

DAIRY OUTLOOK - 1992¹

Producer milk prices will average somewhat higher -- plus 50 cents per cwt. -- in 1992 as compared to 1991. I'll try to advance some of the economic evidence supporting that forecast in these next few minutes and also get into a couple of little sermons on surplus milk and fluid milk standards.

First we need to address the recent (January 17, 1992) announcement reducing milkfat values and increasing SNF values. In the extension meetings I have been going to, I am telling dairy farmers to expect butterfat differentials in the 8.5-9.0 cent range in 1992, and I've been telling processors to examine their out of plant prices on whole milk versus lowfat and skim. Raw product costs on lowfat-skim will rise significantly and the costs on whole milk and cream items will decrease. It's remarkable how recently we had 17 cent butterfat differentials, and now they have dropped by 50 percent.

A quick reminder of the action that USDA implemented on January 17 is noted as follows:

Support Price:	<u>Before 1/17</u>		<u>After 1/17</u>
	\$10.10 (3.67% BF)	→	\$10.10 (3.67% BF)
	\$ 9.90 (3.5% BF)	→	\$ 9.94 (3.5% BF)

CCC Purchase Prices:			
Butter	98¼¢	→	87¼¢/lb.
NFDM	85 ¢	→	91.2¢/lb.
Cheese	\$1.11	→	\$1.11 3/8/lb.

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¹ Robert E. Jacobson, Professor, Agricultural Economics, The Ohio State University presented at the Seventeenth Southern Dairy Conference, Atlanta, Georgia, February 11-12, 1992.

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The expectation that Grade A butter prices at the Chicago Mercantile Exchange will hover close to the CCC purchase price for butter means less than 9 cent butterfat differentials and enhanced skim milk values. This also raises substantially the importance of implementing component pricing in the Federal order program. At present, only two orders -- Great Basin and Middle Atlantic -- are testing and pricing components. Three orders -- Ohio Valley, Indiana, and Eastern Ohio -- Western Pennsylvania -- have held a public hearing and expect to implement component pricing in 1992. The other thirty-five Federal orders have not yet come to grips with the issue. This unfortunately is true here in the South where I recognize that the same incentives to adopt component pricing do not exist because of the relatively high Class I utilizations in the markets.

Now let us go for a moment to some conventional outlook information. Table 1 reflects a supply-demand-surplus view of the U.S. milk industry including 1992 forecasts.

TABLE 1. MILK PRODUCTION, DEMAND, AND SURPLUS,
UNITED STATES, 1985-1992

	<u>U.S. Milk Production</u>	<u>Commercial Demand</u>	<u>CCC Purchases (Milkfat Basis)</u>
1985	143.1 Bil. Lbs.	130.6 Bil. Lbs.	13.3 Bil. Lbs.
1986	143.4	133.3	10.8
1987	142.5	135.6	6.8
1988	145.2	136.8	9.1
1989	144.3	135.4	9.4
1990	148.3	138.9	9.0
1991	148.5	139.2	10.5
1992f	150.5	142.0	8.0

f = forecast; the Leap Year day in 1992 adds about 0.4 billion pounds to production and demand as compared to a 365 day year.

The production forecast for 1992 reflects fairly conventional projections of an assumed 1 percent decline in cow numbers and a 2.3 percent increase in production per cow.

At this point, I'd like to go off on a little tangent and talk about surplus milk. The problem relates to the fact that surplus milk is reported on a milkfat equivalent basis, but price support decisions covering surplus milk are computed on a total solids basis. If you re-call the dairy provisions of the 1990 Farm Act, you will remember that anytime the surplus for the coming year was expected to exceed 7.0 billion pounds m.e. total solids, dairy farmers were to be assessed for the cost of that surplus in excess of 7.0 billion pounds.

The USDA and the industry, in the daily, weekly, and monthly reports have continued to measure milk products on a milkfat equivalent basis, not a total solids basis. It is only ASCS-USDA, in making price support decisions, that uses the total solids measurement. So there is some confusion.

In 1991, CCC purchases of dairy product were recorded as follows:

Butter	443 Mil. Lbs.
Cheese	82 Mil. Lbs.
Nonfat Dry Milk	268 Mil. Lbs.

Purchases for 1992 are projected to be close to the 1991 levels.

