

Bovine Growth Hormone (rBST) Adoption on Connecticut Dairy Farms

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In the last half of this century, Connecticut dairy farms have maintained a level of productivity of their cows greater than that of the average US dairy farm. Part of the reason behind this high productivity per cow has been farmers' willingness to adopt the latest productivity enhancing technologies. Recombinant bovine growth hormone (rBST) is one of these productivity enhancing technologies. This work reviews the adoption pattern, the rBST's productivity and profitability.

The information presented here comes from a survey sent to all 245 Connecticut dairy farmers. Of these 124 returned useable information on their dairy farms, representing a 51% response rate.¹ Despite recent growth in cow numbers (17% increase in cows per farm since 1990), dairy farms remain a relatively small scale business, with more than 60% having under 100 milk cows. Connecticut dairy farmers are well educated, productive farmers. The rolling herd average of 19,800 lbs per cow is above the national averages.

Who Adopts:

Table 4 presents the adoption rate of rBST on Connecticut dairy farms. The 30% adoption rate puts Connecticut's adoption rate ahead of most Midwestern states such as Wisconsin where the adoption rate is about half that of Connecticut, but behind the large dairy farm states of the west.

¹ Statistical procedures to check the response bias found that respondents were not significantly different from non-respondents.

Interestingly, there are 10% of Connecticut's dairy farms that have tried rBST and discontinued its use.

Table 4

Use of rBST Technologies (bovine growth hormone)	Percent of Farms
Percent who have tried rBST (BGH)	39.5
Farms currently using rBST (BGH)	29.5
Percent milking cows in CT treated with rBST	32.7

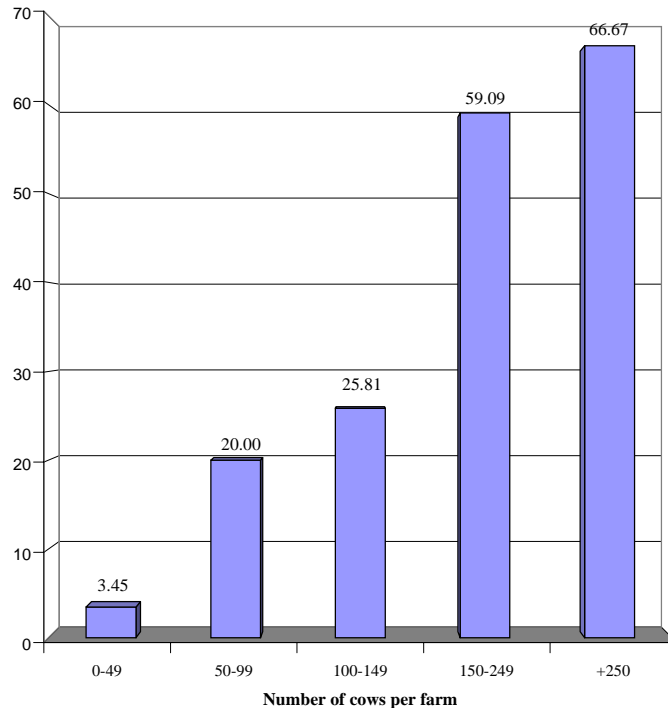
Chart 1, on the back page, shows the distribution of rBST adoption by different farm sizes. Clearly, the adoption rate has been the highest among larger farms. While Monsanto has long, correctly, insisted that rBST can work as well on small farms as on large, this same adoption pattern has been found in every rBST adoption study of farmers. This is probably because of the need for complementary animal feeding technologies in order to get the full benefit of rBST. It is primarily the large farms that have these technologies.

It is likely that rBST adoption in Connecticut has hit a plateau, though as the size of dairy farms continues to increase, the overall adoption rate will also increase.

Returns to rBST adoption:

Using rBST clearly increases the milk output of dairy cattle. Estimates from this data show that farms using rBST had, after controlling for other factors, between a 5 and 8% increase in productivity per cow overall on the farm. These numbers are an underestimate of the actual increases for individual cows since most farms were on average only treating 58% of their cows with rBST. A quarter of the adopters were treating less than half of their cows.

Percent of farms using posilac



Given that a farm adopted and used rBST, the question one still needs to know is if that farm is making a profit by doing so. In the case of rBST producing positive profits, the evidence is not as strong.

In the sample of Connecticut dairy farmers, once you controlled for other factors, rBST users did not have higher profits than non-users. A number of other studies in Wisconsin, New York, and California have found similar results, with the New York study actually finding rBST users had lower profits than similar farms who did not use rBST. On the other hand studies commissioned by Monsanto and some studies done on experimental farms have shown significantly positive profits from rBST usage.

Of course individual results vary a great deal from the average results reported above. Many of these studies have identified the need for complementary

feed and animal management technology as the cause of rBST producing higher production but not profits. No milk production increase can happen without proper animal feeding and farmers who do not adequately feed their animals will not get enough extra milk output to pay the cost of the injections.

Recommendations:

This does not imply that farmers should not use rBST or that the technology will not increase milk production. But the current combination of low milk prices and high feed costs have meant that on average rBST's costs are not paid back in the value of its productivity increase. Farmers who have adopted it or who are considering to adopting it, should make sure it actually improves their bottom line. If one spends \$5 to get \$8 of revenue, that is OK. But if a \$5 expense nets you \$4.95 worth of revenue, then you might want to wait until milk prices rise, feed prices go down, or the cost of rBST goes down.