

Build a strong foundation

If replacement heifers represent the future of the herd, then rearing those heifers is the foundation on which that future is built.

And without proper care and attention throughout their growth and development, and into their early lactating years, the cost implications for future production are substantial.

A heifer entering the herd below weight and undersize, could easily produce 20 percent less milk than a well-grown one. If the normal target is for an 85 percent first lactation yield, ie 298kg milksolids (MS) from a heifer entering a herd averaging 350kg MS, that additional 20 percent loss in output equals around 60kg MS less production, which at \$6.60/kg MS is worth \$396.

Table 1 – Production targets for well-grown heifers entering the herd

	Percentage of herd average	kg MS at different herd yields		
		300kg MS	400kg MS	500kg MS
1st lactation	85 percent	255	340	425
2nd lactation	90 percent	270	360	450
3rd lactation	95 percent	385	380	475
4th lactation	100 percent	300	400	500

For a 300 cow herd with 75 freshly-calved heifers each year, or a 25 percent replacement rate, that potential loss is around \$30,000 in the first lactation alone. Add in the implications for following seasons, with heifers still struggling to reach mature size in the fifth lactation rather than hitting peak production by year three or four, plus

higher empty rates and greater susceptibility to production disorders, and the result is a significant loss to the business.

Some typical production targets for New Zealand dairy cows on pasture-based systems are shown in Table 1. These depend on location, level of supplementation and management practices. The financial implica-

tions from maiden heifers underperforming are clearly greater at higher annual milk yields.

Most dairy farms will put considerable effort into the first weeks and months of calf rearing to get the calves weaned, out of housing and eating some supplementary meal. However,

Continued on page 69

*Reprinted with permission of
NZ Dairy Exporter*

many of the major difficulties arise during the later part of the spring and into that first summer, when replacement calves are weaned onto a 100 percent grass diet and often transferred onto grazing contracts off-farm.

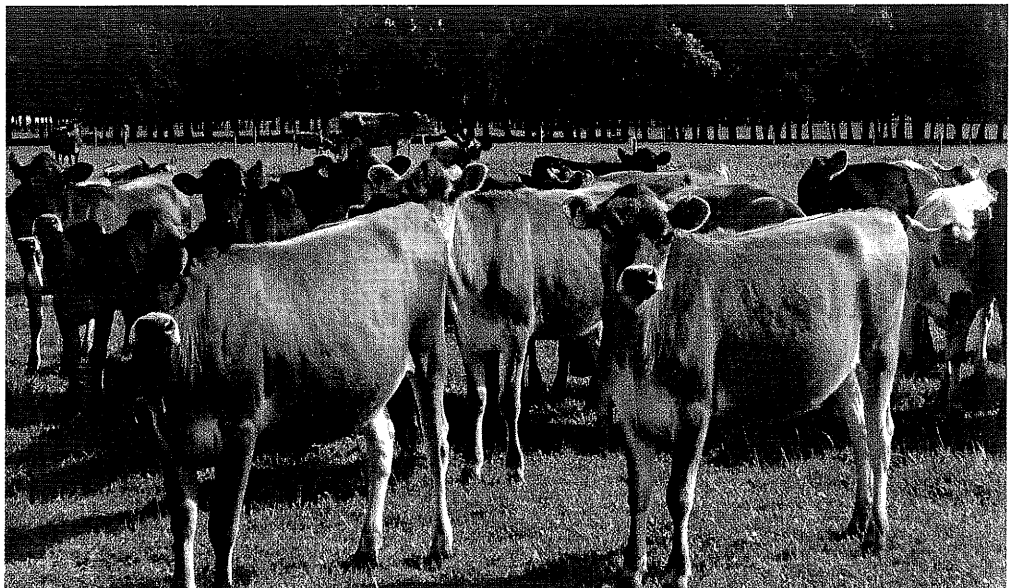
Rumen problem

It means initial development of the rumen as a result of that early effort is rarely followed through, leaving heifers to make the best of whatever grass – quality and quantity – is available.

Last summer's drought highlighted the potential problem of underperforming replacement heifers, with grass in even shorter supply than usual. Consequently, many farmers have found to their cost that breeding and calving weights are down this season. Heifers coming back into the herd at the end of the summer were often small and thin, and the performance of those animals once they calved will have been disappointing.

Good rearing practices will see animals supplemented, when grass is in short supply or grazing conditions are variable, with regular close monitoring of young stock to ensure target weights are met. Table 2 shows some useful heifer-rearing targets for predominantly grazing systems. Where higher dry matter (DM) intake potential is required to support higher milk yields, some continuous supplementation is needed as standard throughout the rearing period to ensure heifers enter the herd with the necessary larger frame size.

In addition to weight, height at the shoulder is another good measure, particularly where the target is to achieve heifers with a fuller frame and a larger



Ready to carry the herd forward.

capacity for feed intake. Aim for 125-130cm at the shoulder at mating, and 135-140cm at calving to achieve a well-grown 550-600kg cow at maturity.

Monitor growth

Even if stock are grazed off-farm, some monitoring of growth should be done, and those within 100km visited at least once every two months. Some arrangement should be made for third party observation where livestock are grazed further afield, but in all cases a plan should be in place for supplementation through the summer to keep growth rates on target where necessary.

This can be in the form of either good quality forages, such as baleage or maize silage (the latter in smaller quantities so as not to oversupply energy), or palm kernel blends, for example.

This investment is needed because replacements are the most advanced in the herd genetically, and have the greatest production potential of all stock on

the farm. Substantial investment has already gone into targeted mating strategies to improve on dam breeding worth (BW) and production worth (PW) through careful sire selection, with maiden heifers typically valued at \$2000-2500 each.

Yet industry figures suggest perhaps as many as 20 percent fail to make it through to the second lactation, at a cost of up to \$450/replacement. The main reason is an overall inability to deal with the stresses and strains of calving and lactation as a direct result of inadequate rearing.

Reducing this loss by half, represents an average saving of \$225 for every heifer that reaches first calving. At 40c/kg DM, that same money would feed a 360kg LWT yearling consuming 9kg DM/day (2.5 percent LWT) for 70 days.

Not only is the money clearly better invested in keeping those heifers in the herd, but the improved size and growth will also reduce production losses during the early lactations, as well as

saving the time and money spent on treating potential production disorders.

Extra cost

An extra annual cost of \$200-250/head may seem excessive in addition to perhaps \$350-500/head for a year's grazing, but it will pay back many times over. Farmers on grass-based systems in New Zealand and overseas are now supplementing youngstock with mixed rations throughout growth, and benefiting hugely from larger heifers at maturity.

These heifers enter the herd with a good-sized frame, are able to compete effectively for feed in the paddock and on the feedpad, and are already adapted to the rations they'll be consuming once calved. The result is a greater milk yield closer to the animal's genetic potential, increasing feed efficiency and reducing overall feed costs/ kg MS.

In fact, improved confidence to produce more milk from fewer cows has allowed some farmers to alter stocking rates to allow replacement heifers to once again be reared on the milking block. For those looking to continue pushing forward future herd production and efficiency, effective heifer rearing is the first step to success. **D**

Table 2 – Growth targets for heifers on different production systems

	Approximate cow size for different production targets (kg LWT)		
	Up to 350kg MS	450kg MS	550kg MS
At maturity (100 percent)	500	550	600
At calving (85 percent)	425	470	510
At first mating (65 percent)	325	360	390
At weaning (15 percent)	75-80	80-85	90-100



Tracy McGowan is a Keenan Rumans nutritionist