Summary Only

THE EFFECT OF PRE-MILKING STIMULATION ON MILK AND BUTTERFAT PRODUCTION

D. S. M. PHILLIPS*

THIRTEEN sets of identical twin cows were used to measure the difference in lactational production resulting from a milking method involving:

(1) The stimulation of the cows by rubbing, during the wash, for a period of 30 seconds immediately prior to milking.

(2) The milking of the cows without any pre-milking wash or stimulus at all.

The results showed a considerable difference in favour of the stimulated twins, the average difference being of the order of 32 per cent. It was apparent that there was a large between-set variation in the response to the treatment, as the within-set difference varied from zero up to over 200 lb of fat.

Estimates made concurrently of the duration of the let-down revealed a relation between the response to the treatment and the duration of the let-down of twin pairs concerned. The results suggest that the response is negatively associated with the duration time.

*Ruakura Animal Research Station, Hamilton.

DISCUSSION

Q.: *In the experiment described, the 30 sec stimulus has been taken as the control. Would this be the optimum time for stimulus?*

A.: As yet we have no reliable information on the optimum levels of stimulus, but work so far suggests that cows will vary widely in this respect and that the 30 sec stimulus will be sufficient for most cows.

Q.: *The average test of the non-stimulated cows was at least as high as the controls, which suggests that loss of production was not associated with failure to withdraw milk from the udder.*

A.: The fat tests of the two groups were almost identical. There was no superficial evidence of incomplete milking in the non-stimulated group.

Q.: *It is not clear whether the duration of let-down is an indication of the speed with which cups need to go on, or whether it is an indication of the effectiveness of stimulus.*

A.: The duration of let-down is the period during which all the available milk in the udder can be removed by normal milking without the need for

a second release of milk. What it means in terms of the effectiveness of stimulus is not yet clear.

PROF. I. L. CAMPBELL: Even if milk was left in the udder, provided the amount was constant, one would not expect a difference in the fat percentage.

It would be interesting to know if the quality or type of let-down is an important factor. A more active stimulus would have advantages in that it could reduce the stimulation time. The 30 sec suggested is quite a long time for a farmer to spend on a cow.

Would you think it possible that the small response to the treatment for the very placid cows who entered the bails first could be due to the fact that with such cows the act of entering the bail was an effective stimulus to let-down?

A.: As yet only a limited amount of work has been done on the effect of various types of stimulus on let-down duration and no recommendations are possible as yet.

It may well be that these cows were having a satisfactory let-down as suggested, so that the lack of the stimulus had no effect on them.

Q.: *The figures quoted suggest that there is a difference of almost 30 per cent. between the non-stimulated and stimulated groups. On a herd basis this is a very large amount. In view of the suggestion that the non-stimulated group is equivalent to practice on farms, would one expect a similar increase to apply in the industry?*

Was there any suggestion of this sort of effect in the survey of differences between high- and low-producing herds carried out by Brumby recently?

A.: The cows used in this experiment were twins taken from farms in the North Island, and one would expect them to be a reasonable sample of the cow population. On the other hand, however, one would expect that, in poorly managed herds where culling for production is practised, cows which respond adversely to poor stimulation would be culled, so that the average response to the additional stimulus would be reduced.

In the survey conducted by Brumby on high- and low-producing herds, there were indications that the level of stimulus was higher in the high producing herds.