



Relishing the challenge

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Consistency and quality are the driving forces on Mike and Sharon Barton's Lake Taupo farm. Building Taupo Beef has taught them more about the relationship between farming practices and what consumers want, plus how to produce quality meat.

"Now I know that if the animal goes hungry it will impact the quality of the meat," Mike says.

When growth is checked, animals run down fat stores resulting in smaller primal cuts and less marbling. The Bartons have learnt from chefs that a lack of consistency is a huge frustration in the restaurant trade.

"They would rather have meat that's 85% of perfect all the time than 100% sometimes and less at other times."

In the challenging Taupo climate continuous growth is not easy. After a long, cold winter grass growth doesn't match consumption needs until October 20. Haylage made onfarm gets them through winter and is a good way to help manage surplus feed in a good season.

The farm is well-subdivided for easy, stress-free shifts with no need for working dogs. Cattle are used to being shifted and respond to Sharon's call, which they get to know after about eight weeks on the farm.

The Bartons prefer to use just one livestock transporter because that company has good drivers and equipment.



A permanent laboratory was set-up on Mike and Sharon Barton's farm to measure nitrogen leaching and research ways to reduce it.

"What we can do has an impact, but who you work with impacts the quality of the meat."

Mike and Sharon have built relationships with beef breeders and stock agents for sourcing the type of weaner cattle they prefer. They have settled on Angus-Charolais as their preferred cross for early finishing, big primal cuts and good marbling. Angus cows are also treated by Overseer as the lowest nitrogen leaching beef breed.

When Mike and Sharon bought the farm in 2004, they ran breeding cows, finishing the progeny and extra trading stock.

"We have to run our farming business on the basis of dollar profit per kilogram of nitrogen leached and breeding cows producing one calf per year didn't cut it," Mike says.

Mature cows were leaching a lot of nitrogen relative to income earned – \$44 net profit/kg of nitrogen leached. The

Environmental effects

Mike and Sharon Barton's Taupo farm is still a base for research into reducing the environmental effect of farming. A permanent laboratory, set-up for measuring nitrogen leaching is at present being used for lucerne research.

Nitrogen leaching from lucerne cut-and-carry crops has been tested by Landcare Research and entered into the Overseer farm model at 5kg N/ha on the light, free-draining pumice soils. Nitrogen losses from lucerne were previously set at 19kg N/ha, too high to fit into the Barton's system. The next trial will test leaching from animals grazing lucerne.

FARM FACTS

Mike and Sharon Barton – Glen Emmreth Farm, on the north-western side of Lake Taupo

- 142ha plus 10ha leased (120ha effective)
- 520-600m asl
- 1450mm average annual rainfall (becoming more erratic)
- Buying autumn and spring-born weaner cattle (mostly heifers)
- Farming under a nitrogen cap
- Producing 280-350kg CW/ha (depending on summer rain)
- Finishing 250-300 cattle a year at 220-280kg CW



Cattle graze on the Bartons' farm with Mt Ruapehu in the background.

farm is better set-up for cattle although they initially planned to finish trade lambs.

"In the years when we had surplus feed I did the analysis and lambs didn't stack up."

The nitrogen cap was introduced in 2012. Mike and Sharon had been exploring what it would mean for them since 2007.

They stopped farming breeding cows and started buying-in weaner cattle to grow as fast as possible. The Overseer farm plan determines how many and what classes of stock they can carry, and what time of year they can be on the farm.

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A six-month-old weaner urinates about 15 times each day in small amounts. A cow urinates 6-9 times, but at larger volumes with a larger concentration of nitrogen.

Most of the paddocks are 3-16ha, except for a 15ha block that has been divided into trial plots for nitrate leaching research. This area is still divided into 0.4ha paddocks, which are great for finishing cattle.

At their current stocking rate and policy, the cattle are using their full



The farm is well set-up for easy, stress-free shifting and the cattle quickly learn to respond to Sharon Barton's call.



About 320 bales of haylage were made this summer.



Soil testing helps determine the Bartons' fertiliser applications.

Full-time farming was a learning curve for Sharon Barton, but she is dedicated and passionate about growing quality beef.



nitrogen discharge allowance. Cultivation for crops or new grass could exceed the allowance. Instead, the Bartons graze and fertilise in a way to encourage growth of preferred existing species such as white clover, cocksfoot and ryegrass. Some plantain has been oversown and red clover undersown.

"I felt we were getting real progress until the brown top started coming back in the drought years," Mike says.

They try to keep residuals at a minimum of 1200kg drymatter (DM)/ha – it goes lower in winter – and no higher than 2700kg DM/ha. In wet summers like this year, the Bartons can't easily buy extra mouths to match surplus feed. Instead, they harvested what extra growth they could into haylage and pulled all the cattle off the hills to control grass on the flats.


"That should allow the hills to reseed – that's our response to unprecedented grass growth and limited stock numbers."

Fertiliser is based on soil and herbage tests. Nitrogen leaching is highest during winter.

When grass is growing it absorbs nitrogen, so fertiliser is only applied after October 15.

