 data not available.

(2) Includes donations and deliveries under special export programs.

(3) Includes 2 million pounds part-skim dry milk solids.

- Note: 1. During the period of 1935-39, the United States had net imports of butter, cheese and dried skimmilk. However, the net imports of butter and dried skimmilk were insignificant.
2. The only net imports of any significance for any dairy product since the 1935-39 period occurred in 1952 and '53 when imports of cheese exceeded exports by about 40 million pounds.
3. The net exports of condensed and evaporated milk, dried wholemilk and dried skimmilk are significant in terms of U. S. total production. Exports are especially important for the dried milk industry.

Year	(Milk equiv.) All Products	Fluid Milk & Cream (Milk equiv.)	Manufactured Products (Milk equiv.)	Non-fat Dry Milk Solids	Evaporated and Condensed Milk	Cheese	Ice Cream	All Butter	Lard	Shortening (Fat content)	Margarine (Actual weight)	Other Food Products (Fat Content)	Total Fats and Oils (1)
						(pounds)							
1935-39	791	330	461	1.9	16.5	5.5	9.8	16.8	10.9	11.6	2.8	6.4	44.7
1940-44	782	354	328	2.9	17.9	5.5		14.3	13.1	9.3	3.1	7.3	43.7
1945-49	750	373	377	2.9	19.1	6.8	18.7	10.5	12.0	9.5	4.9	6.8	40.7
1950	731	349	382	3.6	19.8	7.6	17.0	10.6	12.4	10.9	6.0	8.5	45.2
1951	707	352	355	4.2	18.0	7.1	17.1	9.5	12.1	8.9	6.5	7.6	41.6
1952	694	352	342	4.6	17.4	7.5	17.6	8.6	11.7	10.0	7.8	8.6	43.6
1953	688	350	338	4.1	17.2	7.4	17.7	8.5	11.3	10.1	7.9	8.9	43.6
1954	700	352	348	4.0	16.4	7.7	17.0	9.0	10.3	11.6	8.4	9.4	45.3
1955 (2)								9.3	10.9	10.6	8.3	9.2	44.9

(1) Includes only the fat content of butter and margarine.

(2) Estimates

Index of Consumption - 1935-39 Annual Average = 100													
1935-39	100	100	100	100	100	100	100	100	100	100	100	100	100
1940-44	99	107	71	152	109	100	-	85	120	80	111	114	98
1945-49	95	113	82	152	116	124	191	63	110	82	175	106	91
1950	92	106	83	189	120	138	174	63	114	94	214	133	101
1951	89	107	77	221	109	129	175	57	111	77	232	119	93
1952	88	107	74	242	106	136	180	51	107	86	279	134	98
1953	87	106	73	216	104	135	181	51	104	87	282	139	98
1954	89	107	75	211	99	140	174	54	95	100	300	147	101
1955								55	100	91	296	144	100

Note: 1. Per capita consumption of milk (wholemilk equivalents - butterfat basis) has been on a somewhat lower level in recent years compared with the earlier periods. However, this takes into account only the butterfat in milk. A much larger percentage of the total non-fat solids are now used as human foods so that the total nutrients consumed per capita through milk are probably more than in earlier periods. A larger volume of non-fat solids is being consumed in fluid milk and cream, evaporated and condensed milk, dry milk, cheese and ice cream.

2. There has been an almost continuous increase in the per capita consumption of cheese.

3. Ice cream consumption is greatly affected by purchasing power. When purchasing power is high, ice cream consumption is high.

4. There has been a continuous decline in butter consumption since the pre-war days to the all time low of 8.5 pounds per capita in 1953. There has been a slight increase since 1953.

