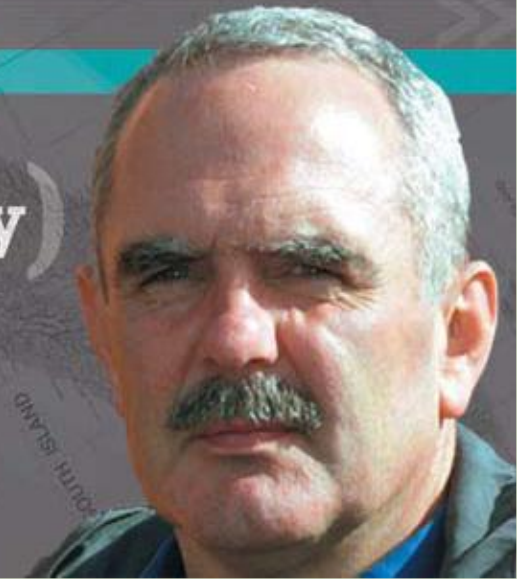


## Sean Kelly Memorial Bursary

As the recipient of the Guild of Agricultural Journalists/ICMSA Sean Kelly Memorial Travel Bursary, Matt O'Keeffe undertook a study tour of New Zealand last autumn to investigate the growing trend in their dairy industry towards investing in high-output systems of milk production.



In the second of a three-part series on New Zealand dairying, Matt O'Keeffe visits a farm investing NZ\$3m in land, and talks to a vet about the fine line of economics when it comes to supplementary feeding

# Intensive dairying in the Waikato

The Webby farm is situated in the heart of the Waikato, just outside of Morrinsville. Joe and Julie Webby have invested heavily to increase production and improve efficiency. The total cost of setting up the new milking facilities and feeding passage on the Webby farm came to about NZ\$850,000 (€340,000). This included the cost of extra cows, electrical installation and so on. The farm had come from a 16-unit parlour putting 300 cows through it.

Now it is a one-man operation, once calving is completed in the spring. This allows one man to milk up to 440 cows in 80 minutes – in half the time of the old parlour and with 140 cows more.

Joe believes the investment in a purpose-built feed pad is well worth while. "The extra feeding is making my cows more

delivered 420kg/MS last year. The New Zealand average is 300kg. That's 30 per cent better than the average".

The farm can milk 450 cows to deliver the same milk solids as an average farm, feeding grass alone, would do with 600 cows. In fairness it is far easier to milk and manage 450 cows than 600. Averages, of course, hide a lot. There are some above average producers tipping 400kg/MS on grass alone. Joe was adamant that it costs the same amount to maintain his cows as it does on a grass only system. Only the feed for extra production is different. He was also insistent that herd health had improved considerably on the supplementary feed regime. The calving spread has reduced from 15 weeks five years ago, to nine weeks now. He had resorted to inducing to tighten up the spread. Now Joe says that the calving spread is much tighter with no artificial intervention at mating. Whether all of this can be put down to extra targeted feeding is debateable but Joe Webby certainly believes it to be the case. The use of straw in the diet last season helped production, he claims, which did come as a surprise to him as conventional New Zealand advice

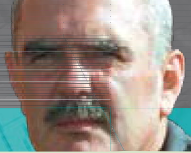
diet consists of 750gm of straw, 1.5-2kg toke, (a soyabean by product), 3-4kg maize and 2kg palm kernal. The 6-8kg of supplement is in addition to 9-10kg of grass DM during the winter milking period. The Waikato enjoys a relatively dry winter climate.

"When I was on grass only I found that it was difficult to keep the cows in the right condition year round. Now I can put extra into the system when grass is inadequate to meet the cows feed needs. I can feed the cows what I want, when I want, if I want, provided I can justify the expense."

### Production Driven

Milk from the Webby farm is supplied to a small dairy company, Open Country Cheese (OCC). This private company, which has overseas investors, is part-owned by Dairy Trust. The alternative cost of supplying Fonterra, and consequently having to buy shares, persuaded Joe to supply OCC. Historically OCC has been 12-17 cents behind Fonterra in milk price, but with shares costing \$3.50 the sums were easy.