Depending on the season, 450-650kg/ha of Sulphur Super 30 is applied. Minerals and trace elements are added if liver tests indicate a need.

Last year 2.5 tonnes/ha of lime was applied to lift calcium and pH levels and to help promote worm activity. Olsen P levels have lifted from 8-12 to 35. Mike thinks that's spot-on for their farm, with grass quality and metabolisable energy at good levels.

No nitrogen fertiliser is applied. The Bartons' Overseer modelling calculates they are adding 250-300kg nitrogen/ha each year through clover growth, but that would be less in a drought year. 

Mike Barton in the five-year-old trial plot of lucerne used for cut and carry research into nitrogen leaching. A new lucerne crop will be used for a grazing trial.



Consistent performers

Mike and Sharon Barton's farm is small, but profitable. They benchmark by providing data to the Beef + Lamb New Zealand Economic Service. They are consistently in the top 5% in this programme for carcass weight per hectare and the top quintile for profitability per hectare. One of their main measurements of farm profitability is income per kilogram of nitrogen leached, currently \$66 on their cattle finishing policy. Earnings before interest and taxes (Ebit) in 2014 – when they won the Waikato Farm Environment Awards' supreme award – were \$915/ha.

"We've wrung all the performance gains we can out of each animal," Mike says.

There is a cost to supplying their Taupo Beef business.

"The nitrogen cap has taken a chunk out of our Ebit, and supplying year-round we need to develop a brand and a premium that will at least match costs. If we just played the market we could add another 20% to our Ebit but we wouldn't be able to develop a brand."

Taupo Beef won the restorative impact category and supreme award in last year's Sustainable Business Awards.





Uncapping the profit potential

Convincing consumers to pay for the environmental costs of meat production could take a generation. For Mike and Sharon Barton, there is no better time to start than now.

Taupo Beef was born from the realisation that farming under a nitrogen cap – to protect Lake Taupo's water quality – also caps farm income. Farmers in the catchment can't increase stock numbers or production to make more money. The only way to keep up with

rising costs is to add more value to their product.

Five years on from the first trials in local restaurants, Taupo Beef now has partnerships with a high-end retailer and wholesaler. More Lake Taupo farmers have come on board, helping year-round supply to the branded beef and lamb business.

An environmental tick from Waikato Regional Council assures customers their meat has been grown with the quality of Lake Taupo in mind. This is the first environmental tick from a regional council. Mike took the idea to a full council meeting – council voted in favour, then developed the tick and logo.

"The only reason the council can give the tick is because we are a catchment model – they are auditing every farm," Mike says.

Promoting a product based on environmental protection requires full traceability. Mike says meat processors' ties to a commodity product made it difficult finding a processor willing to provide that traceability. Greenlea Meats came on board for the initial trials and did a wonderful job. Taupo Beef continues to trial different abattoirs.

Restaurant trials were successful, with diners willing to pay a premium. Taupo Beef is now working with Neat Meat and wholesaler Harmony Foods.

"They are fantastic companies to work with and we could never handle the wholesaling properly and run the farm," Sharon says.

Taupo Beef products are sold in a range of retail outlets, including some supermarkets, and restaurants throughout

the country. Their goal is for consumers to pay slightly more for an excellent quality product that also protects the environment, then grow the brand so it can take on more farmer suppliers.

"To get to the point where we had sufficient scale that farmers in the catchment could grow their business in another way, we needed to get out of Taupo and test the concept out of Taupo," Mike says.

"I don't believe we've done our job until we've got an export market and people are willing to pay a premium for water quality of a lake they may never see."

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There has been interest from overseas and the Bartons will work with Neat Meat to develop that market. Mike says their key market has to be people with enough disposable income to pay a premium and to whom they can explain their farming system relative to water quality.

"It's quite a detailed story and well-beyond what most people want to think about when they go to the supermarket."

The premium for Taupo Beef is not

A neat fit

Neat Meat managing director Simon Eriksen says legislation around farming in the Lake Taupo catchment qualifies the authenticity of Taupo Beef. Adding value across the whole carcass is important for everyone in the value chain to make a profit, he says.

Instead of treating trim cuts as commodity products, Neat Meat are interested in creating an ingredient or final product, such as a burger patty that consumers are willing to pay more for.

Exporting is a small part of the Neat Meat business right now, looking at select markets such as the South Pacific and southeast Asia.

"We have the luxury of being small, but we strongly believe that what we are doing is scalable," Simon says.

"If we can fine-tune our techniques and get our brands under control [in New Zealand] we can make it bigger."

yet covering the costs associated with a nitrogen cap, but it's getting very close.

"We can't suddenly turn a switch on and expect consumers to pay for the environmental cost of food production. The idea over time is to build a model where the full cost of water quality is incorporated into the cost consumers pay."

Mike and Sharon supply all of their cattle into Taupo Beef. Two other farmers in the catchment are now providing all their cattle and most of their lambs. Other Lake Taupo farmers are helping out by contributing stock when needed.