Under the "old" milkfat equivalent basis for measuring surplus, the 1991 surplus would have added up as follows:

$$\begin{aligned}
& 443 \text{ Mil. Lb. Butter (21.8 lbs. m.e.)} + 82 \text{ Mil. Lbs. Cheese (9.23 Lbs. m.e.)} + \\
& 268 \text{ Mil. Lbs. NFDM (0.22 lbs. m.e.)} \\
& = 10.5 \text{ Bil. Lbs. Surplus Milkfat Equivalent}
\end{aligned}$$

Under the "new" total solids measurement approach, where milkfat by decree cannot account for over 40 percent of the total surplus, the 1991 surplus (and projected 1992 surplus) is about 4 billion pounds less surplus milk. The new approach measures the 1991 surplus as follows:

$$\begin{aligned}
& 443 \text{ Mil. Lbs. Butter (8.792 lbs. total solids equivalent)} + 82 \\
& \text{Mil. Lbs. Cheese (9.632 lbs. T.S.E.)} + 268 \text{ Mil. Lbs. (7.036 lbs.} \\
& \text{T.S.E.)} \\
& = 6.6 \text{ Bil. Lbs. Surplus T.S.E.}
\end{aligned}$$

The 40 percent limit on milkfat is crucial in computing the new milk equivalent factors. The procedure attempts to resolve the problem of having a surplus of milkfat even while the supply of milk may be in balance or may be short.

When I was here a year ago, the question was advanced -- How long will it take for low milk prices to mean reduced milk production? The answer has been recorded -- not very long. Note the following monthly production changes for the U.S., Wisconsin, and California (Wisconsin and California produce about 30 percent of the milk in the United States).

TABLE 2. MILK PRODUCTION BY MONTHS, 1991

	<u>Percent Change From Same Month in 1990</u>		
	<u>U.S.</u>	<u>Wisconsin</u>	<u>California</u>
JAN, 1991	+2.6 Pct.	+2 Pct.	+6 Pct.
FEB	2.3	1	7
MAR	1.0	0	4
APR	0.8	0	2
MAY	-0.2	-1	2
JUN	-1.4	-3	2
JUL	-2.0	-3	1
AUG	-1.5	-3	2
SEP	-0.5	-2	1
OCT	-0.3	-1	1
NOV	-1.0	-2	1
DEC	-0.8	-2	2
	148.5 Bil. Lbs. (+0.2%)		
JAN, 1992	+0.2	-2	1

The slide in milk production has extended into this winter. One reason milk prices have shown weakness recently in the face of reduced supply is the continuing softness in the recession related demand. As for 1991, it is useful to note that the volume of production increases in the first one-third of the year exceeded the production decreases in the last two-thirds of the year, giving us an all-time record milk production in 1991. Notice also the minuses for Wisconsin are pretty well correlated with the U.S. situation; meanwhile California continues to show more milk and is not that far away from moving past Wisconsin in milk production.

On the supply side, a short view of milk cow numbers and production per cow is in order.

	<u>Milk Cow Numbers, U.S.</u>	<u>Production Per Cow, U.S.</u>
1990	10,127,000 cows	14,642 lbs.
1991p	9,990,000	14,868
1992f	9,890,000	15,215

p=preliminary; f=forecast; no bST effect in 1992.

The 1991 reduction in cow numbers of 1.3 percent was a lesser decrease than had been anticipated; the 1.5 percent increase in production per cow was less than normal, but it was more than looked to be the case in mid-1991. Now the different factors including milk prices, feed costs, and beef prices support the 1992 projections I have presented.

The January, 1992 milk-feed price ratio stands at 1.52, a substantial improvement over this time a year ago. Feed costs have not changed, but milk prices are about \$2.00 per cwt. higher. We know that milk prices will decrease as we move toward the flush, but the milk-feed price ratio in 1992 will not hit the low points of 1991.

Cull dairy cows averaged \$51.50 per cwt. in 1991, very close to the annual average prices we have seen since 1988. Beef prices at this level offer no particular incentive or disincentive to call. Milk prices would have to drop substantially against that price in order to change that decision mode. Projected beef prices for 1992 indicate a slight decrease, possibly averaging \$49 per cwt.

Replacement heifers are holding to slightly higher on the January 1992 cattle count, with about 42 heifers per 100 milk cows -- a strong replacement situation. Milk cow prices for milking purposes averaged \$1,100 in 1992, down slightly from 1991, but a reflection of continuing commitment to the dairy enterprise.

Demand: As the data back in Table 1 indicated, aggregate commercial demand in 1991 was very soft, increasing by only 0.2 percent over 1990. With population up by 1.0 percent in 1991, per capita consumption showed a decrease. The income and unemployment factors associated with recession are generally blamed for the weak demand situation. The 2.0

percent increase in demand to 142.0 billion pounds projected for 1992 makes the key assumption that the recession is behind us and the economy is on the rebound.

