

# Succeeding through the seasons

## Part 1: Case study farm overviews

### Ian & Karen Litchfield, Mayrung, NSW

In 1989, Ian and Karen moved from Dungog to Finley to sharefarm for Karen's parents. In 2000, Karen's parents sold the farm and Ian and Karen bought their own property at Mayrung and started milking with the 170 cows they owned. The 182 ha property had a 657 ML water entitlement.

They developed 60 ha of the new farm between 2000 and 2005. In 2006, they lease-purchased a neighbouring 109 ha property with a 362 ML water entitlement.

As the drought took hold, in 2007 they decided to start building the rotary dairy and in 2008 built the feedpad and shade shelters. To provide further security, in 2009 they bought the 129 ha 'Yargunyah', with its 900 ML deep bore extraction licence.

#### Key points

- Climate variability has resulted in a change in farming system, including construction of a feedpad and shade shelter to improve feed use (feed conversion efficiency and wastage) and cow comfort.
- More land bought to increase the area available for growing feed.
- Pastures will continue to be grazed from April to November, but the milking herd will be confined to the feedpad and fed a PMR from December to March.
- Summer forage crops, such as maize and lucerne, will be grown for hay and silage.

#### Farm profile

**Herd:** 500 pure bred Holstein cows.

**Calving pattern:** Calve for four weeks in March, May, August and November.

**Farm size:** Effective milking area of 150 ha, total farming area 420 ha; 1,019 ML of water entitlement and 900 ML deep bore extraction licence.

**Dairy:** 50-unit rotary dairy, milk meters and individual feeding.

**Production:** 4,703,387 L/year (2009/10).

**Rainfall:** 342 mm average for past 10 years; Deniliquin's long-term average is 409 mm.

**Irrigation:** Irrigation allocations have been low and variable over past 10 years.

**Predominant pasture:** Annual ryegrass with clover.

**Summer crop:** Maize for silage.

**Feeding:** Pastures supplemented with up to 3.46 t of wheat, canola and lupins fed in the dairy and on the feed pad.

**Feeding system classification:** Type 4 – hybrid system with pasture grazed for fewer than nine months of the year and a PMR is provided on a feed pad for the balance, with concentrates fed in the dairy.



Karen and Ian Litchfield

## Variable climate

Ian and Karen have seen a steady decline in average annual rainfall and water allocations since 2000. This has resulted in a shift from entirely pasture based feeding, with perennial and annual ryegrass forming the base of all rations, to a system based on grazing cows on annual pastures from April to November and feedlotting them from December to March.

“Prior to the drought we had one-third of the farm in perennials and two-thirds in annuals, and we had a very strong pasture utilisation focus,” Ian said.

“We started using a nutritionist a lot more when the drought took hold, as we were doing a lot of new things when it came to feeding.”

The change of management was brought about by a number of factors:

- Increasing temporary water prices started to make the cost of perennial pasture unviable. “We probably persisted 12 months too long with the perennial pastures in the hope they would give us a return,” Ian said
- A shift to annual pastures and cereals would require less water and take advantage of the winter rainfall.
- “A trip to the US showed us that we could set up a drylot feeding system with limited capital and that this system could provide adequate cow comfort to maintain high production,” Ian said.
- With electronic drafting and milk metering in the new dairy, Ian and Karen were easily able to group cows based on production and feed them accordingly.
- Cows were more comfortable on the feedpad with shade sheds than they were grazing, and so produced more milk.

“The price of water and the shortage of feed forced us to change the way we farm, but we won’t go back to doing what we used to do,” Ian said. “We will continue to grow a summer crop such as maize and conserve a heap of annual pastures and cereals.”

## Risk profile



Ian and Karen ranked themselves between 6 and 7 on a 10-point risk aversion scale.

“We are prepared to take risks and also prepared to take on debt. It was a risky decision to build the new dairy in 2007, when water was repossessed by the government. But we had done the numbers and understood that while it was going to stretch us, we were prepared to take the risk,” Ian said.

“In hindsight it was the right decision. Because we were focused on what we wanted to achieve, the decision to build the dairy was made easier. Without the dairy we wouldn’t be able to achieve our goals.

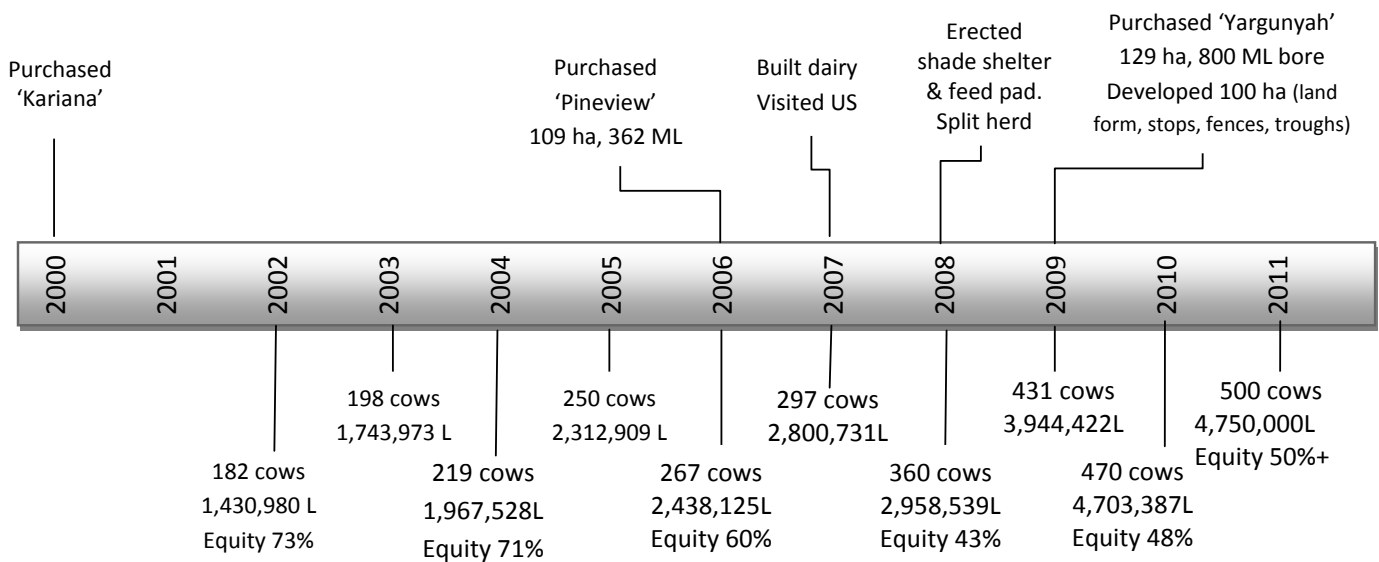
“The US tour had a big influence on the decisions we made. It confirmed that we were doing the right thing by building the dairy.”