"We're grateful to the small number of farmers who have backed us – they don't get much of a premium to start with, but can see the need to change the meat industry value chain long term."

The Bartons' vision is for Taupo Beef to cover all three forms of protein in the catchment – beef, lamb and venison.

Starting out, there was risk in buying their meat back from the processor, then having to sell it themselves.

"We minimised risk – one way was not buying plant and equipment," Sharon says.

Premium finishing

Kelvin and Denise Martin have switched farm policy to support the Taupo Beef initiative. Until two years ago the couple were grazing dairy heifers on their 120ha farm.

The Martins believe in the concept of consumers paying for environmentally sustainable food but the shift to mostly beef finishing has benefits onfarm too.

"Running a beef finishing system better fits our feed supply. It allows us to go into winter with lower stocking rates and higher pasture covers, which has enabled us to reduce some of our nitrogen leaching," Kelvin says.

Continuous supply does limit flexibility and the ability to sell their animals to the highest-paying processor on the day.

"We hope that as the market develops and the awareness of this product develops, that we'll get a larger premium than we currently are. We're really excited about the opportunities we think it's going to present."

"We were also trying to address fundamental industry issues – if we can't get this to work in this catchment, where are we going as a country?"

Mike and Sharon have reinvested all their Taupo Beef earnings into further developing the brand and growing the business. This hasn't required much in the way of capital and advertising, but a huge amount of time building relationships.

"If you relate to the consumers and are honest about what you're doing they are really keen to be involved. Consumers want to understand where and how their food's grown," Mike says.

The next challenge is earning a premium over the whole beef carcass, not just the prime cuts. Mike is confident they can build a good commercial model.

"If I can't get a premium and grow the value of my meat, I won't be in business."

Lake Taupo beef farmers Sharon and Mike Barton say competition in the meat industry has been one of the biggest challenges to creating the Taupo Beef brand.

Value-added relationships



Intense competition in the meat industry snuffs out premiums farmers could earn from adding value. Mike and Sharon Barton believe the barriers to receiving a premium price is not at the consumer end.

One of the biggest challenges in developing their own value-add branded meat business has been the competitive nature of the industry.

Meat processors have targeted Taupo Beef suppliers with a short-term premium to secure supply, while wholesales have set their sights on restaurant customers, offering meat at lower prices.

"It's normal commercial practice and it's driving the price down and destroying value," Mike says.

He says the key to ensuring suppliers and customers stay loyal to their brand is relationships.

"The industry will not change until we get to the point where relationships are important throughout the whole value chain."

The Bartons are fortunate their suppliers and customers are thinking long term and willing to stick with Taupo Beef. Mike says farmers need to stop selling food at ridiculously low prices and start

internalising environmental costs, such as water quality, into the price.

Developing brands and relationships to be selling in the value-added space is a 15-year process, he says.

"Farmers will need to commit to processors on a medium-term basis. You cannot expect a processor-marketer to meet the costs of developing a brand with erratic supply lines.

"In the end it will come down to the quality of leadership in all aspects of the value chain – at political, regulatory, processing-marketing and perhaps most importantly, at the farmer level."



A moving feast

New environmental regulations around Lake Taupo have not stopped the Bartons from developing their successful Taupo Beef business.

The shift to Lake Taupo was a chance for Mike and Sharon Barton to become full-time farmers.

They knew environmental rules were being developed for the catchment but had no idea it would consume so much of their lives. They soon became heavily involved in research, development and negotiations to form the new regulations.

As chairman of the Taupo Lake Care group, Mike spent 156 days off-farm during the Environment Court process. Sharon schooled herself quickly in fertiliser, animal health, growth rates and breeds to be comfortable buying stock and running things. The couple had built capital by developing and selling rough farm blocks. This was their third farm and a chance to leave their careers in tertiary education to farm full-time.

"[A farm size of] 140ha is probably not economic, but for our stage in life it's a good business and we farm it intensively," Mike says.

The couple did due diligence and bought the farm knowing changes were coming.

"I thought I understood it, but it was a moving feast."

The process was emotionally tough at times. Mike is now a farmer



Trees on the boundary to land leased by the Bartons. Up to 20,000ha has been converted to forestry and lower leaching farming systems.

representative on the Overseer stakeholder advisory group but the couple are enjoying more time to focus on farming and growing stock.

"I like the freedom and there is enormous satisfaction in producing high-quality meat that consumers value," Mike says.

"You reach a point in the corporate world where you're working under limits, goals and KPIs, but it's different here. You get to choose what you do and when."

Rules protecting Lake Taupo have had social implications. Almost one-

third of farm land in the catchment was converted to forestry, reducing the numbers of land owners and farm staff living around the lake.

This is the first year in a long time that the Barton's road has been fully occupied, as confidence returns and people find alternative land uses.

A neighbourly get-together was held to celebrate that fact, a sign that farm life around Lake Taupo is reclaiming a new type of normal.

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The Bartons' neighbouring farm has been planted in pine trees as part of the process to reduce nitrogen leaching into Lake Taupo by 20%.

