

## Succeeding through the seasons

### Part 2: Feedbase and fertility

#### Neville and Ruth Kydd, Blighty, NSW

#### Feeding

Neville and Ruth have always had an absolute focus on pasture growth and utilisation.

Before the drought the farm was sown to 69% perennial pasture and 31% annual pasture on average. This strategy changed through the drought and they grew more annual pastures to take better advantage of their limited water supply and winter rainfall, and some perennial pasture was not irrigated the whole way through summer. The ratio dropped to 40% perennial and 60% annual pastures during this period.

“When water was restricted we only irrigated 60 ha of perennial pasture each year, rotating the area grown each year to try and mitigate the damaging effects of the bore water,” Neville said.

Graph 1 (page 2) shows the impact the drought had on the amount of pasture that was utilised per hectare, with a steady decline in pasture utilisation from 2002/03. The effects of the variable climate and the resulting reduction in pasture utilisation can be seen in the variability of pasture in the diet of cows. From 2000, the greatest amount of pasture in the ration was 77%, with the lowest amount 43%.

Through this difficult period Neville and Ruth remained committed to the pasture-based system and avoided investing in infrastructure and equipment that would require a considerable system change. They did, however, bring more flexibility to their pasture-based system.

The Kydds were prepared to alter the stocking rate to ensure that each cow still had a large portion of pasture in the diet to reduce exposure to the forage market.

#### Key Points

- The Kydds have taken a flexible approach to a pasture-based system.
- Prepared to feed large quantities of grain when forage is in short supply.
- Recognised that herd fertility was an issue and made changes to combat the problem.
- The business is ready to take advantage of favourable terms of trade.

#### Farm profile

**Herd:** 1,000 cross bred cows

**Calving pattern:** Seasonal calving with heifers starting in early June and cows in late June.

**Farm size:** Total farming area of 970 hectares with 1,680 ML of water entitlement and 130 ML of bore water entitlement. The effective milking area is 370 hectares, with the current stocking rate running at 2.85 cows per effective hectare.

**Dairy:** 50-unit rotary dairy.

**Production:** 5,178,075 litres per year or approximately 450,000 kilograms of milk solids.

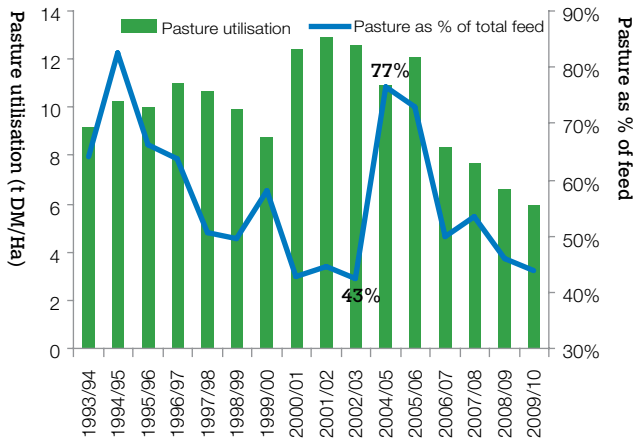
**Predominant pasture:** Perennial ryegrass and longer rotation annual ryegrass.

**Feeding System Classification:**

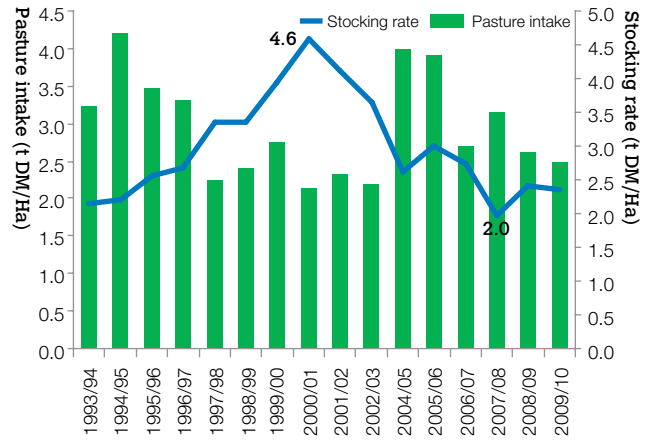
Type 2 – Pastures, forages and moderate to high grain feeding in the bail (up to 1.5 t of wheat fed in the dairy).



