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Current Information Series No. 862

OCT 27 1989

UNIVERSITY OF IDAHO

Dairy Producers' and Processors' Attitudes Toward Dairy Policy and Bovine Somatotropin

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Background

Increasing dairy production has been the driving force in government policy and regulations related to producing and marketing milk. Milk production per cow in the United States increased from an average 5,842 pounds in 1955 to 14,213 pounds in 1988. Over the same period the number of cows declined from more than 21 million to about 10 million, and total milk production increased from 123 billion pounds to over 145 billion pounds. In most recent years, milk production has remained higher than the market would absorb at prevailing prices.

The dramatic increases in milk production during the past century have been associated with innovations in dairy management, nutrition and techniques. Now, milk production per cow could increase even further with federal approval of bovine somatotropin. Bovine somatotropin (BST) is a protein hormone that is produced naturally in the pituitary glands of dairy cows. One of its functions is to stimulate milk production. Recently a method of producing BST in the laboratory has been developed. By supplementing natural BST, "recombinant" BST can increase milk production per cow. Approval for use has not yet been given by the Food and Drug Administration.

In the wake of increasing production, various dairy programs have been established aimed at maintaining price equity and improving the balance between milk production and consumption. The Agricultural Act of 1949 and recent amendments to this act provided minimum and maximum levels at which milk prices would be supported at the farm, authorized the Secretary of Agriculture to establish the specific support price within the minimum and maximum prices set by legislation, and specified that the price would be supported through government purchase of milk products. Manipulating price supports has been the principal tool for influencing the milk supply: raising price supports to encourage production and lowering them to discourage production.

An increase in purchases of surplus dairy products in the early 1980s led to a review of the program and reductions in the milk support price. Two programs that grew out of this review were the Milk Diversion Program of 1983 and the Dairy Termination Program of 1986. The diversion program paid farmers for reducing milk sales by up to 30 percent. The impact on the supply of milk was temporary. The dairy herd termination or buy-out program paid farmers for slaughtering or exporting dairy animals and for terminating all milk production on their farms for 5 years. This program was more effective than the diversion program because the number of dairy animals was reduced significantly. However, herd expansion by non-participants offset program effectiveness. Both programs were voluntary, and neither was popular among most producers. Only those farmers who made acceptable bids participated in the herd termination program.

The current dairy price support program (1985 Food Security Act) reduces the support price if purchases for the next year by the Commodity Credit Corporation are expected to exceed 5 billion pounds of milk equivalent and increases the support price if government purchases are expected to fall below 2.5 billion pounds. This policy was temporarily interrupted to compensate for increased feed costs due to the 1988 drought. The support price was reduced to \$10.60 per hundredweight (cwt) on July 1, 1989, and further reduced on January 1, 1990. However, during the last half of 1989 and in early 1990, the price for manufacturing milk (milk used to make dairy products) was considerably above the support level.

Purpose of Survey

Changes in economic conditions and the renewal of agricultural policy scheduled for 1990, coupled with the possibility of approval of bovine somatotropin for dairy cows, have caused concern among many dairy farmers. Use of BST has the potential for increasing herd pro-

ductivity, and under current policy, increases in production could result in cuts in the support price and hence in the farm price for milk. Concern about the future of the dairy industry thus prompted a study of policy preferences and attitudes toward BST among Idaho producers.

The Survey

A telephone survey of dairy farmers was conducted during the summer of 1989. A 20 percent sample was drawn randomly from Extension mailing lists in the three crop reporting districts of southern Idaho. Northern Idaho was not included in the sample because of its limited number of dairy farms.

Usable information was obtained from 281 respondents or about 81 percent of the 347 names on the original sample. Twenty-five percent of the respondents lived in southwestern Idaho, 37 percent in southcentral Idaho and 38 percent in southeastern Idaho.

Farm Characteristics

Of the dairy farmers surveyed, 44 percent were producers of Grade A milk, 52 percent produced manufacturing grade milk and 4 percent did not specify type of production. Ninety-five percent of the respondents milked twice a day, and 5 percent milked 3 times per day.

Sixty-five percent of the farms had 80 or fewer dairy cows. Fourteen percent had more than 160 cows, and 50 percent of all cows on farms surveyed were on these farms. Only 2 percent of the farms had more than 500 cows, but 18 percent of the cows were kept on these farms. Most of Idaho's dairy farms are smaller, family-operated units (Table 1).

