

BST --MORE OF THE SAME? By Blair J. Smith

The title of this article implies two questions: First, what is BST? And second, more the same of what? What is BST?



Most of you already know the answer to this question. BST is the abbreviation for bovine somatrotropin, the term which is replacing the earlier, more popularly used term bovine growth hormone (BGH). Its name doesn't change what it is, however-- a protein that is a hormone. This hormone has been produced in the pituitary glands of cattle since we've had

cattle, and it affects how food nutrients are allocated between the production of milk and the growth (or maintenance) of the animal's body. The pituitary glands of cows that produce a lot of milk relative to their body weight presumably produce more BST than cows with lower milk production to body weight ratios. It has been known for more than 40 years that injecting extract from the pituitary glands of dairy cattle stimulates the production of milk in the injected animal. This source of BST was, of course, limited and so expensive that it was not economically feasible for application in commercial dairy herds. Times have changed, however. We have entered the promising although frightening to some people) world of biotechnology in a way not possible or even imagined just a few short years ago. We are now able to produce BST in the laboratory in quantities and at prices that do make it economically feasible for use in commercial dairy herds. And use it we will--if and when approved by the FDA--make no mistake about it!

More of the Same of What? BST will bring us more in the stream of technologies and practices of many and diverse types that have contributed to increased in milk production per cow for as long as man has milked cows. One such development goes way, way back--to the time when people first realized they could store summergrown crops and feed them during the winter. If this didn't at first extend the lactation period of the cow, it at least kept the cow in better body condition, with the ultimate effect of increasing production when the cow did freshen. Another production-increasing development is artificial insemina-

BST technology may differ from most other innovations in the magnitude of its effect and the rate of its adoption. Some of the earliest estimates of the probable magnitude of BST's effect implied

production increases of up to 40 percent per cow. More recent estimates are in the 10 to 20 percent range The earlier estimates were based on BST applications in high quality, highly managed and controlled experimental herds. The latter estimates result from a realistic appraisal of what is likely to happen in more average commercial dairy herds. But 10 to 20 percent is a big increase when one also considers the time frame within which BST technology can be adopted. Many dairy farmers already have the skills necessary to administer BST themselves (whether by injection or implantation), and it wouldn't take much to train the rest. The only important direct cost of BST adoption is the hormone itself, although before much more milk would be coming out, more feed would have to be going in. Even with BST, cows still won't be able to make milk out of just air and water! Not all dairy farmers will immediately have all the other skills necessary to fully exploit the potential of BST for their herds, however. In addition to more feed, a different feed ration is likely to be optimal for cows receiving BST. There is some evidence, too, that cows coming off a BST lactation are in poorer body condition than hose coming off normal lactations. To be "brought up to speed" for the next lactation they will therefore have to be managed differently, and probably with greater skill, than they otherwise would have been

## Long-Term Effects on the Health of the Cow

These effects are unknown -- we have had little long term expenence or experiments with BST. By the time we do know for sure, I predict BST will already be in widespread use throughout much of the United States (and in other countries as well). If cows do "burn out" sooner or if they do encounter other unusual health problems, the industry will adjust the amount, frequency or incidence of BST applications to the level commensurate with the risk it wishes to assume. BST seems to be an easily reversible technology since virtually no capital equipment is required for its implementation.

(Turn to Page E11)

## FRANK A. FILLIPPO, INC.

## - WANTED DISABLED & CRIPPLED COWS, BULLS & STEERS

Competitive Prices Paid Slaughtered under government inspection

Call: Frank Fillippo -Residence - 215-666-0725 Elam Ginder - 717-367-3824 C.L. King - 717-786-7229

## BARN SPRAY & BRUSH PAINTING

Try our new concept in Penetration & Adhesion

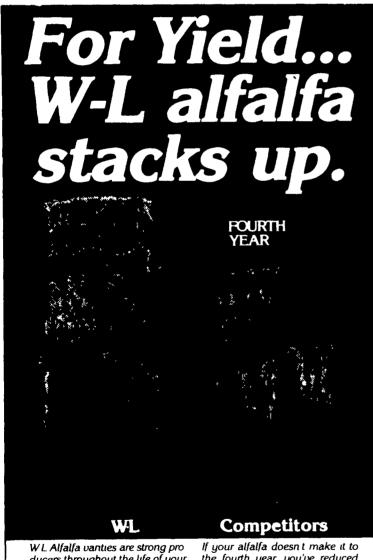
Being Self Employed Enables Me To Take The Time To Properly Apply My Barn Paint & Sealer At Prices Below Suggested Retail Cost. Average Barn Costs \$750. The Farmers in Lanc. Co. Are Lucky Because Of The Amount Of Competition In Barn Painting.

Call Us For Free Estimates



PHARES S. HURST RD 1 - Box 503 Narvon, PA 17555 215-445-6186





W.L. Alfalfa vanties are strong producers throughout the life of your stand You can't afford to settle for less.

If your alfalfa doesn't make it to the fourth year, you've reduced the overall profitability of your crop

In test after test by public and private researchers, W-L alfalfa yields stack up for profits. For more than 25 years, W-L alfalfa varities have been bred for long stand persistence, quick recovery after cutting, multiple pest resistance and extra leafy, fine-stemmed forage. With proper crop management, you'll have strong fourth-year yields that stack up for a profitable crop.



FARMERS SUPPLY

215 East Fulton St. Lancaster, PA (717) 394-7127 "A Little Out Of

The Way...

**But A Lot Less** 

To Pay"

"SERVICE IS OUR MOTTO"
LAWN CARE OF PA.
Select & Service

150. Horsts of Martindale on Grist MILRd., Martindale, PA 1760 (215) 445-4541

HOURS: Mon., Thurs., Fri. 8 AM - 8 PM Tues. & Wed. 8 AM - 5:30 PM Sat. 8 AM - 2 PM