**TABLE 3. PER CAPITA CONSUMPTION OF MILK
AND DAIRY PRODUCTS, U.S., 1970-1992
(MILKFAT EQUIVALENT BASIS)**

<u>Year</u>	<u>Commercial Sources</u>	<u>All Sources</u>
1970	511 Lbs.	561 Lbs.
1975	506	540
1980	508	544
1985	540	594
1986	548	594
1987	554	597
1988	559	581
1989	545	566
1990	553	570
1991 Prd.	550	565
1992 Forecast	560	575

Table 3 reflects a plateau in per capita consumption in the 1987-1992 period. The increases in per capita consumption prior to 1987 are often associated with the 15 cent promotion assessment that went into effect May 1, 1984.

I would like to digress on the demand side and (1) take a closer look at fluid milk demand, and (2) raise some questions about the issue of higher SNF standards for fluid milk products. Fluid milk is the number one product user of milk in their county, taking nearly 40 percent of the supply, and we need to know what changes are occurring in that market. Table 4 reflects the changes in demand for different types of beverage milk in the 1980-1990 period. The data in Table 4 are Federal order data and therefore account for about 80 percent of the fluid milk consumption in the United States.

TABLE 4. FLUID MILK DEMAND, UNITED STATES, 1980 AND 1990

<u>Product</u>	<u>1980</u>		<u>1990</u>		
	40.9 Bil. Lbs.		43.8 Bil. Lbs.		
Whole Milk	58.6 pct.		38.0 pct.		
Flavored Whole	2.0		1.5		
2% Plain	19.0	}	33.2	}	44.4%
2% Fortified	4.6		3.1		
		}		}	
		30.0%			
1% Plain	4.5		7.0		
1% Fortified	1.9		1.1		
Skim Plain	3.0	}	8.4	}	10.4%
		}		}	
		4.7%			
Skim Fortified	1.7		2.0		
Flav. Lowfat/Skim	2.8		3.4		
Buttermilk	<u>1.7</u>		<u>1.6</u>		
	100 Pct.		100 Pct.		

Here are the points from Table 4 that I believe are worth noting.

1. Fluid milk sales increased by 7.1 percent or almost 3 billion pounds from 1980 to 1990.
2. Whole milk (3.25% BF) sales declined from 58.6 percent of the fluid milk market to 38.0 percent of the fluid milk market over the ten year period.
3. Lowfat (2% and 1%) sales increased their share of the fluid milk market from 30 percent to 44.4 percent.
4. Skim milk sales more than doubled to over 10 percent of the market in 1990.
5. In every case, 2 percent, 1 percent, and skimmilk, the proportions of each beverage that were fortified with additional solids-not-fat, dropped substantially.

Everyone has their own reasons for why these trends in the fluid milk market are in place. But I want to go beyond that and relate this situation to the thorny issue of

legislating higher SNF minimum standards for beverage milk. This was an acrimonious national debate in October, 1991, and the issue has not gone away. As we know, when FDA adopted standards of identity for fluid milk products in 1975, they went with 8.25 percent minimum SNF standards for whole milk, lowfat milk, and skim milk. The push for California type standards last fall would have pushed these minimums to something like the following:

<u>Product</u>	<u>Minimum SNF Test</u>
Wholemilk	8.7 pct.
Lowfat 2%	10.0
Lowfat 1%	11.0
Skim milk	9.0

The fortification across these products would require a lot of SNF, estimates running from 300 million pounds to 500 million pounds annually. The arguments for such fortification are all there -- standardized production, nutrition, taste, no surplus nonfat dry milk, opening the door for component pricing on Class I milk, etc. But we need to be alert to some of the trade-offs. Consider what has happened to our nonfat dry milk industry over the years.

**TABLE 5. NONFAT DRY MILK PRODUCTION AND
CCC PURCHASES OF NFDM, U.S., 1965-1991**

	<u>NFDM Production</u>	<u>CCC Purchases of NFDM</u>
1965	1,993 Mil. Lbs.	1,102 Mil. Lbs.
1970	1,443	452
1975	994	395
1980	1,161	634
1985	1,390	941
1990	875	118
1991	875 est.	268

Two or three things stand out in Table 3 as we consider the SNF Fortification issue. First, nonfat dry milk production recently has dropped to less than half what it was a generation ago. The why to that is that huge quantities of milk protein are going to cheese today that once went into surplus powder. As a result, CCC purchases of nonfat dry milk in these early 1990's are only a fraction of what they once were. My point in bringing these items to the front burner is that if a higher SNF requirement for fluid milk was mandated, the turbulence on the SNF side of the milk market could be massive. We got a taste of that in late 1989 when SNF shortened up in the world market, powder prices moved above the \$1.50 per pound level, and the M-W price shot up to \$14.93. A dairy farmer can ask what's wrong with that, but I don't believe that the industry could manage that on a continuing basis. At a minimum, I would suppose that Section 22 import quotas on powdered milk and possibly other dairy products would be opened up. Particularly on the producer side, let us not move too hastily with the idea that higher SNF standards for fluid milk can only bring good things.