Herd production averages ranged from 10,000 pounds per cow to more than 22,000 pounds per cow. Seventy-three percent of the herds produced 18,000 pounds or less per cow (Table 2).

Table 1. Cows and farms in specified farm size categories, Idaho, 1989.

Farm size (no. of cows)	Farms		Cows	
	(no.)	(%)	(average no.)	(%)
80 or less	178	65	47	28
81 to 160	59	21	111	22
161 to 240	17	6	194	11
241 to 500	17	6	370	21
Over 500	6	2	922	18
Total or overall average	277 ¹	100	108	100

¹Four farms did not respond in this category.

Table 2. Average herd production, Idaho, 1989.

Average herd production (lb/cow)	Farms	
	(no.)	(%)
10,000 to 14,000	50	21
14,001 to 18,000	126	52
18,001 to 22,000	62	26
Over 22,000	2	1
Total	240	100

Thirty percent of respondents said they planned some expansion in cow numbers during the next 5 years, 6 percent said they planned to reduce the number of cows, 49 percent planned no change in cow numbers and 15 percent were uncertain about future changes.

Feed is a big expense on dairy farms, whether it is grown on the farm or purchased. Producers were asked about their feed sources. Twenty-one percent said they produced all of the grain fed to their dairy cows, and 34 percent raised all the forage. About 34 percent of the farmers purchased all of the grain fed to their dairy cows, but only 14 percent purchased all of the forage. Most farmers produced some of the grain and forage consumed by their cows. Only a few farmers purchased all of their feed.

The average crop acreage per farm was 93, and the average pasture or grazing acreage was 216. Eight farms had more than 500 acres of crops, and 25 farms had more than 500 acres of pasture. On most farms, crops and pasture were used primarily to provide feed for dairy animals. Only two farm operators reported more than 1,200 acres of crops; three had more than 1,200 acres of pasture or grazing land.

Almost 89 percent of those surveyed said that dairying was the major enterprise on the farm. The other 11 percent emphasized crops or a type of livestock other than dairy animals.

Eighty-two percent of the farms were individual proprietorships, 12.5 percent were partnerships and the remainder were corporations.

More than 25 percent of the respondents were members of a dairy herd improvement association (DHIA) at the time of the survey. An additional 23 percent had previously been members but were not active when surveyed. Just over half (51 percent) had never been members of a DHIA.

The average number of years respondents had been in the dairy business was 22 with a median of 18 and a mode of 10. Operator age ranged from 18 to 84. The average age was 47, and the most common age was 40.

Most dairy farmers had substantial formal education. More than 90 percent had completed high school, and more than 50 percent had some college or vocational training. About 11 percent had a college degree.

Producers' Policy Concerns

The dairy producers surveyed were asked their views of policies and government programs that relate to the production and sale of milk. Responses were analyzed for differences based on farm herd size (80 or fewer cows or more than 80 cows), producer age (50 or younger or older than 50) and education (high school or less vs. some college). Differences are reported only when found statistically significant at the 95 percent level.

Supply management has been suggested as a means of bringing supply in line with demand. Respondents were

cent of younger operators considered themselves very well informed compared with 16 percent of older operators). Similarly, a greater proportion of large producers than of small producers (34 percent vs. 15 percent) indicated being very well informed.

Of those who had heard of BST and its effects, 48 percent were strongly opposed to government approval of its use in dairy cows, 19 percent were somewhat opposed, 11 percent favored its approval and 22 percent were uncertain or had not formed an opinion. College educated producers felt more favorably toward approval than those with less education (13 percent favored approval compared to 6 percent of those without college).

Respondents were asked, "To what extent do you believe BST use will affect the quality of milk produced?" Sixty-six percent said BST use would not affect the quality of milk, 30 percent thought quality would decline and 4 percent said it would improve. Fifty percent of the older farmers indicated BST would have a negative effect on milk quality, 41 percent believed it would have no effect and 9 percent thought it might improve milk quality. Nearly three-fourths of the younger producers indicated that BST would have no effect on milk quality; the other one-fourth thought quality would be reduced.

Dairy farm operators were asked to discuss their concerns about the possible approval and use of BST (Table 5). Their most serious concern was whether consumers would reduce milk and dairy product purchases when BST is used. Nearly two-thirds of the respondents ranked this as their number one concern. Fifty-five percent of the respondents thought per capita milk consumption would decline if BST were used; 38 percent thought consumption would not be affected. Ninety percent of the respondents had a serious or moderate concern about consumer acceptance of milk from BST-treated dairy herds, while only 10 percent had a slight concern or no concern.

