



# Bovine Somatotropin

## Background

Since FDA approval in 1994, the use of recombinant bovine Somatotropin (rbST or bST) on U.S. dairy farms has increased, especially on large operations.<sup>1</sup> Repeated studies have demonstrated that administering bST to lactating dairy cattle significantly increases milk production. Minimal adverse effects have been reported by producers and veterinarians.<sup>2</sup>

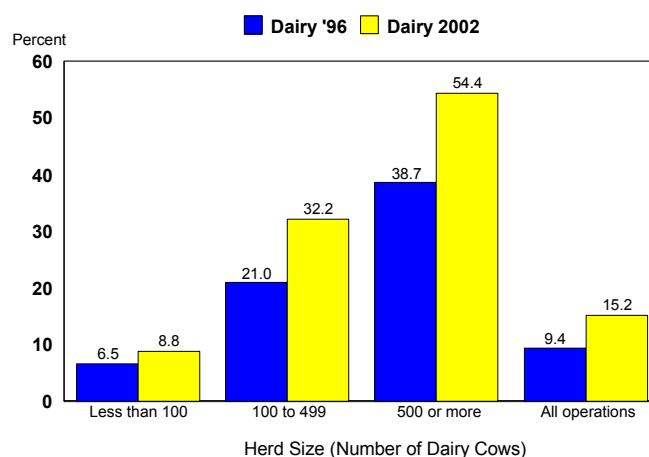
Per label instructions, as approved by the FDA, the initial administration of bST to healthy cows should occur 57 to 70 days postpartum, then throughout lactation at 14 day intervals until dry-off.<sup>3</sup> Supplementation with bST typically results in an average increase of milk yield of 10 pounds per cow, per day over the course of the entire lactation, or as long as supplementation continues.

Dairy producers have expressed concerns about bST use. These concerns include: animal health, the cost and ease of implementing a bST program; the intensive nutritional management and monitoring involved; and public health concerns.<sup>3</sup>

## Dairy 2002 Study Results

The National Animal Health Monitoring System (NAHMS) Dairy 2002 study assessed the use of bST in dairy herds in 21 States\*. Overall, 15.2 percent of participating dairy herds were using bST in 2002. A total of 22.3 percent of cows received the hormone. Among large herds (500 or more cows), 54.4 percent used bST in one or more cows, while only 32.2 percent of medium herds (100 to 499 head) and 8.8 percent of small herds (less than 100 head) used the hormone (Figure 1). The previous NAHMS dairy study, Dairy '96, found that only 9.4 percent of all operations used bST. Among dairies with 500 or more cows, 38.7 percent used bST in one or more cows at that time. Use in medium and small herds was reported in Dairy '96 as 21.0 percent and 6.5 percent, respectively.

**Figure 1. Percent of Operations by bST Use in 1996 and 2002, and by Herd Size.**



In herds using bST in 2002, approximately 59.1 percent of cows received or were scheduled to receive bST during the current lactation. In 1996, 49.2 percent of cows in herds using bST received the hormone or were scheduled to receive the hormone at the time of the interview.<sup>4</sup> The Dairy 2002 study found that among dairies using bST, the initial treatment was administered, on average, 81 days after calving. The final treatment was given, on average, on postcalving day 270.

The use of bST in 2002 was fairly uniform across all study regions,\*\* with the exception of the West. In the West region, 22.3 percent of dairies used bST; the next highest region (Midwest) was 14.8 percent. In 1996, bST use ranged from 7.6 percent of operations in the Midwest region to 15.2 percent of operations in the West region (Figure 2).

\*States

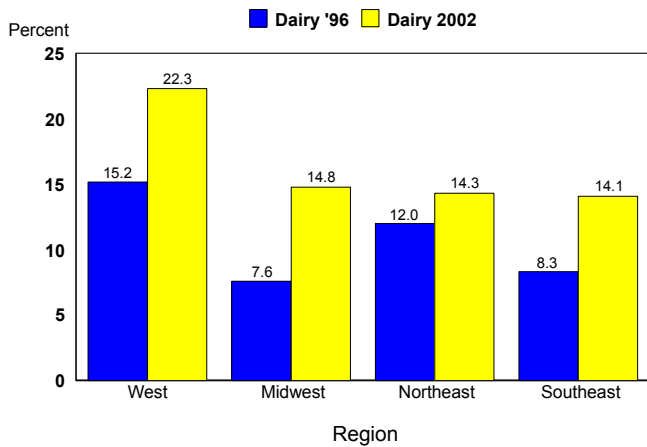
\*\*Regions:

**West:** California, Colorado, Idaho, New Mexico, Texas, Washington  
**Midwest:** Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Ohio, Wisconsin

