# OBSERVATIONS ON THE DEVELOPMENT OF PRIVATE DAIRY FARMS IN NORTHLAND

## 2. The Adviser's Viewpoint

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IT was said once that the greatest thing to happen to dairy farming in the north was the coming of the gumboot. At that point of time, there may have been some truth in the statement as this was the period when farmers were bogged down with the discouragement that seasons of low production, lack of capital for improvement work, and seemingly insurmountable problems had brought.

Fortunately every region has its innovators, those people who are leaders in the community, who have confidence in themselves and their land, years in advance of their neighbours. It is not generally appreciated just how profound the effect of the innovator can be. Despite the fact that neighbours offer every discouragement they continue with the policies they beiieve in. Their successes are keenly observed, and followed, by fellow farmers and are a source of confidence for those with financial interests in the land.

Dairy farm development in the north has been extremely rapid in recent years and it is well to consider the complexity of factors which have contributed to this development. Five factors stand out as being the most important: first, the availability of finance; secondly, changes in farm ownership; thirdly, the number of younger farmers now present in the area; fourthly, the advantages of wholemilk collection; and, lastly, the effect of good seasons.

Finance has been made more readily available and this has been a vital factor. Farmers who had not previously been able to increase production because of low returns, even if they had desired to do so, were suddenly given the opportunity.

The State Advances Corporation and the Marginal Lands Board have been the only sources of money for capital improvements. Not only do they deserve a good deal of credit for their more relaxed attitude towards lending, but

also for their care in ensuring that money is spent on only essential items of development which give a quick return. The banks, whose policy it is to supply seasonal finance, have in effect done much more than this. Their credit facilities have helped farmers to spend more of their income on development and this has contributed largely to the rapid progress.

A tremendous number of farms have changed hands in the last few years. Some have passed from father to son but many have been sold to people migrating north who have not been able to afford to buy in on the more expensive land further south. Unlike the farmers who came north on a shoe-string five to ten years ago, most of them have brought reasonable amounts of capital with them.

This has brought about a big change in the age structure of the farming community and it would not be surprising if Northland has one of the lowest age groups in any farming district. The younger farmer is more amenable to new ideas and is more vigorous in his approach, mainly because he is saddled with a substantial mortgage and is spurred on by financial necessity.

The younger farmer has demanded much more advice, and this is reflected in the build-up in advisory personnel. Five years ago, ten advisers from various organizations serviced the whole of the Northland region. This constituted one adviser for 640 farmers. Since then, the number of advisers in all fields has doubled, and they can take a certain amount of credit for the rate of progress on farms, but especially for the development of that intangible thing called confidence which now exists among farmers of the area.

Milk collection by tanker has been received with open arms and the excellent payout for milk by-products has also influenced dairy farm development. The physical and financial input required for pig keeping is too much to handle on a developing farm, and the prospect of similar returns from a minimum of work, which wholemilk collection offered, was enthusiastically received.

Insect plagues, for which the north has considerable notoriety, have been noticeably absent the past few years. The effect of these can be drastic, as, for instance, when a black beetle -attack on a trial area at the Dargaville Demonstration Farm reduced pasture yields by 10,000 lb dry matter from 18,500 to 8,500 lb.

Finally, a factor which can easily be overlooked is the effect of seasons. The last drought in the area, in 1961-2, is

only a memory and there have been extremely good seasons since then. These seasons have been the seal of success on many development programmes, in that they have enabled hard-pressed farmers to gain an extra thousand pounds or so of butterfat with which to keep on the right side of their overdraft limit or to buy some vitally needed item. Successful seasons have enabled these farmers to virtually pull themselves up by their own bootlaces, making the difference between success and failure.

In the paper presented by C. Vallance, one obvious point is that his development programme, and the priorities within the programme, differ little from those in other dairying districts. The attention to "first things first", or, more correctly, the application of resources to items which give the quickest and greatest return, such as fertilizer, fencing, stock and better management, have been the rule here as elsewhere. However, local factors affect the success of a development programme, and the speed with which it can be carried out. The difficulty of utilizing the tremendous amount of feed grown, a climate which is both fickle and perverse, together with soils which are extremely wet in the winter and spring, are particular problems in the north.

Fertilizer is the most vital single factor in a development programme and tops the list of development priorities. Increased usage is the first step to grow more grass, improve production and support more stock. Producing more grass is relatively easy in this area, but the problem has been to keep stock numbers, fencing and other improvements in step with the pasture response.

