



*Sound environmental management is good business*

# CAWTHRON MARLBOROUGH ENVIRONMENT AWARDS

2019

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## JUDGES' REPORT

### FARMING

### THE PYRAMID

|                    |   |
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| <b>INTERVIEWED</b> | Chris, Julia, Richard and Laura Dawkins |
| <b>DATE</b>        | 15 January 2019                         |
| <b>JUDGES</b>      | Chris Beech, Pete Anderson, Matt Oliver |

#### INTRODUCTION

"We farm trees, bees, poos and wees" according to farmer Chris Dawkins of The Pyramid. Located in the Avon Valley, The Pyramid is a family farm with a multitude of different enterprises.

Sheep are the backbone of the farm with a composite breed being farmed for lamb production. Cattle complement the sheep with a focus on Jersey bulls for the dairy industry.

The Dawkins have been leaders in farm forestry with 15% of the farm planted in pine, gums, poplars and more unusual species. The farm forestry can be harvested on continuous rotation and supplies waste wood to a family-run fire wood business.



The family also runs Pyramid Apiaries and has established a 50 ha Sauvignon Blanc vineyard.

Attention to detail is observed in all aspects of The Pyramid, including waste management, care of animal, soil and plant health, and efficient use of resources.

## GENERAL INFORMATION

The Pyramid is in the Avon Valley alongside the Avon, Tummil and Waihopai rivers and covers 602 ha of rolling and steep hill country. The property was purchased by Chris's father Jack Dawkins in 1954 in poor condition; water short, with rundown fencing and no electricity or school bus. The stock had lice and foot rot. The property was turned around as new fences were installed; weed problems tackled and animal health and fertility addressed. With the framework laid, Chris took over in 1978 just before marrying Julia in 1979. Despite retiring to town, Jack remained committed to working around the farm 6 days a week.

Chris and Julia lifted productivity further on the farm by subdividing paddocks and planting lucerne. This involved cultivating to remove the low productivity native grasses and clearing stony riverside paddocks often by hand. A large area alongside the Avon River was fenced with regrowth of native vegetation prompting an 8 ha QEII covenant. Land Development Loans and Livestock Incentive Schemes as well as Catchment Board soil conservation planning and funding were used where possible, enabling pasture improvements, reticulated stock water and tree planting. Farm planning has included adoption of Overseer nutrient management budgets and a Land Management Plan (Farm Plan).

In order to improve profitability and increase re-investment, the Dawkins ventured into the Friesian bull beef market and found they could rapidly grow calves to a saleable weight on their new lucerne pasture. This option worked because of the more flexible sale age and weight compared to heifers or steers enabling holding of stock until prices were good.

This experience led to a management outlook of not shying away from the more difficult types of farming and showed the Dawkins that hard work, research and reinvestment could pay off.

They have always sought technical advice and have challenged themselves to find practical ways of implementing that advice on farm. Science has been a valuable part of their farming with many trials being conducted on farm over the years with trees, pasture and clover types.

Poplar trials included 14 different varieties for a range of different situations. Chris has also been at the forefront of trialing different pasture species, with an emphasis on legumes, to determine which species is best suited to the Pyramid and similar Marlborough farming systems.

Sheep form the backbone of the farm with productivity being improved by a gradual change in breed from Corriedale and Borderdale to a composite breed with better lamb production. The farm is at the top end of ewe flock performance with diligent stock management including the careful integration of the cattle operation, rigorous monitoring of mating, pregnancy scanning and indoor birthing of triplet lambs. Post birth, lambs are closely monitored to ensure survival resulting in an exceptionally high kg of lamb weaned per ewe mated ratio (average weight 59kg). Any orphan lambs are fed colostrum using an automatic feeder along with meal/muesli. Ewes are supplemented with lucerne hay in the lambing shed and the Dawkins are investigating making lucerne pellets for better feeding efficiency (a formerly common export activity not seen in Marlborough for many years). The judges noted that a high producing animal has a lower carbon footprint per Kg meat/wool produced compared to a less productive one.

Cattle are used and traded on The Pyramid to buffer the farm's large surplus of spring feed. The focus is on Jersey bulls for the dairy industry. This class of animal can be difficult to manage but provide good returns through lease arrangements with dairy farmers. Friesian bulls are run and finished for the bull-beef trade. Carry-over empty dairy cows provide income and a valuable pasture grooming service for the sheep flock breaking the parasite cycle and consequently reducing the need for drenches in both stock classes.

Farm forestry has long been an integral part of The Pyramid. Trees have been utilised sensitively to provide commercial forest, shelter and space planting. 15% of the farm is under different species and forms of forestry. Commercial forestry is based around *Pinus radiata* (for continuous commercial harvest rotation) but also includes Californian Redwoods eucalyptus, Tasmanian Blackwood (*Acacia*) and Cypress. Space planting of Poplars, Oaks and *Acacia* provide shelter and shade for livestock, plus an increase in pasture actually produced.



Natives have been planted around dams and allowed to regenerate in the QEII area. The extensive mosaic of plantings also includes such unusual specimens as cork oak and *Gleditsia* (Honey Locust). While not all plantings have been successful, forestry in all its forms provides multiple benefits for the farm including erosion control on slopes and around waterways, additional feed in dry periods, dual income streams as well as landscape and aesthetic benefits.

An unexpected benefit has been improved compliance during European market audits. Improved shade and shelter for animal welfare is increasingly viewed as compulsory by export partners along with reticulated water. An FRI evaluation showed that despite turning over 15% of the grazing area to trees, the property's carrying capacity had actually increased.

