

# FOCUS

Pennsylvania  
Dairy Herd  
Improvement Association

## State DHIA Joins LF In Communication Venture

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and director of operations, listed specific goals for the joint communication effort to include: (1) the desire to better convey DHIA's purpose to become a farm management systems provider;

(2) to reach non-member dairy-men about DHIA service;

(3) to help improve the management skills of producers;

(4) to emphasize quality milk production rather than only recognizing high production records;

(5) and to develop a working

relationship that will be beneficial to both parties, to the dairy industry in general and to members of DHIA in particular.

Pennsylvania DHIA has nearly 6,000 herds with 339,000 cows on test. Lancaster Farming publishes between 25 to 30 tons of newsprint each week that goes to 47,800 subscribers.

The target date to begin a weekly column under a logo developed jointly by the parties is set for November, 1989.

## Herd Health Management Can Optimize Herd Response To BST

GAINESVILLE, FL — The ability of bovine somatotropin (BST) to enhance milk production in dairy cattle has been known for more than 50 years. However, until recently, opportunities to apply this knowledge on a broad scale did not exist. Today, advances in biotechnology have made possible the production of this protein hormone in quantities sufficient to serve the needs of commercial agriculture. However, before that can occur, the Food and Drug Administration (FDA) requires data confirming efficacy and safety in animals that will receive the product, safety to humans consuming products derived from BST treated animals, and environmental safety.

One purpose of this fact sheet is to review existing data on the health of BST-treated dairy cows. Other topics on the use of BST in dairy cattle are covered in separate fact sheets included in this series. A second purpose is to outline herd health management practices that will maximize profit and will help to ensure optimal responses to BST and other new technologies when they become available.

### Milk Production

#### In BST Treated Cows

Research data collected from several single-lactation trials and one two-lactation study have demonstrated increases in milk yield ranging from 10 to 40 percent. Increases were observed at all stages of lactation; however, the magnitude of the response was greatest when BST treatment was initiated after peak lactation. The studies indicate that cows treated with BST are able to increase peak milk yields and sustain them for longer periods of time. In addition to the increase and extension of peak milk yields, continued BST treatment slows the rate of decline in daily production as the lactation proceeds. In other words, lactation persistency is increased.

### Health Effects

#### In BST Treated Cows

There are very few published reports on the impact of BST on animal health. Some have suggested that BST treatment would increase the incidence of metabolic diseases such as ketosis and

milk fever. However, single lactation studies conducted at Cornell and Pennsylvania demonstrated no adverse effects on the health of BST treated cows. Udder health, and the incidence of ketosis, displaced abomasums, milk fever, and feet and leg problems were unaffected by BST treatment in these studies. To date, there is little indication of changes in blood chemistry in treated cows.

Disease, whether clinical or subclinical, would be expected to reduce milk production as well as productive efficiency. Since the overwhelming majority of studies have shown marked responses to BST one might conclude that health effects are likely minimal. Yet, some question remains as to possible health effects that could only be detected in very large numbers of animals over an extended period of time and under a variety of management conditions.

Most notable in this regard are studies suggesting a negative impact on reproductive performance in cows receiving the highest experimental dose of BST (50 milligrams per day) in early lactation. Researchers reported reduced conception rates, fewer established pregnancies, higher embryo loss and extended days open for animals receiving this high dose. Cows receiving lower doses apparently were not affected in this way. Additional experiments will be required to confirm these findings.

Reasons for the reduction in reproductive performance observed in cows receiving high doses of BST are not clear. However, research has shown that genetically superior, high producing cows experience increases of .3 days open and .005 services for each 100 pounds increase in milk production. It has been suggested that the poorer reproductive response in high producing cows may be related to an amplification or extension of negative energy balance. It is generally agreed that conditions which would enhance negative energy balance could adversely affect the cow's normal ability to conceive and maintain pregnancy or both.

More information on possible health effects is needed. Large field trials are currently being conducted for this purpose. At the present time, however, research suggests that the effect of BST treatment on health is minimal and primarily associated with reproduction in cows treated with high doses of BST in early lactation.