The farm was doing 68,000kg MS when Joe bought it. In the first year he increased this to 104,000kg. That did include 30 per cent more land and a 40 per cent improvement in production. Last year with 300 cows he moved up to 125,000kg MS. The capital outlay for the feed wagon and tractors set him back in excess of NZ\$170,000 (€67,000). When asked whether he, or his bank manager, or accountant, had stress tested all of this increased expenditure Joe was adamant that the cost was fully justified and could withstand lower milk prices. He is currently planning a \$3m (€1.2m) land acquisition to expand the farm by 53 hectares. This expansion should drive unit costs down further, he believes. The target is to lift cow numbers to 570. Again, the point is made that values have risen and the investments on the farm and in land have appreciated. The Webby herd looks Friesian but is tending to drift towards crossbreds, a very common development across New Zealand



dairying. With the more intensive feeding regime Joe has found the Holsteins to be too big for purpose especially for his winter feeding system. "They 'pug' the ground more and lameness is more of an issue given the long distances to be walked". Another common theme emerged in the discussion with Joe Webby. "There is a belief in New Zealand that grass is the cheapest feed, until account is taken of the cost of owning the land to grow it. Buying more land, paying more interest on it, makes it harder to justify instead of buying in some supplementary feed. Up to \$7,000/ha ( 2,700/ha) was paid recently in the Waikato for good grassland. The land can only harvest up to 14 tonnes grass DM/ha. That's expensive dry

matter feed," according to Joe, who says his interaction with the local discussion group was interesting.

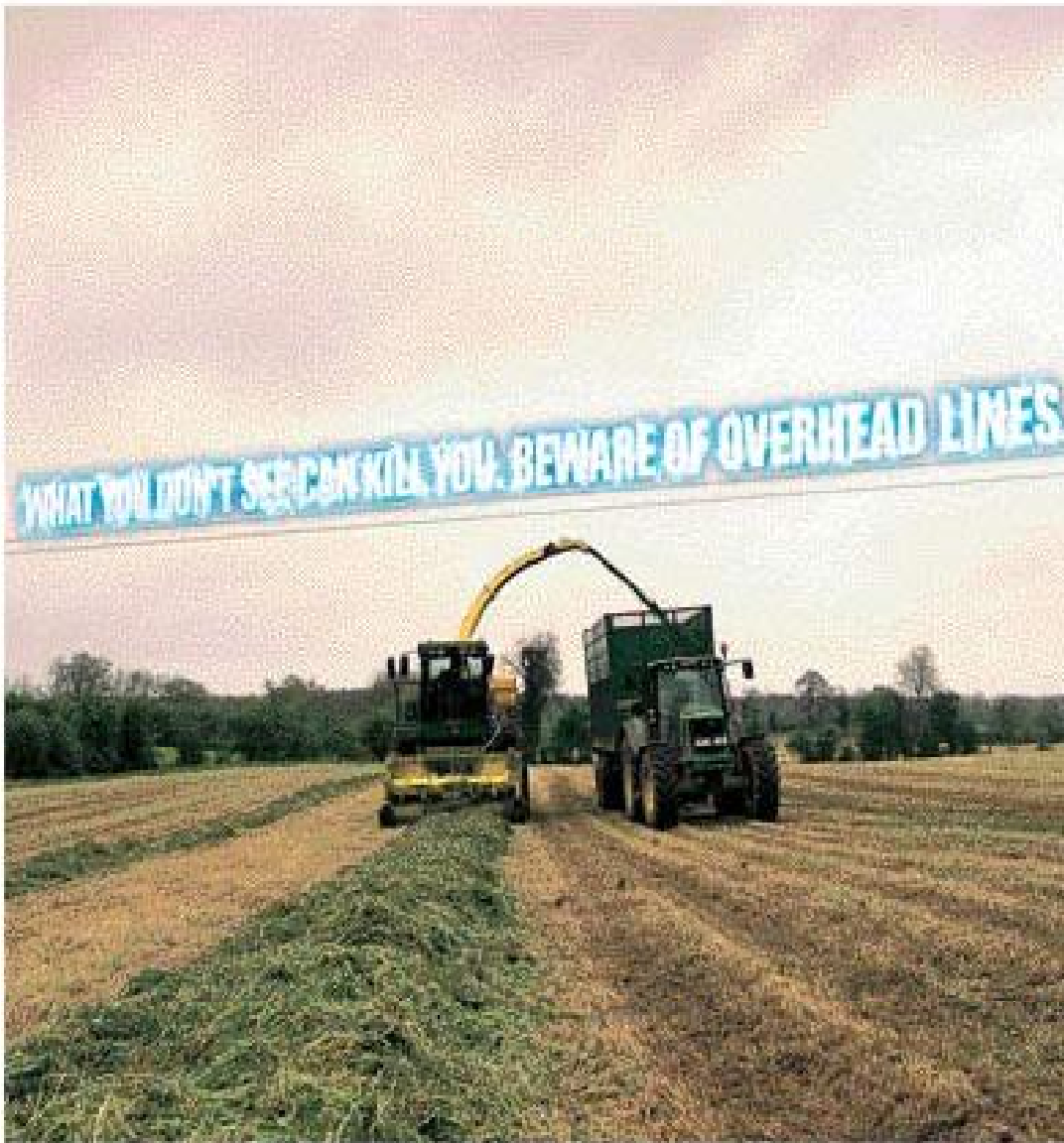
"Last year the group averaged 900kg MS/ha. We hit 1,600kg MS/ha". The attitude of the discussion group had changed,