Price: How do we put these supply and demand factors together? Let me back up a minute and give us some appreciation for why dairy farmers are disappointed about the market situation. Table 6 reports average producer milk prices in the United States for the past eleven years. The first price, 1981, was the record milk price paid in the U.S. -- back in those good old days of 80 percent of parity.

TABLE 6. U.S. AVERAGE MILK PRICES, ANNUAL, 1981-1991

<u>Year</u>	<u>Price Per Cwt.</u>
1981	\$13.77 (record)
1982	13.61
1983	13.58
1984	13.46
1985	12.75
1986	12.51
1987	12.54
1988	12.26
1989	13.56
1990	13.73
1991	12.24

The \$12.24 price in 1991 is the lowest since 1978, and it reflects an 11 percent decrease from 1990. By the way the 5 cent assessment in 1991 for budget deficit reduction purposes is refundable to those producers who produce less milk in 1991 than in 1990. In Ohio, it appears that slightly over 50 percent of the dairy farmers are eligible for the refund. Note too that the assessment jumped to 11¼ cents on January 1, 1992, and it will probably go up to about 13 cents on May 1.

In the early to mid-1980's, the quantity of surplus milk in the U.S. pushed everybody in the direction of "market orientation" or surplus cutting programs such as diversion in 1984-1985 and whole herd buyout in 1986-1987. But the market orientation has prevailed over time. Three pieces of price support legislation -- the Dairy and Tobacco Act of 1983, the 1985 Farm Act, and the 1990 Farm Act have drawn the support price down from \$13.10 per cwt. to \$10.10 per cwt. Now we have market orientation, with the support price significantly below the cost of producing milk. The accompanying price volatility is changing some peoples' minds about the merits of market orientation.

The Dairy Title of the 1990 Farm Act gives us a pretty good price window through 1995. Producer prices will move up and down in the kind of price range we have seen in the last couple of years. The safety net of \$10.10/\$9.94 for milk used for manufacturing will mean all-milk prices moving basically in the \$11.50 to \$14.50 range.

The past year gives us a reasonable sense of the price movements we will continue to see. Table 7 reports the essential safety net levels in the two right hand columns and then gives us a sense of how the Minnesota-Wisconsin price moves off of the cheese price in the two left hand columns.

TABLE 7. CHEESE PRICE, MILK PRICE, SUPPORT PRICE, BY MONTHS, 1991

<u>Month</u>	<u>Cheddar Green Bay, 40# Blocks</u>	<u>M-W Price 3.5 Pct. BF</u>	<u>CCC Cheese Price</u>	<u>Milk Support Price, 3.5</u>
JAN, 1991	\$1.087/lb.	\$10.16/cwt.	\$1.11/lb.	\$9.90/cwt.
FEB	1.087	10.04	1.11	9.90
MAR	1.087	10.02	1.11	9.90
APR	1.087	10.04	1.11	9.90
MAY	1.119	10.23	1.11	9.90
JUN	1.179	10.58	1.11	9.90
JUL	1.246	10.99	1.11	9.90
AUG	1.310	11.50	1.11	9.90
SEP	1.343	12.02	1.11	9.90
OCT	1.351	12.50	1.11	9.90
NOV	1.313	12.48	1.11	9.90
DEC	1.267	12.10	1.11	9.90
JAN 17, 1992	1.225	\$11.71	\$1.11 3/8/lb.	\$9.94/cwt.

Cheese prices were down, moved up, and are now down again as they move toward the \$1.15 mark here in February. The continuing tightness of milk supplies in Wisconsin and the relatively strong demand for milk protein/SNF suggest that cheese prices will stay above CCC purchase price levels. Stocks of dairy products, except butter, are down from a year ago. Milk production may rebound somewhat through 1992, but as demand comes back more strongly, stocks of cheese and nonfat dry milk are brought back to normal levels, and plants continue to compete strongly for milk, in the upper Midwest and elsewhere, there is a strength in the milk price that was not there in the earlier months of 1991.

How does one put all of this together? Let us focus in on the Minnesota-Wisconsin price. In 1989, the M-W averaged \$12.37; in 1990 the M-W average \$12.21; in 1991 the M-W averaged \$11.05.

The M-W has dropped from its recent October, 1991 peak of \$12.50 to \$11.71 at present. It will drop further as it follows the cheese price which is already down the equivalent of almost \$2.00 per cwt. But my view is that the M-W will bottom out at just under \$11.00 this spring -- almost a dollar higher than last year -- and will average \$11.60 for the year.*

If these kinds of observations hold, and maybe they will, producer milk prices will be up by 5 percent or 55-60 cents per cwt. in 1992 as compared to 1991.

*Assumes that the January, 1992 M-W price of \$11.71 was accurate and not 20 cents too high as has been rumored.