### Preparing To Make The Best Of BST And New Technology

In light of tremendous expansion in new technology and knowledge it has become more challenging than ever to remain properly informed. Readers are encouraged to stay up-to-date with the latest information on BST and other technologies presently under development. Attend Extension seminars or other meetings where such topics are being discussed and ask questions. Make it a point to be informed.

Avoid the use of a product or procedure until you have conclusive evidence of its safety and effectiveness. Before making a final decision discuss your thoughts with respected colleagues, your veterinarian, county extension agent, or other individuals who are likely to have knowledge of or experience with the product or practice you are considering. Lastly, critically evaluate yourself and your operation. Be sure that you are presently implementing sound production, health and management practices.

BST is not a magic formula. While it has produced a marked response in the majority of herds in which it has been studied, it has not yielded a positive production response in every herd. A point often overlooked but critically important is that only healthy herds that are properly fed, well-managed and comfortably housed will be able to obtain the maximum benefit from BST. No amount of BST can compensate for the herd suffering a high incidence of metabolic or infectious disease, as a result of deficiencies associated with nutrition, feeding, management or housing.

**Herd Health Programs To Optimize Production**  
To prepare for eventual BST use, a herd owner should institute

herd health programs to optimize production using today's technology and management practices.

1. Establish a herd health program with a veterinarian. Consult with him/her on treatment and other health management procedures. Use the guidance of the veterinarian to design a vaccination program which will best address the specific needs of your operation.

2. Establish a reproductive program with a veterinarian and seek his/her advice on matters pertaining to reproductive health care. The reproductive health of all cows should be monitored following calving, but particularly so when they have experienced calving difficulties, milk fever, retained placenta, or other abnormal conditions associated with parturition. Reproductive examinations should begin at about 3 to 4 weeks following calving for cows which calve normally. Cows that have or develop complications should be examined earlier. Prompt diagnosis and treatment of reproductive disease in the early post-calving period promotes a quicker return to maximum milk production and significantly improves the chances for conception to occur within the desired period following calving.

3. Minimize udder health and milk quality problems by milking clean, dry udders with properly functioning equipment. Have the milking machine and its components evaluated at least twice a year (once a month or more in large herds). Be sure to apply an effective post milking teat dip at the end of each milking and dry treat all quarters of all cows at dry off.

4. Monitor production on individual cows as well as the herd and record the incidence of both

STATE COLLEGE (Centre Co.) — Pennsylvania DHIA welcomes aboard Bob Ormsby as Training Coordinator. Bob's formal training for the position includes a B.S.E. degree in Secondary Ed. English from Mansfield University, nine graduate credits in teacher effectiveness from Wilkes College, and five years experience as a public school teacher. His practical training for the position involves a lifetime of agricultural related activities. The most recent of these is serving as a supervisor and manager for Bradford County DHIA. His responsibilities included hiring and field training new supervisors and monitoring their performance.

As Training Coordinator, Bob will work closely with Herman Espy, Director of Field Services in developing and revising curricula and support materials for all formal training for DHIA Assistant Supervisors, Supervisors, Senior Supervisors, and Region Managers. He will schedule and develop member education programs for new services and products and assist in developing promotional plans and materials. As a member

of the Cooperative Communicators Association of North America, Bob will edit and produce all PA DHIA publications, including the newsletters, press releases and annual report.

Bob has been an Eastern A.I. technician, a full-time dairyman, a relief milker and agricultural salesman. His teaching experiences include Athens, Upper Dauphin, Southern Tioga and Troy area public schools. Bob received "Outstanding Service to the University" award and an academic achievement award at Mansfield University. He is a 25-year member of the Grange, active in church work, and received the "Rookie of the Year" award from PA DHIA for his work in Bradford County.

Bob and his wife, Carol, have two children. Paul is serving in the United States Navy, stationed at Bethesda, MD, and Susan is a freshman at New Covenant Academy in Mansfield, PA where they now reside. Bob and Carol are natives of Allegany County, New York. Their interests include church and family activities. They are now planning to relocate in the State College area.

**MILK.  
IT'S FITNESS  
YOU CAN DRINK.**