**Northeast:** New York, Pennsylvania, Vermont

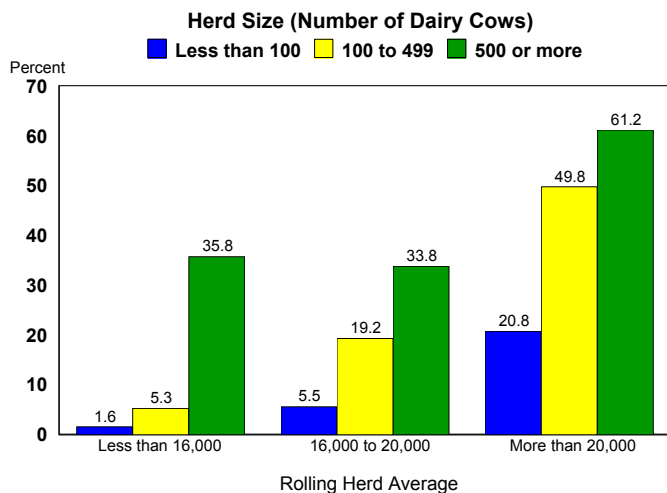
**Southeast:** Florida, Kentucky, Tennessee, Virginia

**Figure 2. Percent of Operations Using bST, by Region.**



Herds with a rolling herd average (average pounds of milk per cow, per year) of more than 20,000 pounds used bST at the highest percentage (32.4 percent of operations). Only 8.6 percent of herds with rolling herd averages between 16,000 and 20,000 pounds of milk used bST. The lowest producing herds (rolling herd average of less than 16,000 pounds) followed the same declining tendency; just 2.2 percent of those herds reported using bST in 2002. Across three rolling herd average groups, large herds used bST more than medium and small herds (Figure 3).

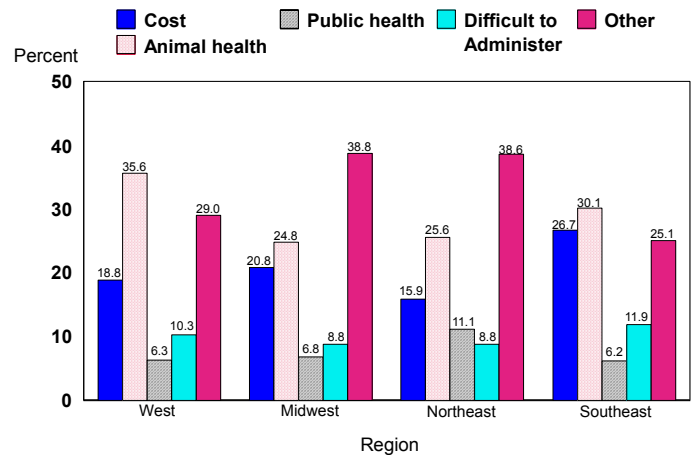
**Figure 3. Percent of Operations Using bST, by Rolling Herd Average and by Herd Size.**



Dairy 2002 producers that were *not* currently using bST were asked to describe their reason for not implementing a bST program. Responses varied between regions. For example, cost and animal health were major concerns specifically identified in all regions, but public health concerns were twice as prominent in the Northeast region as in any other region.

West and Southeast producers listed the health of the animals as the primary reason for not using bST. The Midwest and Northeast dairies reported “other reasons,” including personal beliefs, dairy plant or creamery regulations, or organic status, as the principle reasons for not using bST (Figure 4).

**Figure 4. Percent of Operations by Reason for Not Using bST and by Region.**



## Conclusions

Nationally, 15.2 percent of the herds were using bST at the time of the Dairy 2002 study (a 5.8 percent increase from Dairy '96), while 22.3 percent of cows received the hormone. Although the increase in bST use was observed in all herd sizes, large herds used the hormone 6.2 times more often than small herds. Use of bST also was more common in higher producing herds (greater rolling herd averages) than in lower producing herds. The use of bST was higher in the West region than in the other regions. Cost, animal health, and “other reasons” were the main reasons producers gave for not using bST on their dairies.

---

<sup>1</sup> USDA/APHIS/VS Info Sheet. 1996. Management Practices Associated with High-Producing U.S. Dairy Herds.

<sup>2</sup> FDA, Center for Veterinary Medicine, 1999. CVM Update.

<sup>3</sup> Grant R and Keown J. 1996. Feeding the bovine Somatotropin (bST) treated dairy cow. Coop. Extension, IANR, Univ. Neb.

<sup>4</sup> USDA/APHIS/VS/NAHMS. 1996. Part I: Reference of 1996 Dairy Management Practices.

<sup>5</sup>Dairy 2002 regions: West: California, Colorado, Idaho, New Mexico, Texas, Washington; Midwest: Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Ohio, Wisconsin; Northeast: New York, Pennsylvania, Vermont; Southeast: Florida, Kentucky, Tennessee, Virginia.

---

For more information, contact:

USDA:APHIS:VS:CEAH  
NRRC Building B, M.S. 2E7  
2150 Centre Avenue  
Fort Collins, CO 80526-8117  
970.494.7000  
E-mail: [NAHMSweb@aphis.usda.gov](mailto:NAHMSweb@aphis.usda.gov)  
<http://www.aphis.usda.gov/nahms>

#N386.1202

---

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, sexual orientation, or marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD).

To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call (202) 720-5964 (voice and TDD). USDA is an equal opportunity provider and employer.

Mention of companies or commercial products does not imply recommendation or endorsement by the U.S. Department of Agriculture over others not mentioned. USDA neither guarantees nor warrants the standard of any product mentioned. Product names are mentioned solely to report factually on available data and to provide specific information.