Neville and Ruth Kydd



**Graph 1:** Pasture utilisation per hectare (t DM) and pasture as a % of all feed fed to cows.



**Graph 2:** Pasture intake per cow (t DM/cow) and stocking rate (cows/ha).

In 2000/01 the stocking rate was at an all-time high – 4.6 cows per hectare. The Kydds knew this added risk to their business, so they bought more land to lower the stocking rate and provide more security.

They were also prepared to sell cows to reduce stocking rate (and risk) and protect their grazing system. In 2007/08 they reduced their stocking rate to its lowest point – two cows per hectare – by selling off a portion of the herd.

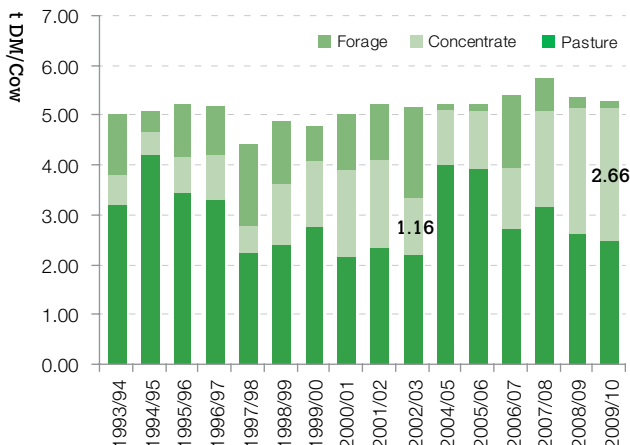
Graph 1 shows that from 2006/07 to 2009/10 there was a steady decline in pasture utilisation from 8.4 t/DM to 6 t/DM per hectare. However, Graph 2 shows that they were able to maintain dry matter intake of pasture above 2.5 t per cow.

This approach to the variable climate meant the Kydds avoided investing in infrastructure and equipment needed to shift to a more intensive feeding system. By selling cows to reduce the stocking rate they were reduced the wear and tear on machinery that would have been necessary if they fed more conserved forage. This also reduced the pressure on the people working in the business at the time.

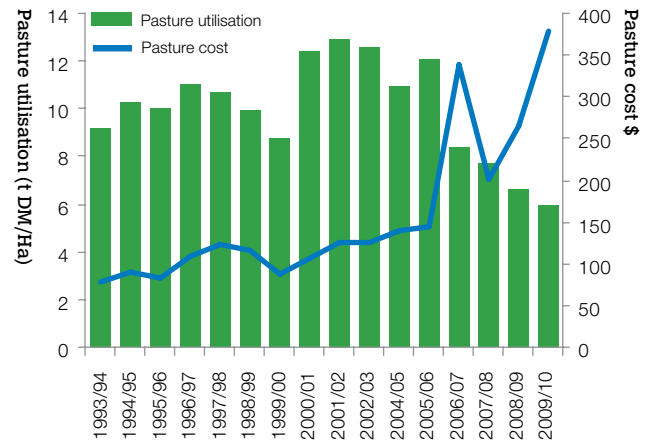
To increase the flexibility of their system, without the need for further labour and equipment, the Kydds fed more grain through the dairy. Neville also felt that buying grain was cheaper and more effective than buying forage.

Graph 3 shows the annual dry matter intake for pasture, concentrate and forage per cow. It highlights the Kydds willingness to be flexible in their approach to feeding cows. In 2002/03 they fed 1.16 t (DM) of concentrate per cow, while in 2009/10 they fed 2.66 t.