Fifty-two percent had a serious concern about the effect that BST would have on the health and life span of dairy cows, and 49 percent were seriously concerned about additional management requirements. Producers were less concerned about whether BST would be available after approval. Problems associated with administering BST were of moderate concern to producers.

When asked, "Should milk and dairy products produced where BST is used be identified on the product label?" 53 percent said definitely yes, 15 percent said probably yes, 19 percent said no and 13 percent were undecided. A higher proportion of positive responses were given by larger than by smaller producers (72 percent compared with 63 percent).

Respondents were asked if they would use BST if it is approved. Only 6 percent said they would definitely use it, 12 percent said they would probably use it, 32 percent said they would probably not ever use it, 32 percent said they would definitely not use it and 18 percent were

undecided. Significantly, 26 percent of larger producers thought they would use BST, while only 13 percent of the smaller producers thought they would use it.

Dairy Processors

In addition to the 1989 survey of dairy producers, a separate survey of 14 of the 17 major milk processors in Idaho was conducted in June 1989. This was not a random sample, but because it included 82 percent of the major milk processors, it should be indicative of attitudes at the time the survey was taken. Processors were asked their opinions about BST use for milk production. All of the respondents had heard of BST and were familiar with the claim of increased production.

When asked whether they favor the use of BST, three of the processors indicated they did favor its use, four opposed its use and seven had no opinion. Those in the group with no opinion often said they would wait to see consumer reaction to the product before making a decision.

The response to the question "Would your company buy milk from producers using BST?" was similar. Four said they would buy BST milk, and another four said they would not. Six were undecided.

Two processors reported they would promote BST use, three said they would discourage its use and nine were undecided.

Consumer resistance was the most frequently mentioned anticipated problem. Sixty-four percent anticipated this problem. Another anticipated problem was keeping BST milk and non-BST milk separate. Five said they did not anticipate any problems as a result of BST use.

Respondents varied in their responses to the question "Who will benefit from BST use?" Five said consumers would benefit most, two said all producers would benefit most, two said only large producers would benefit most, two said sellers of BST would benefit most and two said no one would benefit.

Processors were also asked about current dairy policies in the United States. Three favored current price support policy, three favored supply management, seven favored a free market policy and one preferred a combination of

Table 5. Concerns of dairy farm operators relative to BST use on dairy farms, Idaho, 1989.

	Serious concern	Moderate concern	Slight concern	No concern	Total
	(%)	(%)	(%)	(%)	(%)
Ease of administration to dairy cows	36	33	17	14	100
Consumer acceptance	69	21	6	4	100
Cow health/life span	52	26	15	7	100
Availability of BST	25	23	17	35	100
Increased herd management needs	49	26	14	11	100

asked whether they favor a quota system for controlling supply. Twenty-one percent strongly favored a quota system, 34 percent favored it somewhat and 45 percent were opposed (Table 3). Our opinion is that a dairy farmer's attitude toward quotas is influenced considerably by his or her current production status and plans for expansion in the future. Producers with larger herds were more supportive of a quota system than were smaller producers (64 percent of producers with more than 80 cows favored quotas compared to 47 percent of producers with 80 or fewer cows).

Respondents were asked if they would favor another buy-out when supplies get too large. Only 7 percent strongly favored this approach, 20 percent favored it somewhat and 73 percent were opposed (Table 3). Obviously, this was an unpopular program among Idaho dairy farmers. However, younger producers (34 percent) were more likely than older producers (19 percent) to favor another buy-out.

Dairy farmers had diverse attitudes toward the present price support program (Table 3). Sixty percent favored the program, and 40 percent were opposed. Sixteen percent strongly favored the program; 19 percent were strongly opposed. Forty percent favored a reduction in price supports, and 60 percent were opposed.

Farmers were also asked their opinion on the following statement, "Phase out all government programs in order to allow supply and demand to set prices." Sixty-five percent were in favor of a free market, and 35 percent were opposed. Seventy-two percent of the older farmers and 67 percent of those with smaller herds favored phasing out government programs compared with 56 percent of younger farmers and 55 percent of those with larger herds.