scepticism of his feeding regime, complete with a Keenan mixer wagon. That has changed. Now Joe points to the validity of his management system. For two years running the Webby farm has headed the group league in terms of increased output per hectare. Another statistic Joe pointed to was the average MS output per labour unit. The group average was 45,000-50,000kg MS/LU while the Webby farm hit 173,000 in

2007, with two labour units. Whether these production

translate into greatly increased

on a number of issues: primarily whether grass management is maintained or even improved. Clearly in Joe Webby's case grass management is extremely good. He has matched increased output per cow with extra cows per hectare. In a relatively high milk price regime this seems to make good economic sense as 'marginal' production more than repays the extra cost of bought in feed supplements. The high performers like Joe Webby will sustain such a system but clearly there are risks attached, especially if milk price were to fall dramatically. But then that is a risky situation for everyone.

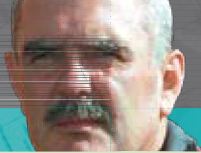


Before you start using machinery on the farm, always check for the presence of overhead power lines where you're working.

Ensure that everyone observes safe working practices whenever overhead lines cross the farmland and when near electric fencing.

Coming into contact, or near contact, with overhead power lines can be fatal. Extra care should be taken when using tractors with front loaders, slurry spreaders, trailers with high loads and harvesters. In case of emergency, call 1850 372 999.





# Two generations of Waikato dairying

Bruce and Donna Arnold's farm in the Waikato is a long-standing one by New Zealand standards. The original 37 hectare block was purchased 57 years ago. Then, in 1981, it was expanded to 83ha, when Bruce came home to farm, and another 8ha was purchased by Bruce subsequently. Labour was hired and 350 cows were milked on the farm using a 24 unit herringbone. For the next expansion it was decided to increase the use of bought-in feed because of low land mobility in the area. With the building of a concrete feeding pad, and the addition of some supplementary feed the cow production, Bruce says, "Really took off". Milk solids are now about 470kg per cow and production/ha is 1,800kg MS/ha. Three years ago the opportunity arose to purchase a neighbour's 66ha farm. It fitted in perfectly, being close enough to the parlour to walk the cows to.

The Arnold farm now runs 600 cows and Bruce can employ extra labour and ease his workload. Cows are stocked at 4/ha and Bruce reckons he can hit 4.5 cows/ha yet. Production potential is highly emphasised by Bruce Arnold. When it was

put to Bruce that production does not necessarily equate with profit he defended his management system strongly. "Despite higher costs in the system the higher output will deliver more

Fonterra was experiencing a 5-7 per cent fall in milk supply, whereas the Arnold farm was up 11 per cent to date (early November), he said. Many other Waikato farms also feed supplements, most notably maize (up to 70 per cent of Waikato farms now use maize). Driving around one is struck by all of the land under maize, either burnt off for sowing, in the ground, or up at an early growth stage in the first week of November. But there is a degree of wastage, either in the storage stage on bare soil, or at feed out on grass or makeshift pads. So feed utilisation is an issue and the Arnold farm is minimising this with concrete bunkers and a concrete feed pad.