The Pyramid is a true family farm. Chris took over from his father and members of the 3rd generation of Dawkins on The Pyramid are now working with their parents. Pyramid Apiaries is owned by daughter-in law Laura and son Paddy. They manage 336 hives with 140 hives located on The Pyramid collecting multi-floral honey, propolis and rearing queen bees. Bees feed on lucerne and clover flowers and the many trees found on farm. They have an essential role in pasture reseeding as well as providing income.

In addition to farming alongside Chris and Julia, son Richard runs Flaming Firewood, a firewood supply and delivery business using waste wood from the farm woodlots. Any wind-thrown trees or post-harvest waste is collected, cut and split. As the farm forestry was planted on rotation, continual firewood production is expected. These diversifications are not feel-good activities; these are livelihoods and serious profit-making ventures.

A 50 ha vineyard has been established on the property and includes a large storage dam for irrigation, frost protection and stock water reticulation. With pastoral land valued around \$7,000 per hectare and viticulture land at \$150,000 per hectare, it was an easy investment decision despite viticulture not being one of the family's passions. The decision to lease the vineyard and employ a management company was made due to another family ethos - "if you're not passionate about it, don't go there". Nevertheless, the lease provides good returns and the land remains part of the property. No land re-contouring was performed during the establishment of the vineyard preventing any long-term soil damage.

The vineyard reduced the productive capacity of the farm by around 380 stock units. However increased capital value, forest harvest returns and vineyard lease fees has enabled the purchase of a 200 ha subdivision of the neighbouring Tummil Hill property running 400 stock units, but with the potential to run 1000 stock units with careful development. Work is progressing clearing, fencing and afforesting this land in the same manner as the rest of the farm.

Chris and Julia have made valuable contributions to the farming community over the years. Chris led the committee organising the New Zealand Farm Forestry Association conference held in Marlborough in 2014; was South Island Farm Forester of the year in 2008 and is a founding trustee of the Sheep and Beef Farmer of the Year awards. Julia is involved in Rural Women NZ and volunteers for support groups. As a Beef + Lamb NZ Monitor Farm, The Pyramid hosted many farming field days to spread the word about good farming practice.



## PROBLEMS AND HOW THEY HAVE BEEN TACKLED

Trees were not seen as an asset when the farm was started but extensive planting has occurred as their benefits were realised. Improvements in shade, shelter, stock management, soil fertility and pasture production have compensated for the reduced pasture area.

Problems with footrot were dealt with by strategic stock grazing/ movement, careful farm design and later using DNA analysis. A central raceway system reduced exposure to areas where footrot could be present and has enabled much easier stock handling. DNA technologies promoting footrot tolerance are rigorously followed when purchasing rams and assessing progeny, and aims to improve genetics over all.

The high fertility/scanning percentage is a challenge for lamb survival. This is addressed by intensive shepherding, indoor lambing of triplet-bearing ewes and development of feeding techniques for orphan lambs.

Rocks and boulders that covered much of the flat land were painstakingly picked up but not wasted being used to support tracks and waterways and placed where they were aesthetically pleasing.

The Dawkins have spent a lifetime drought-proofing The Pyramid. However, the clay-downs nature of the country means that the farm is vulnerable to wet seasons with its heavy Jordan soils. As grazing is now relatively intensive, they also have to wet-proof it, with attention to all-weather tracks, drainage and run-off.

Weed issues on The Pyramid have largely been dealt with, but the addition of the Tummil Hill has required more weed control. Nassella tussock is grubbed, heavy broom is sprayed or mechanically raked. Spot spraying continues, targeting a balance between weed control and feed for bees. Native species such as *Melicytis* (porcupine shrub) and Manuka (traditional hill country weeds) are now retained where practical. Old man's beard is controlled in the QEII covenant.

The Dawkins are incredibly loyal to their farm and work long hours to ensure its success. This owner-labour intensive system may need to be looked at to ensure a better work/life balance. Although they believe that "work is their hobby", the effort they have put into the farm also deserves reward and rest from time to time.

## SUMMARY

Over the years the Dawkins have developed an excellent understanding of their farm leading to outstanding farm performance while enhancing environmental outcomes. They are very good at evaluating options for the farm and the environment. They keep informed about trial work and new developments, and readily seek technical expertise from scientists and advisors, modifying new information to suit their property.

The farm has developed into a “landscape farming” operation with land use well matched to land capability. Areas suited to pastoral production are intensively managed to maximise lamb and beef production, while the forestry, firewood and apiculture businesses are seen as complementary ways of maximizing returns on less suited areas. This is an excellent example of a production system matured around land capability, identifying where different enterprises perform best and making the most of opportunities without compromising environmental values.

The judges saw The Pyramid as a valuable model for other farmers. They were impressed by the fact that the business is extremely sound, both economically and environmentally. Good management and multiple enterprises combine to improve farm returns. This is an important environmental concept that would be of financial and environmental benefit nationally.

It was clear to the judges that the next generation has inherited and absorbed Chris and Julia's strong values, and will carry on the tradition of sound environmental and farming management.

## SUGGESTIONS

- Plan weed control carefully to minimise harm to bee enterprise. Some “weed” species may provide important food sources for bees in various seasons.
- Implement strict M. Bovis controls to ensure traded cattle and dairy bulls are not infected.
- Seek advice regarding management of native plantings to improve survival rate. Mulching with wood chip from the firewood business may help here.
- Look to include the Tummil river banks into the SNA/QEII area once fencing is completed. Council may be able to assist under the SNA programme.
- Investigate the introduction of dung beetles to improve dung management, soil fertility and reduce runoff.
- Investigate starting an internship scheme. The farm is an excellent model and could provide valuable experience and knowledge for aspiring farmers.