Dairy imports and exports can influence the supply and demand for milk products in the United States. Respondents were asked to comment on policies regulating international trade in dairy products. Sixty-five percent favored tighter restrictions on imports of dairy products, 25 percent said the current restrictions are okay and 10 percent thought restrictions on imports should be reduced.

An attempt was made to determine how farm operators believe they would react to milk price changes. When

Table 3. Dairy farmers' views of federal policies and programs dealing with the production and sale of milk.

Policy	Strongly favor (%)	Favor somewhat (%)	Oppose somewhat (%)	Strongly oppose (%)
Quota system for controlling supply	21	34	19	26
Buy-out when supplies get too large	7	20	21	52
Present price support program	16	44	21	19
Reduction of present price supports	12	28	20	40

asked how they would react to a milk price increase of \$1.00 per cwt, only 10 percent said they would increase their number of cows; 84 percent said they would neither increase nor decrease their herds (Table 4).

When asked what they would do if milk prices fall by \$1.00 per cwt, 30 percent said they would increase cow numbers. Only 5 percent said they would reduce numbers, 46 percent said they would not change and 19 percent said they would sell the dairy business (Table 4). Thirty-nine percent of the larger producers (more than 80 cows) indicated they would increase cow numbers compared to 24 percent of smaller producers.

Sanitary regulations are an important factor in milk production and marketing. Eighty percent of those surveyed thought present sanitary restrictions are about right, 8 percent said they are too strict and 11 percent said they are not strict enough.

Respondents were asked to rate the quality of milk produced in Idaho. Thirty-seven percent thought it was excellent, 55 percent thought it was good, 6 percent said it was fair and 2 percent said it was poor. No attempt was made to determine what influenced these opinions.

Dairy farm operators were asked about their participation in the Milk Diversion Program and the Dairy Termination Program. Twenty-two percent participated in the diversion program, and 15 percent made unsuccessful bids in the buy-out program.

Respondents were asked what other policies might be used to stabilize the milk market. Responses were diverse. One policy that was frequently mentioned as most effective was setting price by supply and demand. Several suggested a quota system, and some suggested greater price differences between high- and low-quality milk. More bonuses for large-volume producers was also mentioned. Many respondents were concerned about the larger dairies increasing production.

Producers' Opinions About BST

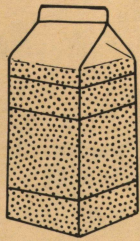
Dairy farm operators were asked how well informed they consider themselves to be about BST and what they thought about its use in the future. Twenty-three percent considered themselves very well informed, 38 percent felt they were somewhat informed, 27 percent had heard about BST but felt they were not well informed and 12 percent said they had not heard of it. Younger operators indicated greater knowledge of BST than older operators (30 per-

Table 4. Dairy farmers' anticipated responses to milk price changes.

Change	Anticipated response			
	Increase cow numbers (%)	Decrease cow numbers (%)	Stay the same (%)	Sell the business (%)
Increase of \$1/cwt	10	5	84	1
Decrease of \$1/cwt	30	5	46	19

**Idaho
Dairy Farmers'
Opinions About BST
(percent)**

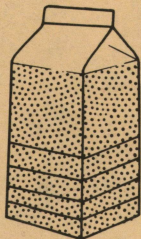
What's your position on FDA approval of BST?¹



Favor 11%
Somewhat oppose 19%
Strongly oppose 48%
Uncertain 22%

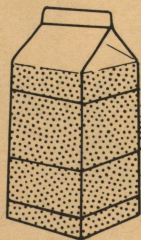
¹Responses are from only those respondents who had heard of BST

Should milk and dairy products produced with BST be so labeled?



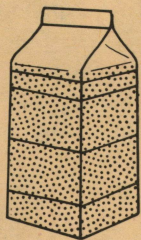
Definitely yes 53%
Probably yes 15%
Probably not 9%
Definitely not 10%
Not sure 13%

How informed are you about BST?



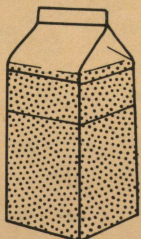
Very well informed 23%
Somewhat informed 38%
Heard about it but not well informed 27%
Haven't heard of it 12%

Will you use BST if it is approved?



Definitely yes 6%
Probably yes 12%
Probably not 32%
Definitely not 32%
Not sure 18%

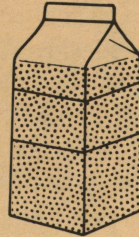
What do you think will happen to milk quality as a result of BST use?



