

Sustainability matters – not size

Downsizing has increased efficiency and profitability on one Kiwi dairy unit. More milk, using less fertiliser, is being produced per hectare. Ron Pellow, who led the business during its transition, presented the herd's impressive results at a recent LIC conference.

TEXT RACHAEL PORTER

One New Zealand-based herd is bucking the trend towards expansion and has actually downsized in a bid to become more profitable and sustainable. The 560-cow herd of Kiwi-crosses (Friesian x Jersey), at Lincoln University's farm, based just outside Christchurch on the country's South Island, is managed on a typical New Zealand grazing system. What's not so typical, and what sets it apart from other herds in the country – and, indeed, other parts of the world – are the steps it's taken to focus on sustainability and efficiency while, at the same time, also keeping a very close eye on profitability. "That's our key driver," explains Ron Pellow, who led the business during the transition to a smaller but more efficient set up during the past decade. Peter Hancox is the farm manager.

Ron says that producers in New Zealand, like those in the UK, have plenty to be positive about. They're both temperate climates and, therefore, ideal for growing grass. "Our business is to turn sunshine into food – for the cows and then for people. And that's food that's good for the environment and for consumer health. We're using grass to produce

high-quality protein for humans and we should never lose sight of that."

The next target is to do this in a way that's both environmentally friendly and profitable. Ron and the team of staff who run the herd on a 160-hectare rotational paddock grazing system have been focusing on doing just that. "Our land is flat and the perfect grass-growing environment. We can grow a lot – up to 20 tonnes of pasture per hectare a year." That said, they reduced the stocking rate from 4.2 cows per hectare, back in 2010, to 3.4 cows per hectare, in 2014. This reduced the milking herd from 670 cows, down to 630 cows and then further reducing it to today's 560 head, plus 130 followers.

More resilient

Not only has milk-solids yield increased, from 400kg to 500kg per cow (from 5,800 litres of milk), but farm profit per hectare has also risen from £1,575 to £2,051. "More importantly, the business is leaner and more resilient. Our costs are down and we're much less reliant on bought-in feed – we're producing more milk from grazed grass and buying in less grass silage," says Mr Pellow.



The herd calves in a tight six-week block in early spring, with heifers calving during the first two weeks, from late July. Milk is sold to Fonterra and milk price is typically around £3.30 per kilogramme of solids. It has been as low as \$4 (£2.00) and as high as \$8.40 (£4.30) in recent years. Ron says that they consider anything above \$7 (£3.60) to be a good price. “Costs are always going up, so like all milk producers we need to operate as efficiently as possible to maximise our margins and our profit.”

And, he stresses, we also need to ensure that our business is sustainable – both economically and environmentally. That was another factor in ‘downsizing’ and reducing stocking rate.

Taking risks

New Zealand-based producers face stringent environmental legislation and Ron and the dairy team felt that the herd had a responsibility to demonstrate how producers could meet these regulations and still manage profitable and sustainable businesses.

“This meant taking risks and, potentially, a few hits along the way while we figured out what works – but that’s part of our role as a demonstration facility. We set out to change our farming practices to create a net-positive outcome for the environment,” explains Ron.

At first, when they reduced the stocking rate, the herd’s environmental footprint started to ‘creep up’. Nitrogen fertiliser application rates were routinely 40kg N/ha, irrespective of time of the year, because we hadn’t taken sufficient control of this input. “We decided to look closer at our system and asked: what can we change and what did we have control of?” Benchmarking helped here, to compare the business to similar herds and systems and emerging research, and fertiliser use came under the spotlight. Fertiliser use has halved on the 21-paddock rotational grazing system – it was down to 170kg N/ha in 2018/2019, compared to 350kg N/ha in 2011/2012. “And we’re seeing the same, if not more, milk production.

“Imported feed use is also down, which means that more milk is being produced from our own grazing platform. We’re managing our grass more efficiently and timing and targeting our fertiliser applications more stringently. We were previously overstocked, relative to our feed supply, and, as a

COMPANY PROFILE

Name	Ron Pellow
Location	Lincoln University, near Christchurch, New Zealand
Herd size	560 cows, plus 130 followers
Average yield	5,800 litres (500kg milk solids)
Stocking rate	3.4 cows per hectare
Profit	£2,051 per hectare



result, were more liberal with fertiliser applications.” The business was buying in 1,800kg DM/ha (big bale grass silage) in 2011/2012. That’s down to 600kg and has been as low as 500kg, in 2015/2016, which was a particularly good grass-growing year. “We’re always at the mercy of the weather. But it’s about managing that as far as we possibly can,” adds Ron.

The team also has a reseeding policy in place. Grass leys, comprising a tetraploid and diploid ryegrass mix, plus white clover and plantain, are reseeded every seven to 10 years, depending on productivity. Grass growth is monitored using a plate meter by any of the unit’s four full-time staff. A farm manager, an assistant manager and two farm assistants run the herd.

Irrigation, with large mobile booms and with water taken from a 100-metre deep well, typically begins in mid-September and continues through the end of March. Again, this is weather dependent and the unit has electronic soil moisture monitors to help monitor water levels. “Irrigating for between 80 and 100 days out of a 200-day growing season is the norm and it can begin in early spring (September), if the winter has been particularly dry,” says Ron. “We’re looking to maintain a moisture level in the soil while, at the same time, ensuring that there’s enough deficit or capacity for rainfall.”

The herd may be turning an impressive profit now, but Ron would like to see management and efficiency to be fine tuned even further.

“It’s in our remit to continue to strive to do better – not just for the herd and the university, but also because our role is to help other producers to run their herds in more sustainable and profitable way. There are so many other areas of management that can be improved and need to stand up to scrutiny.” |



New Zealand

