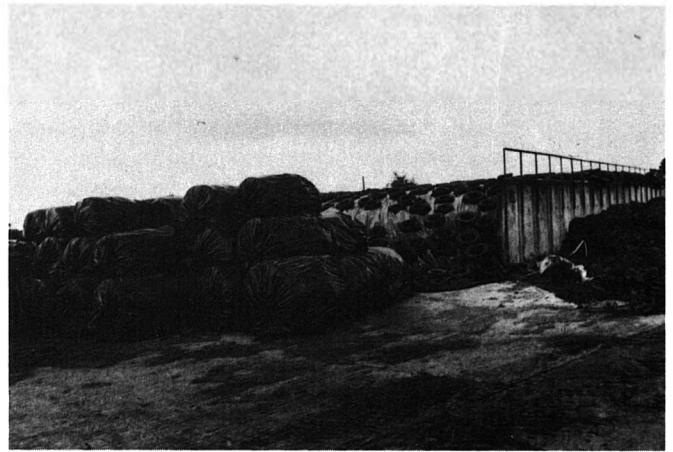




*The milk quota system has resulted in a marked increase in the sheep population across the United Kingdom. This increase and the greater use of silage has resulted in the more common occurrence of listeriosis.*



*A typical silage pit (in the background) with the more recently adopted use of plastic covers. Problems occur with birds pecking and vermin. Botulism has been reported increasingly.*



*A roadside milkstand — a very rare sight nowadays.*

Veterinary Association (1976-77) which was established in 1968. It has over 950 members with meetings three times a year including the annual meeting in April and one in conjunction with the British Veterinary Congress. Dr. Baker has been treasurer of the BCVA since 1979 and attended the AABP Convention in Oklahoma City in 1982. He is an examiner for the University of Bristol degree of B.V.Sc.

Dr. Baker and his wife, Lynn, a physiotherapist, have two children; Toby 17 and Hannah 14.

Dr. Baker states, "I am not worried about the future of bovine practice. We will probably end up with a smaller number of practices which will specialize in food animal medicine."

## Bovine Somatotropin

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Never before has there been so much controversy about a new drug as there is about Bovine Somatotropin (B.S.T.) This is even more unusual since the drug is only in the early period of its trials and is probably some four years away from being licensed for general use. Much of this controversy and concern is due to a lack of knowledge about the product and in this article I will try and allay some of these fears.

The technical B.S.T. is a polypeptide made up of 199 amino acids in a chain. It is manufactured by a clever piece of genetic engineering and it is identical in every way to the Somatotropin or Growth Hormone produced by the cow's

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pituitary gland.

In growing animals Somatotropin promotes growth in soft tissue and bone whilst in lactating cows it plays an important role in the regulation of milk production. An increase in B.S.T. levels causes a major redirection of the nutrient supply to support milk production. A natural high yielding cow is probably one with a high level of its own B.S.T.

Although B.S.T. is a hormone, it is in no way comparable with the steroid "sex" hormones used as growth promoters. It is perhaps worth remembering that there is nothing sinister about a hormone — they are chemical messengers. All of us have many, many hormones circulating in our bodies all the time and our own body functions would not occur without them.

B.S.T. is a protein and specific to the bovine animal. It is in no way harmful to humans. Since it is a protein, if it is consumed by man it is digested just like any other protein.

What are the effects of B.S.T. in the dairy cow? It will increase milk yield by 4-6kg per day. This response is rapid. It increases food intake and appetite. This response is gradual and has no long term effect on the cow's body weight. It appears it causes no adverse effect on the animal's health and productivity although long term trials have not been completed and we will have to wait for this to be confirmed in the long term.

What are the applications of B.S.T.?

1. *To the whole herd.*

In the quota situation, it means the same quantity of milk can be produced from fewer cows, this in turn will lead to savings in the amount of feedstuffs used, a release of capital and land for alternative farming and possible a reduction in the cost of labour and overheads on the farm.

2. *Strategic use.*

B.S.T. could be used for the fine tuning of milk production enabling the herd to reach its quota accurately. It could also be an aid to increasing the milk yield during seasonal troughs in production when milk prices are higher.

3. *Specific Use.*

B.S.T. could be very useful therapeutically to help cows regain their milk production following an illness and it could also be used to prolong useful lactation in barren cows.

The implications of B.S.T. are well worth considering. The immediate implication is less cows and less land set aside for milk production. However, this does not necessarily mean more profit since the cost of B.S.T. itself has not been establish-

ed and alternative farming enterprises may not be possible on some farms or as profitable.

At present B.S.T. is administered by a daily injection. This is not acceptable on welfare grounds. Cows are certain to learn very soon to resent their daily injections. Therefore long acting, prolonged release formulations will have to be produced.

Perhaps the most important implication is the effect on individual cow records and the pedigree dairy herds and on events like the milking trials at the Dairy Farming Event. This must be agreed and understood before the product is marketed. B.S.T. will be a Prescription Only Medicine and available only via veterinary surgeons. If it is administered only by veterinary surgeons, then those cows so treated could be identified on a certificate signed by the veterinary surgeon and a copy could be sent to National Milk Records and Breed Societies if necessary. Alternatively, it could be assumed that everyone is using it. *I personally favor tight control of its use and some form of certification.*

Over the years we have been improving our dairy herd, using proven bulls and skillful selective breeding. Essentially this has always been aimed at increasing milk yield and improving milk quality. B.S.T. gives an opportunity to perhaps concentrate on other aspects of genetic improvement.

*The consumers must be considered. They may well not tolerate the consumption of milk produced by these methods. A campaign of consumer education will be essential.*

*Bovine Somatotropin will come, it is an advancement of science and like any advancement its effects will be far reaching. We must not be ostriches but meet the advance head on and use it to our advantage.*