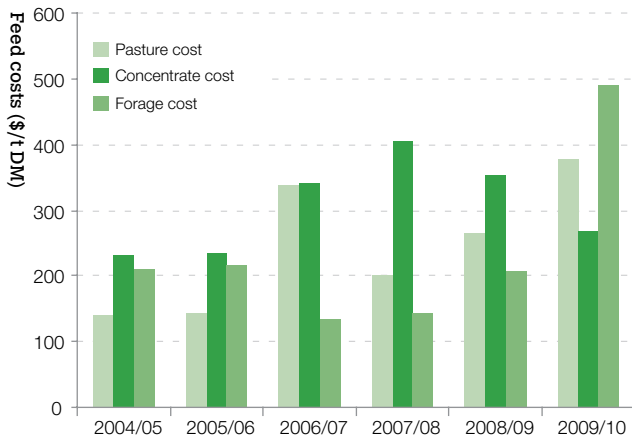
The challenge facing any pasture-based dairy farmer is to keep growing and utilising as much pasture as possible, while keeping the cost of the pasture as low as possible. Graph 4 highlights the impact that the price of irrigation water and the volume of pasture harvested per hectare had on the cost of pasture. With decreasing pasture utilisation per hectare and increasing input costs per hectare (water and fertiliser), the cost of pasture has increased significantly. Before 2002 the Kydds' average cost of pasture was \$102/t DM, but since then it has averaged \$236/t DM.



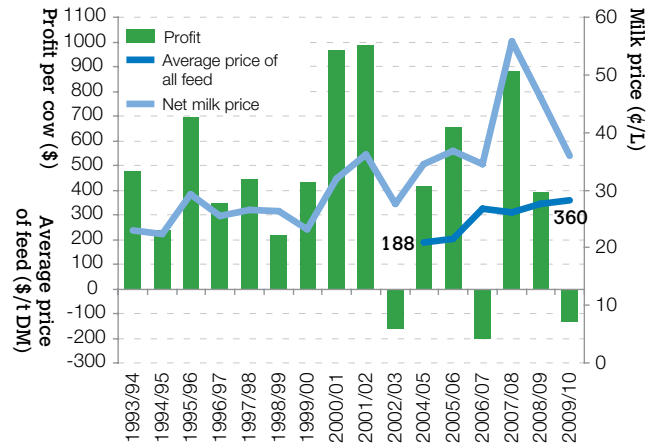
**Graph 3:** Dry matter intake per cow.



**Graph 4:** Pasture utilisation per hectare and pasture cost per tonne.



**Graph 5:** Pasture, concentrate and forage cost per tonne of dry matter.



**Graph 6:** Profit per cow and milk price per litre.

Before the drought pasture was seen as the cheapest source of feed. However, with increased pasture costs through the drought and volatile grain and forage markets, pasture was often dearer than forage, and in 2009/10 it was dearer than grain (Graph 5).

The Kydds summarised their drought strategies as follows:

- By maintaining a pasture focus they avoided investing in feeding infrastructure and equipment.
- More land secured their pasture and forage needs, and reduced their reliance on bought forage.
- Stockpiled homegrown forage reduced the need to buy forage at high prices.
- Bought grain was cheaper and easier to feed than bought forage.
- Flexibility with stocking rates ensured pasture remained an important component of the ration.

## Fertility Focus

In the mid-1990s the Kydds realised herd fertility could become an issue if they didn't do something a little different.

“We reached a point where we had an extended joining period and still had an empty rate of 20%. We had to AI for nine weeks to keep the replacement numbers up and then the bull went out until the end of March,” Neville said.