Responses to appropriate fertilizers have been outstanding even on difficult soils. "Appropriate fertilizers" is emphasized, as too much money has been spent on fertilizer which does not meet the needs of the soil type. This occurs not so much because of a lack of technical knowledge as neglect to obtain the correct information.

Only a few farmers apply heavy rates (8 to 10 cwt per acre) of fertilizer as capital dressings. First, finance is not freely available to do this, and, secondly, the results vary from something which is disappointing to that which is outstanding. To have too much feed from an outstanding response can be as embarrassing as being overstocked when the results are mediocre. The cost, and the variability of the response, largely rule out this technique even though it may be successful in other areas.

The usual, and more practical method adopted by farmers is to gradually increase the amount of fertilizer used over a period, as finance permits, so that stock increases may keep pace with the response.

However, there is a general lack of conscious effort in relating fertilizer used to stock carried. The extra grass grown invariably exceeds the farmers' capacity to capitalize on it. Several factors account for this. First, there is the general tendency to underestimate the response. Secondly, farmers like to see more grass ahead of their stock than they can eat. This provides a comfortable margin of security which they cannot be blamed for wanting. But often the margin is too wide. The farmer is not altogether to blame for this as he is under constant pressure from many quarters to apply fertilizers generously and indulge in what is really the luxury use of them.

In the future, more attention will be needed to relate fertilizer used to stock carried, and in doing so useful guidelines can be obtained. For instance, a farmer on sandy gum land — Te Kopuru sand -who is spending $12 to $14 per cow (applied cost of appropriate fertilizer) is growing sufficient feed, and allowing for about a 10% increase in cow numbers each year. On a more fertile soil — an alluvial clay such as Kaipara clay on the Ruawai flats -one finds that $6 to $8 per cow is sufficient.

It is appreciated that figures such as these cannot be used as a hard and fast rule owing to the varying abilities of farmers to convert grass to butterfat, but if some effort is made to relate expenditure to output then increased topdressing will give the extremely high financial rate of return of which it is capable.

During the nine months of the dairying season, approximately 86% of the total pasture production, which is equivalent to 15,000 lb dry matter, is produced. During this time, paspalum will comprise over half the species present and keeping this grass in good condition for milking cows is a difficult job. The selective grazing habit of the cow, and the fact that she cannot be tightly grazed during lactation, mean that machinery must be employed, and the rotary slasher has been a godsend to farmers in Northland.

Increase in cow numbers is a priority second only to fertilizer but obtaining sufficient stock is a problem on developing farms. Saving as many heifer calves as possible does not always satisfy the need. For one thing, a farmer must plan his stock increases in advance of applying the extra fertilizer and this extent of planning is not always

present. Also, during development, stock losses, or more correctly herd wastage, is high. Bloat, metabolic disorders, lack of facilities, mastitis, deaths through misadventure, a lower standard of husbandry because the farmer tries to do everything himself, are some of the factors.

Finance for capital stock is difficult to obtain. Farmers are encouraged to approach banks and stock firms for short-term credit which is not always readily available, and often difficult to sustain owing to the high rate of repayment.

As a result of the shortage of stock, farmers retain animals that might otherwise have been culled. When every cow counts, low producers and those with blind quarters are required to pull their weight with the rest. One would expect this to have had a detrimental effect on stock quality with a subsequent decline in stock performance, but this has not been the case. Per-cow production in Northland has risen over the years to average 277 lb per cow, which, in a developing district, is regarded as being satisfactory.

Undoubtedly the improvement in stock performance has come from better feeding. The days of undeveloped run-offs, atrocious wintering conditions, sod-bound paspalum pastures and poor drainage are fast disappearing.

Not to be ignored, either, is the swing towards the use of artificial breeding. In the last five years, the number of artificially-mated cows rose by 67% from 24% more herds.

Converting grass to butterfat presents its problems in Northland, for associated with the tremendous quantity of grass grown is the fact that wet ground conditions reduce carrying capacity for a part of the year. It has not been uncommon in the past to see cows standing knee deep in mud in paddocks, or dragging themselves through swimming baths of mud in gateways and at the approach to sheds. Long-term pasture damage, disease and general loss of production have been the result.

Wet ground conditions, sufficient to cause pugging, can occur as early as May and persist until October. This imposes limitations on stocking rate at a much lower level than is experienced in other districts. For instance, during rare favourable winters, one cow to the acre can be wintered, with care, on pasture, whereas in most other winters a quarter of a cow to the acre would be an embarrassment.