## Better Cow Health

Bruce also cites better cow health as a reason for a more varied approach to feeding. He says the total mixed ration system he

adopted has reduced grass tetany and milk fever. There is also far less waste than spreading cal/mag on the pasture. SCC on the farm is less than 100,000. Heavy culling as well as feed management and mineral inputs are given as reasons for the improvement.

### A Sustainable System?

Is the Arnold feed management regime sustainable if milk price drops? That is a bit of an unknown. Price was still at \$6.40 ( 2.50) in early November, and the Arnolds supply a niche processor, Tatua. Last year milk price was \$8/kg MS. Fonterra was paying \$7.90 with 30 cents held back for 'balance sheet purposes'. Wheat or barley is unavailable in the Waikato, and palm kernel and tapioca prices had hit \$400/tonne, but were drifting back so the feed sums were improving on the cost side. How does the bank manager stress test loans to the Arnolds? Their reputation as sound borrowers and excellent milk producers meant that they could get the 100 per cent investment capital to expand the land base and build the new parlour as well as the feed pad with ancillary machinery (Keenan diet feeder, tractors, stores), where others might not. The year before the Arnolds bought the neighbouring farm the home farm produced 1,860kg MS/ha. "The bank lent on our potential to produce. We need to produce at least 1,500kg/ha to make anything out of it". The aim is to produce 2,000kg MS/ha in the 2008 season. Leaving aside the farm purchase interest repayments, the farmyard cost \$1.5m alone. If milk price were to fall by 20 per cent or more would the Arnolds still make a profit and meet interest payments? "We'll face that if it comes to it. Costs would have to be reduced. We would do our 'red sky analysis' with our advisor. That would allow us to identify the best approach to take. With so many variables in grass production I'm satisfied that our system would be at least as sustainable in a lower milk price scenario. The average producer would be under most pressure whatever production system he uses. The top 10 per cent of farms will weather price drops better than most."

### The Limitations Of Grass

Grass is not an exceptionally cheap product, as Donal Blackwell of Keenans noted when we met in New Zealand. Urea and other fertiliser prices have risen dramatically. That has put pressure on 'grass only' farmers too. The dry matter output of grass has not improved over the past decade, Donal insisted, so that presents another barrier. As Donal put it "that limiting factor of grass has contributed to the frustration felt by farmers and is, in some sense, responsible for dairy farmers looking for other means of expanding production, outside of buying ever more expensive and unavailable land.

"Grass is great when everything is going well, but early in the season there is not enough growing so there is a need for some maize and other supplementation as stocking rate rises," Bruce Arnold believes. He cannot, however, be faulted on his grass growing expertise. He regularly harvests 14-16 tonnes of grass



DM/Ha annually. With some wastage that equates to 19 tonnes per hectare. That is as good as and better than the best. In winter cows are at grass unless there is bad weather and cows can be rested on the feed pad.

### On-Going Investment

Bruce acknowledges the environmental issues looming for New Zealand dairy farmers in both grass only and more intensive systems.

He anticipates the need on his farm to build a dung storage facility after separating out the solids to provide a few weeks storage. (To some extent one can't help thinking that concrete always needs more concrete).

The Arnolds went from a 24-unit herringbone to a 54-unit rotary parlour. The original could handle 580 cows in 4.5 hours twice a day. The rotary milks 600 cows in less than two hours. The new parlour has automatic cluster removers and cost \$1m ( 390,000) (to put in place including the collection yard, dairy and culling facilities). There has been problems with the automatic plant washing facility in the Westfalia model. Bruce baulked at purchasing the optional automatic milk metering system, worried by the complicated nature of it. Cows are recorded four times a year at a cost of \$18,000 ( 7,000). Neither did he purchase the automatic cow drafting system, much as it sounded like a necessary, non-luxury item. Tail paint observation is used exclusively for heat detection.

The ongoing breeding challenge is persuading more and more farmers to consider pedometers, collars and automatic drafting systems to deliver better results and substitute for a scarcity of experienced staff.