

Viewpoint: Profitable Feeding of High Producing Dairy Cows

By Bryan Beeston

Triann Holstein Friesians, Canterbury

You can feed your cows well and make a profit. This all started 15 years ago when Annette, the girls and I moved to the South Island after 12 years farming in the North Island. The first year our cows gained 100+kg in liveweight and production increased to 385kg milk-solids per cow, up from 300kg when we were north.

This started the search to do better and we are getting there - last year our cows made nine out of the top 10 Holstein Friesians for protein production.



We started feeding 200kg molasses and 500-600kg barley to fill the feed deficits and lift the per hectare production. Initially we found the cows were producing 450-500kg milks-solids per hectare but were having to dry the cows off early. We thought we could increase production to 500-550kg.

Mid-way through the first ten years we started winter milking and looked at over 305-day lactations. We went to Australia to look at feeding cows to improve profit and see how they fed their cows. We formed a company, Dairy Business NZ, with New Zealanders and Australians to source the feed.

The business looks at what feed is available, what production the cows are doing, what price we will get for protein and fat and from that information we make a diet that makes us the best return for the season.

The first thing was the cows grew again, this time to 600-650kg milk-solids. Udders became very important as the cows were producing 40-60 litres per day. In the May 2009 herd test we had 10 cows producing over four kilograms milk-solids per day out of 780 cows. The more production we do the better the cow conformation and the stockmanship has to be.

We no longer fill the feed gaps; we drive the cows' ability to milk and feed them 22-24kg dry matter per day. The cows calve in 5.5 condition score and our target is they dry off in the same condition.

We are still improving the system – up until about nine months ago we batch-fed our cows meaning they were in groups of cows producing 35 litre, 25 litres and low

producing 15 litre cows. This was not as cost effective as today where we programme for individual feeding broken down into five litre groups corrected weekly through the computerised milking system.

Our business is to feed the cows and to achieve a sustainable profit. The first four to five tons of feed makes the cows produce about 320kg milk-solids and maintain herself; the next 300kg milk-solids comes from other feed (approximately three to 3.6 tons). The stocking rate is three to 3.6 cows per hectare and production is 1,800 to 2,000kg milk-solids per hectare. The answer must equal the question.

The Feed

The cows eat about seven tonnes of feed on average; however keep in mind that we feed on an individual basis.

Feed per cow per day

Grass: 10-16kg

Wheat: 2-8kg

Protein: ½-2kg

Straw: ½-2kg

Palm Kernel: 0-6kg

Silage: 0-6kg

Minerals: 0.2-0.5kg

Crop: 0-6kg

Molasses: 0-2kg

These are the products we use and it varies to product price and milk price to which we feed.

For the first 100 days we offer 10% more than needed to each cow to allow for waste, the next 100 days we feed what she requires and if she is in good enough condition we will feed her 10% less for the remainder of her lactation.

The Costs

We always need to know what our costs are – that is feed costs, farm costs and debt. In our system we call the farm cost (excluding feed) 'core costs.' These need to be paid whether you produce one kilogram or 100kg. The core costs include labour, fertiliser, administration and debt and on an average farm would be about \$1,200 > \$1,600 per cow – with higher production this can lower. Then we have the feed costs, which is everything except grass as that has been paid for in the core costs.

All production is worked in litres of milk as it is more transparent than the price of protein and fat. We found that in the last two years because of the nutrition our protein to fat ratio has been 95% on average and have been receiving 8% more income than the company average.

We put together a ration that meets all the requirements. It is not easy with a lower payout but with the correct information and history for what we have achieved we are still driving profit from high input, high output cows.

X-Roads Farm Cow Model as at 30 June 2009

653kg milk-solids – 95% protein to fat worth \$5.02 on a \$4.65 average payout season.

Feed	Core Cost*	Per Cow
4.5 tons Grass	@ \$0.29/kg dm	\$1,300.00
1.8 tons Wheat	@ \$0.42/kg dm	\$720.00
0.5 tons Protein	@ \$0.80/kg dm	\$400.00
1 ton Palm Kernel/Silage	@ \$0.22/kg dm	\$220.00
0.4 ton Straw	@ \$0.15/kg dm	\$60.00
0.2 ton Minerals	@ \$0.50/kg dm	\$100.00
7.2 tons		\$2,800.00

* The Core Cost includes all farm and feed costs, excluding debt

So the cost to feed a cow including on-farm costs is \$2,800.00 excluding debt. The production was 550,000kg milk-solids from 830 cows.

Gross Income from milk (\$5.02 payout)	\$2,773,550.00
Less Cost	- \$2,380,000.00
	\$393,550.00
Plus Stock Sales	\$306,450.00
	\$700,000.00
Less Debt Service	- \$600,000.00
Cash Surplus (not including winter milk premiums)	\$100,000.00

For the 2008/09 season both herds produced over \$6.00 per kilogram of milk-solids – one earned 30 cents above the company average and the other 31 cents.