The pugging problem is a limiting factor of such magnitude that it receives attention very early in the development programme. Cleaning and deepening open drainage systems, together with metalled races for all-weather access, are

required at very low rates of stocking and are the first essentials. This imposes a high capital cost early in the programme which may not be necessary in other dairying districts.

-4s stocking rate increases to near the one cow per acre level, the need for off-the-paddock winter and spring feeding systems becomes obvious. Until recently, the place of wintering barns has been a clouded issue. The high capital cost has been questioned, designs changed with each season's experience, and just where the system fits into a farm's management and at what level of production has been a matter for argument.

Only in the last 2 to 3 years have many of these points been settled. Stocking rates of up to one cow per acre are possible where later calving, split-herd and rotational-grazing techniques are used, but above this level the need for some off-the-paddock feeding system becomes critical. The cubicle-type barn has emerged as the most practical design, and is relatively cheap at $16 to $24 per cow. Some advisers suggest that, with the introduction of a barn, stocking rate can be increased immediately by 20%. A recent survey of farms at Ruawai confirms this principle and reveals that those farmers with a feeding system of some sort (which includes sawdust pads, feeding platforms and barns), whether they have run-offs or not, produce 24 lb butterfat per acre more than those without. In terms of dollars and cents, this is a return of $892 per year to the farmer. In the light of such experience, farmers in particular are ready to accept barns and pads for winter and spring feeding as a means to push past the limitations imposed by wet soil conditions, and to achieve the higher rates of stocking of which pasture production suggests the north is capable.

Financially, dairy farm development has been particularly successful, as Mr Vallance has indicated in his paper. Eleven years ago he invested $10,000 in the land and had about $4,000 in stock and chattels. Today his equity in the farm is approximately $46,000 and he enjoys a comfortable way of life. Despite the high capital cost of overcoming local difficulties, by, e.g., feeding barns, drainage and races to avoid pugging, and machinery to control pasture, development has had a high financial rate of return.

Finally, on any developing farm, considerable strain is placed on the farmer and his family. Shortage of finance demands that a farmer does work which may otherwise be done by a contractor. Consequently, it is usual to find the

farmer's wife, and possibly the family as well, helping on the farm — in the milking shed, feeding the calves, feeding out and so on. In addition, living expenses are cut and small luxuries sacrificed for the sake of the farm. In the north, production increases have been rapid, and so too has the increase in the farmer's equity in the property, but all too often gains are mortgaged in an effort to raise more development money. Farmers who are deeply in debt require somewhere between 25,000 and 30,000 lb butterfat to have an income from which a few luxuries and a reasonable standard of living can be obtained. To achieve this, a farmer is placed at about the limit of his physical capacity even with family help and laboursaving devices such as the herringbone shed.

This situation poses certain problems for the future. Is the farmer, who is now milking better than 100 cows on his own, going to be able to continue this as he grows older and his physical capacity declines? It may suit many of the younger farmers to exert themselves now, but will they have to continue this after middle-age to retain their standard of living?

Such is the grass growing potential of the north that the majority of farms could be developed to be multiple labour units. Labour, despite financial incentives, has not been readily available, or easy to retain, and the shortage of labour could be a limiting factor in the future. Should farmers grow maize or barley for grain or rear crossbred beef as alternatives to employing labour? Because of the limit that soil prone to pugging places upon carrying capacity, should more attention be given to improving per-cow performance than is done at present?

There are many sociological, technical and managerial problems to be answered in this fast-developing region, but they do not assume the seemingly insurmountable proportions they did a few years ago. Provided the farmer retains his confidence, and money continues to be available, dairy farm development is assured of a tremendous future.

## DISCUSSION

***Mr Hedley quoted 15,000 lb dry matter pasture yield per year. Should this not carry two cows rather than one cow per acre? Is there not great wastage?***

Theoretically it should be possible to carry two cows per acre. In practice, it has not yet been achieved, but I have every confidence that it will.

***Will the** use of **the** rotary **slasher in topping pasture decrease as stocking rate rises?***

Yes, it is likely to decrease.

***What are Mr Hedley's comments on split-herd wintering when carrying about one cow per acre?***

The success of it depends on the farmer's ability to assess when cows are actually damaging pasture. It is a very valuable technique for keeping pasture under control in the winter so that it is in good condition for milking cows in the spring.