Year	Total Milk Fat (B.F.) (lb.)	Total Non-fat Solids (lb.)	Total Milk Solids (lb.)
1925-29	31.3	37.7	69.0
1935-39	31.2	39.6	70.8
1945-49	29.9	47.8	77.7
1950	29.0	46.5	75.5
1951	28.0	46.7	74.7
1952	27.3	47.6	74.9
1953	26.9	46.9	73.8
1954	27.3	46.9	74.2
1955			

Index of Per Capita Consumption 1935-39 - 100

1925-29	100	95	98
1935-39	100	100	100
1945-49	96	121	110
1950	93	117	107
1951	90	118	106
1952	88	120	106
1953	86	118	104
1954	88	118	105
1955			

- Note: 1. There has been an almost continuous decline in per capita consumption of milk fat since the earlier years. The decline in per capita consumption of total milk fat has been considerably less than the decline in consumption of butter. The decline of milk fat consumption in butter was partly offset by increased consumption of milk fat in other dairy products such as wholemilk, cheese and ice cream.
2. There was a rapid upswing in the per capita consumption of non-fat milk solids until it reached the peak of 50.3 pounds in 1946. It dropped sharply during the next few years, and since the early 50's has been very close to the 47 pound mark.
3. The consumption of total milk solids (fat and non-fat) is considerably higher than in the earlier periods, lower than in the immediate post war period, and has changed very little during the last several years.

	Consumption - wholemilk equivalent	Pounds of milk fat consumed (From Table Q)	Remainder - Available Skimmilk	Skimmilk required for human consumption of N.F.S. (From Table Q)	Remainder - Available for feed or other purposes	
Pounds per Capita						
1925-29	798.0	31.3	766.7	414.7	352.0	
1935-39	791.0	31.2	759.8	435.6	324.2	
1945-49	750.0	29.9	720.1	525.8	194.3	
1950	731.0	29.0	702.0	511.5	190.5	
1951	707.0	28.0	679.0	513.7	165.3	
1952	694.0	27.3	666.7	523.6	143.1	
1953	688.0	26.9	661.1	515.9	145.2	
1954	700.0	27.3	672.7	515.9	156.8	
						Ratio of total supply of skimmilk to volume used for human consumption
				<u>Percent skimmilk to each use:</u>		
1925-29			100	54	46	1.85
1935-39			100	57	43	1.74
1945-49			100	73	27	1.37
1950			100	73	27	1.37
1951			100	76	24	1.32
1952			100	79	21	1.27
1953			100	78	22	1.28
1954			100	77	23	1.30

- Note: 1. As a result of the decline in butter consumption, less milk production is now required per capita than in earlier years. This in turn has reduced the per capita supply of skimmilk.
2. More non-fat solids are consumed per capita for every pound of milk fat than in earlier years because of increases in consumption of wholemilk, cheese and ice cream.
3. In the earlier years there were 75 pounds or more of skimmilk available for other purposes for every 100 pounds used for human consumption (all forms). Because of the trends mentioned under 1 and 2, this is now about 30 pounds. Human consumption of non-fat solids could be increased by 30% from the "backlog" of skimmilk which is now used for other purposes, before any increase in production would be required.

Year	<u>Per Capita Consumption</u>			Ratio of margarine for each pound of butter consumed	<u>Retail Prices</u>		Ratio of price of butter to price of margarine
	Butter	Margarine (pounds)	Butter and Margarine		Butter (cents per pound)	Margarine	
1935-39	16.8	2.8	19.6	.17	35.0	18.1	1.9
1940-44	14.3	3.1	17.4	.22	45.4	20.6	2.2
1945-49	10.5	4.9	15.4	.47	70.4	33.1	2.1
1950	10.6	6.0	16.6	.57	71.3	30.8	2.3
1951	9.5	6.5	16.0	.68	79.8	34.7	2.3
1952	8.6	7.8	16.4	.91	83.6	29.4	2.8
1953	8.5 (1)	7.9	16.4	.93	79.0	29.4	2.7
1954	9.0 (1)	8.4	17.4	.93	72.4	29.9	2.4
1955							

(1) When domestic donations are excluded, the totals in 1953 and 1954 were 8.2 and 8.4 pounds respectively.

- Note: 1. The total per capita consumption of butter and margarine has remained fairly constant but the proportion of margarine has increased steadily. The consumption of butter and margarine is now nearly equal.
2. For a long period of years the ratio of butter prices to margarine prices was very close to 2 to 1. In the early 50's the ratio started rising, and reached an all time high in 1952. When the ratio was at an all time high in 1952 and 1953 butter consumption dropped to an all time low. There was a substantial drop in the price ratio from 1953 to 1954 and a resulting slight increase in butter consumption.