Improve 4%
Decline 30%
No effect 66%

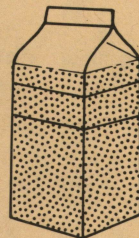
**Idaho Dairy Processors'
Opinions about BST
and Dairy Policy
(no. of processors)**

Do you favor the use of BST?



Favor 3
Oppose 4
No opinion 7

Would you promote or discourage BST use?



Promote 2
Discourage 3
Undecided 9

Who will benefit most from BST use?



Consumers 5
All producers 2
Large producers only 2
Sellers of BST 2
No one 2
No reply 1

Would your company buy milk from producers using BST?



Yes 4
No 4
Undecided 6

Which dairy policy do you favor?



Current price support policy 3
Supply management 3
Free market 7
Combination of supply management and price support 1

supply management and price supports. The variety in their responses emphasizes the problems faced by policy makers when trying to formulate a policy acceptable to the majority.

Processors were evenly divided on international trade policy for dairy products: Six favored trade restrictions, and six favored free trade. Two did not comment.

Processors are affected somewhat differently by policies than are producers. However, a considerable portion of the milk produced in the state is handled by cooperatives. In cooperatives, the producers often own the processing facilities, so attitudes of the processors and producers would be similar. Other processors may favor policy that encourages milk production so that processing facilities can operate more efficiently. Processors seemed to have more of a wait-and-see attitude than did the producers.

Summary and Conclusions

Milk production per cow has increased almost three-fold since 1955 as a result of technological advances and improved management practices. Bovine somatotropin, if approved for use, promises to be yet another in the dairyman's collection of tools for bringing about higher per cow production of milk.

Increased productive capacity has brought about a surplus of milk and low milk prices. Government policy, in response, has largely been an effort to combat economic problems associated with low milk prices at the farm.

The milk price support program has been the mainstay of government dairy policy since 1949. This program effectively puts a floor under milk prices, protecting dairy farmers from the severe economic impact of exceedingly low milk prices. Milk has been in surplus during most of the past decade, requiring large government purchases of dairy products to support the farm price.

During 1989, milk prices were in better balance with demand than they had been in recent years, partly as a result of the 1988 drought in the United States. But the potential for future production surpluses is still a prominent factor in policy discussions.

A survey of dairy farmers was conducted in the summer of 1989 to determine attitudes toward existing and alternative dairy policies and toward the use of BST. Dairy farmers were about evenly divided for and against production quotas. Seventy-three percent opposed another buy-out program to reduce excess supplies. Sixty-five percent believed all government programs should be phased out. However, 60 percent favored the current price support program, suggesting that if there is a government program,

dairy operators would prefer a variation of the present program. It should be noted that at the time the operators were asked about dairy policy, the market price for milk was higher than the support price. When that occurs, producers see less need for government programs. Most producers said they would not expand herds in response to price changes.

Forty-eight percent of the dairy farmers surveyed were strongly opposed to FDA approval of BST, and another 19 percent were somewhat opposed. Only 11 percent favored approval, and 22 percent were undecided. Their major concern about BST was whether it would be acceptable to consumers. Other concerns related to increased herd management and to the effect BST might have on animal health and life span.

Dairy processors were taking a wait-and-see attitude toward BST. Their major concern was whether consumers would approve of its use. Twenty-nine percent said they would not buy milk from farms where supplemental BST was used, and 42 percent were undecided.

If BST is approved for use in dairy cows, those who do not use it could become economically disadvantaged much like those in the past who failed to adopt such innovations as improved breeding practices or better herd management. If BST use reduces production costs, more milk will be produced and prices will fall. Non-adopters selling at the lower price will have no cost reduction, putting them at an economic disadvantage. However, the total effects of BST use on production, policy and prices will not be known until after it has been approved for general use.

As for dairy policy, farmers want more freedom to control their own industry, but many still see a need for some kind of price floor to prevent drastic price declines.

Acknowledgments

The authors are appreciative of the support given by the United Dairymen of Idaho and by the dairy farmers who provided information for this survey. They also would like to thank Edward Fiez, Dean Falk and Rick Norell for supplying the producer lists and for offering helpful suggestions. Thanks also to John Carlson and Rose Krebill-Prather for supervising the telephone survey. Thanks to Cynthia Acuff and Kirsten Gottschalk for help with the processor survey and for compiling the data.

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