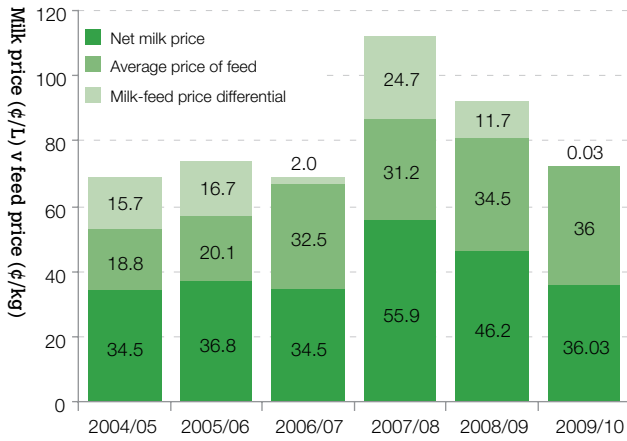
For all the effort they put into joining they did not get enough heifer calves, so the Kydds rectified this by joining their Friesian cows to Jersey bulls (1997). The result was good, so they continued to cross breed the herd.

“After seeing the results of the crossbred cows in the herd, we started inseminating the whole herd to produce crossbred calves. We started three-way crossing in 2006,” Neville said. Their current empty rate is 6%.

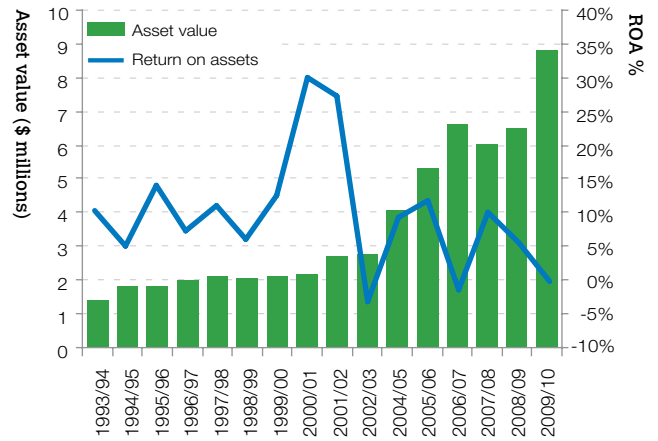
The drought also prompted them to move the calving date forward to early June, to take advantage of the annual pasture growth from rainfall. With an increased proportion of annual pasture on the farm and limited irrigation water, it was important to maximise the grazing window that was not reliant on irrigation.

“In the drought we sold all our late-calving cows, to keep the calving pattern tight and focused.”





**Graph 7:** Milk price per litre compared to average feed price per kilogram.



**Graph 8:** Asset value and return on assets.

## Business Performance

The Kydds have achieved strong returns over the past 16 years, and with the exception of the low water allocation years of 2003 and 2007, and the drought recovery year of 2010, their returns have been positive. The average return on assets over this period was 10.3% (Graph 8) and the average profit per cow was \$417 (Graph 6). The average return on assets since 2002/03 has been 4.2%.

Graph 6 shows the impact that milk price volatility and the increasing average feed price had on profitability. Since 2004, milk price has varied 21.4¢/L, with a low of 34.5¢ and a high of 55.9¢, while average feed prices have grown steadily from \$188/t DM to \$360/t DM.

The cost price squeeze experienced by farmers over the past seven years is highlighted in Graph 7. It shows the milk price in cents per litre and the average feed price in cents per kilogram; all remaining costs must come out of the difference between milk price and feed price. As the graph suggests, it is difficult to make a profit when feed costs are increasing and milk price is falling.

Well-laid drought strategies are easily undone by volatile milk prices and input prices, and to survive through these periods a business needs to show resilience.

A strong equity base has brought strength and resilience to the Kydds' business and allowed them to manage through a period of volatile milk prices, increasing input costs and climate variability. Through this period they have also managed to increase net worth and grow their asset base.

This was made possible by taking a flexible approach to their farming system and having the business ready to take advantage of favourable conditions as they appeared. This agility is highlighted in Graph 6, which shows where they went from a loss of \$200/cow in 2006/07 to a profit of \$880/cow in 2007/08. Graph 8 shows that while assets have continued to grow over time, returns have become more volatile, particularly since 1999/2000.

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