Year	Animal Fat	Vegetable Oils				Total of All Fats and Oils
		Foreign (mostly coconut)	Cotton-seed (Percent)	Soybean	Other	
1925-29	34.1	52.9	11.1	-	1.8	100.0
1930-34	17.2	68.4	12.3	0.2	1.8	100.0
1935-39	7.2	39.0	41.0	11.4	1.4	100.0
1940-44	8.7	5.0	47.8	35.7	2.8	100.0
1945-49	2.0	1.5	55.0	38.7	2.8	100.0
1950	1.6	-	56.3	40.1	2.0	100.0
1951	1.3	-	39.1	55.5	4.1	100.0
1952	1.1	-	33.8	62.2	2.9	100.0
1953	2.0	-	26.2	69.2	2.6	100.0
1954	1.5	-	35.9	60.1	2.5	100.0

- Note: 1. All of the fat and oil now used in margarine comes from domestic sources and 98 percent comes from vegetable oils.
2. Margarine did not contain any soybean oil in the early period of 1925-29. In 1954, over sixty percent of the total ingredients in margarine was soybean oil. For this reason the mid-west states have become the main sources of supply for the production of margarine.

Table U

SOYBEAN PRODUCTION - U. S. AND MINNESOTA

Year	U. S.	Minnesota	Percent		Index of Production (1945-49 = 100)	
			Minnesota of U. S. Total (Percent)	U. S.	Minnesota	
1935-39	56.1	.2	.4	27	2	
1940-44	151.0	2.6	1.7	72	21	
1945-49	208.9	12.3	5.9	100	100	
1950	299.3	17.8	5.9	143	145	
1951	282.5	18.8	6.7	135	153	
1952	298.1	21.9	7.4	143	178	
1953	268.5	27.7	10.3	129	225	
1954	342.8	42.3	12.3	164	344	

- Note: 1. There has been a substantial increase in the production of soybeans in the United States, so that 64 percent more were produced in 1954 compared with annual production during 1945-49. However, during the same period Minnesota had an increase of 243 percent.
2. In 1954 Minnesota produced over 12 percent of the nation's total supply of soybeans.
3. A large percentage of the oil from soybeans is used in food products. Because of the increase in soybean production in the state, Minnesota now moves a large volume of soybean oil into food channels, and especially into margarine and cooking compounds.

Year	United States			Ratio of Soybean Oil to Milk Fat	Minnesota			Ratio of Soybean Oil to Milk Fat
	Milk Produc- tion	Milk Fat Produc- tion (3.7% fat) (million pounds)	Soybean oil pro- duction		Milk Produc- tion	Milk Fat Produc- tion (3.6% fat) (million pounds)	Soybean oil pro- duction	
1935-39	105,924	3919	561	.15	7822	282	2	.07
1940-44	117,135	4334	1510	.35	8685	313	26	.08
1945-49	117,623	4352	2089	.48	8402	302	123	.41
1950	117,302	4340	2993	.69	8067	290	178	.61
1951	115,341	4268	2825	.66	7942	286	188	.66
1952	115,597	4277	2981	.70	8088	291	219	.75
1953	121,449	4494	2685	.60	8590	309	277	.90
1954	123,702	4577	3428	.75	8615	310	423	1.36

- Note: 1. The average milk fat (butterfat) tests were used in calculating the total production of milk fat, namely 3.7% for the U. S. and 3.6% for Minnesota. The average yield of 10 pound of oil per bushel of beans was used in calculating total production of soybean oil.
2. During 1935-39 about 1 1/2 pounds of soybean oil was produced in the United States for each 10 pounds of milk fat. In 1954 it was 7 1/2 pounds of soybean oil for each 10 pounds of milk fat.
3. During 1935-39 less than 1 pound of soybean oil was produced in Minnesota for each 10 pounds of milk fat. In 1954 it was over 13 1/2 pounds of soybean oil for each 10 pounds of milk fat.

Year	Wholemilk sold to condenseries	Butterfat sold in cream	Butter 92 score	Cheese- Twins or Cheddars	Evaporated Milk	Dry Whole Milk	Chicago Area			Dry Skimmilk - Human Food	Dry Skim- milk - Animal Feed	Dry Butter- milk
	(Dollars per cwt. paid to farmers for 3.5% milk)	(¢ per lb. to farmers)	Chicago wholesale price- (¢ per lb.)	Wisconsin Exchange Price (¢ per lb.)	Dollars per case of 48 -14½ oz. cans	(¢ per lb.)	(¢ per lb.)	(¢ per lb.)	(¢ per lb.)	(¢ per lb.)	(¢ per lb.)	(¢ per lb.)
1935-39	1.39	28.8	29.3	14.2	2.88	16.5	-	-	6.9	5.1	5.3	
1940-44	2.11	40.4	39.2	20.3	3.62	26.2	-	-	11.4	7.2	8.8	
1945-49	3.23	65.6	62.2	33.0	5.19	41.2	14.3	13.2	13.3	9.1	10.8	
1950	2.87	62.0	61.7	30.8	5.23	37.5	12.4	10.9	11.9	8.7	10.0	
1951	3.53	71.1	69.2	37.5	6.12	44.2	15.0	14.0	14.4	10.6	11.7	
1952	3.74	74.9	72.2	38.7	6.35	44.8	16.7	14.8	16.3	12.3	13.1	
1953	3.11	65.8	65.9	35.7	5.92	41.5	15.3	13.1	15.2	9.6	11.3	
1954	2.80	58.5	59.3	32.2	5.56	39.3	15.4	14.3	15.0	9.4	11.3	
1955												

Index of Prices - 1935-39 Average = 100

1935-39	100	100	100	100	100	100			100	100	100
1940-44	152	140	134	143	126	159			165	141	166
1945-49	232	228	212	232	180	250			193	178	204
1950	206	215	211	217	182	227			172	171	189
1951	254	247	236	264	212	268			209	208	221
1952	269	260	246	273	220	272			236	241	247
1953	224	228	225	251	206	252			220	188	213
1954	201	203	202	227	193	238			217	184	213
1955											

- Note: 1. There was a large increase in the average prices of dairy products during the period of short supplies of milk and general inflation. Since then prices have declined because of increased production, competition from fat substitutes and a considerable reduction in the foreign outlets for non-fat milk solids.
2. Price increases as well as price decreases have varied greatly between dairy products. The price relationship between dairy products has an important bearing on how the supply of milk is used. The retail price of individual dairy products is also an important determiner of how much of that product consumers will take off the market.

Month	<u>Butter</u>			<u>American Cheese</u>			<u>Non-fat Dry Milk</u>		
	1953	1954	1955	1953	1954	1955	1953	1954	1955
	(000 pounds)			(000 pounds)			(000 pounds)		
January	36,218	28,373	7,506	8,972	22,669	7,621	29,616	52,810	26,734
February	38,567	34,001	9,490	17,948	33,223	11,281	42,675	55,342	46,171
March	52,498	81,047(1)	17,261	45,560	94,948(1)	10,193	86,634	129,214	37,099
April	25,156	14,826	19,124	27,123	9,818	7,707	46,215	41,554	67,964
May	42,256	44,136	30,660	35,105	21,852	13,938	74,272	75,555	114,766
June	66,805	65,576		40,828	33,421		84,440	97,620	
July	50,189	35,173		42,501	22,772		67,374	63,935	
August	27,068	13,132		30,273	16,799		47,262	45,396	
September	4,922	3,077		24,072	12,686		34,840	51,405	
October	964	107		7,287	3,981		20,412	13,991	
November	3,244	389		4,470	1,632		17,106	10,499	
December	11,024	-		6,904	1,285		36,584	13,243	
Total C.C.C. Purchases	358,909	319,838		291,043	275,086		587,431	650,565	
Total production during the year	1,412,000	1,449,000		1,021,000	1,022,000		1,233,000	1,320,000	
Percent of annual production purchased by C.C.C.	25.4	22.1		28.5	26.9		47.6	49.3	

(1) Excludes 5,137,000 pounds of butter and 83,083,000 pounds of cheese purchased in March for resale in April.

- Note: 1. It was necessary for C.C.C. to purchase about 1/4 of the total production of butter and cheese, and nearly 1/2 of the non-fat powder in both 1953 and 1954, as a means of supporting prices, within the framework of dairy support legislation established by Congress.
2. Somewhat less butter and cheese, and somewhat more non-fat powder was purchased by C.C.C. in 1954 than in 1953.
3. The purchases of all three dairy support items were considerably larger during the first half of the year, when milk production is seasonally higher, than during the last half of the year.

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