Other risk management strategies included:

- always buying water when it was affordable, as a means of securing their feed base; and
- carrying over water wherever possible to secure a start to the next season.

“Something we didn’t do through the drought was to maintain the fertiliser application program and we paid for it last winter,” Ian said.





**Graph 1:** Historical timeline graph of capital purchases, development and growth.

## Expansion and capital development

Ian and Karen bought land and water to provide more security to the feed base. Through the drought, bought forage was often too dear and the quality questionable.

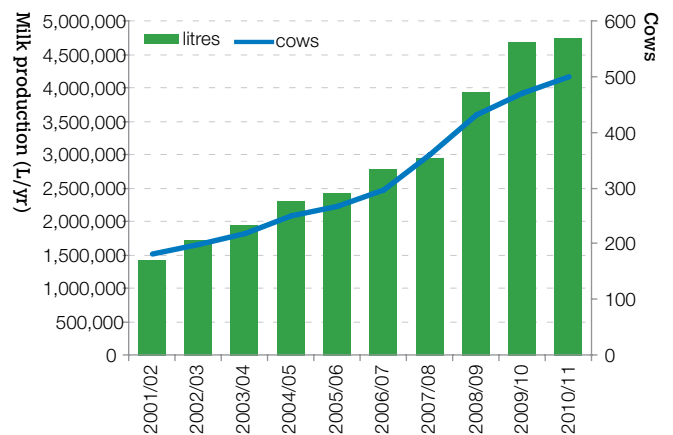
“Our land and water purchases will add some feed security to our business and will allow us to build a feed inventory for tough times,” Ian said

The trip to the US also highlighted the need for proper feedpad facilities.

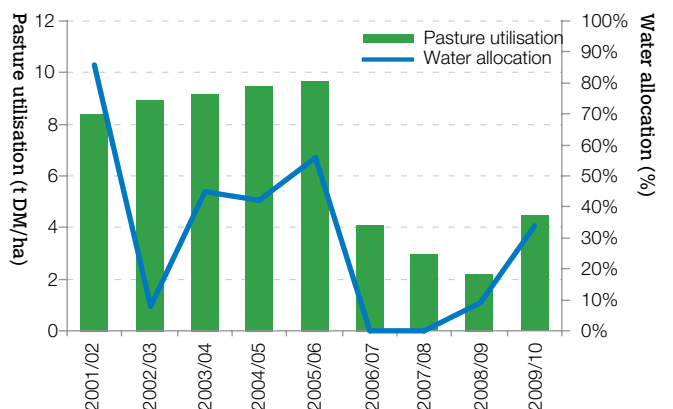
“Shade was an issue that was compounded once the cows were on the feedpad, as they no longer had access to trees in the paddocks.”

The trip to the US was in August of 2007 and by January of 2008 they had developed the feedpad area and shade sheds. With the technology in the dairy, they were easily able to split cows into groups and feed them according to production.

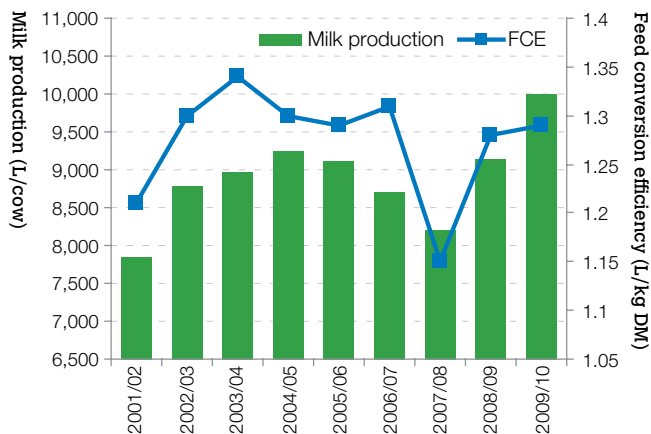
With the shade sheds close to the dairy, they were able to bring the cows to the dairy and wet them with the sprinklers. On really hot days, cows could move freely from the feedpad to the dairy to get wet and return to the feedpad.



**Graph 2:** Milk production and cow numbers



**Graph 3:** Pasture utilisation and water allocations.



**Graph 4:** Production per cow and feed conversion efficiency.

## Feeding strategy

Ian and Karen try to fully feed cows according to production. The herd is split into two groups and milk meters in the dairy allow them to link feed to production in the dairy.

“The drought showed us that we need to have more control over our feed base to ensure feed quality and a good production outcome, at a reasonable price.” Ian said.

“Cropping farmers wanted to hang out as long as they could to get a grain yield and this most often resulted in a deterioration of quality when it came to milking cow feed.”

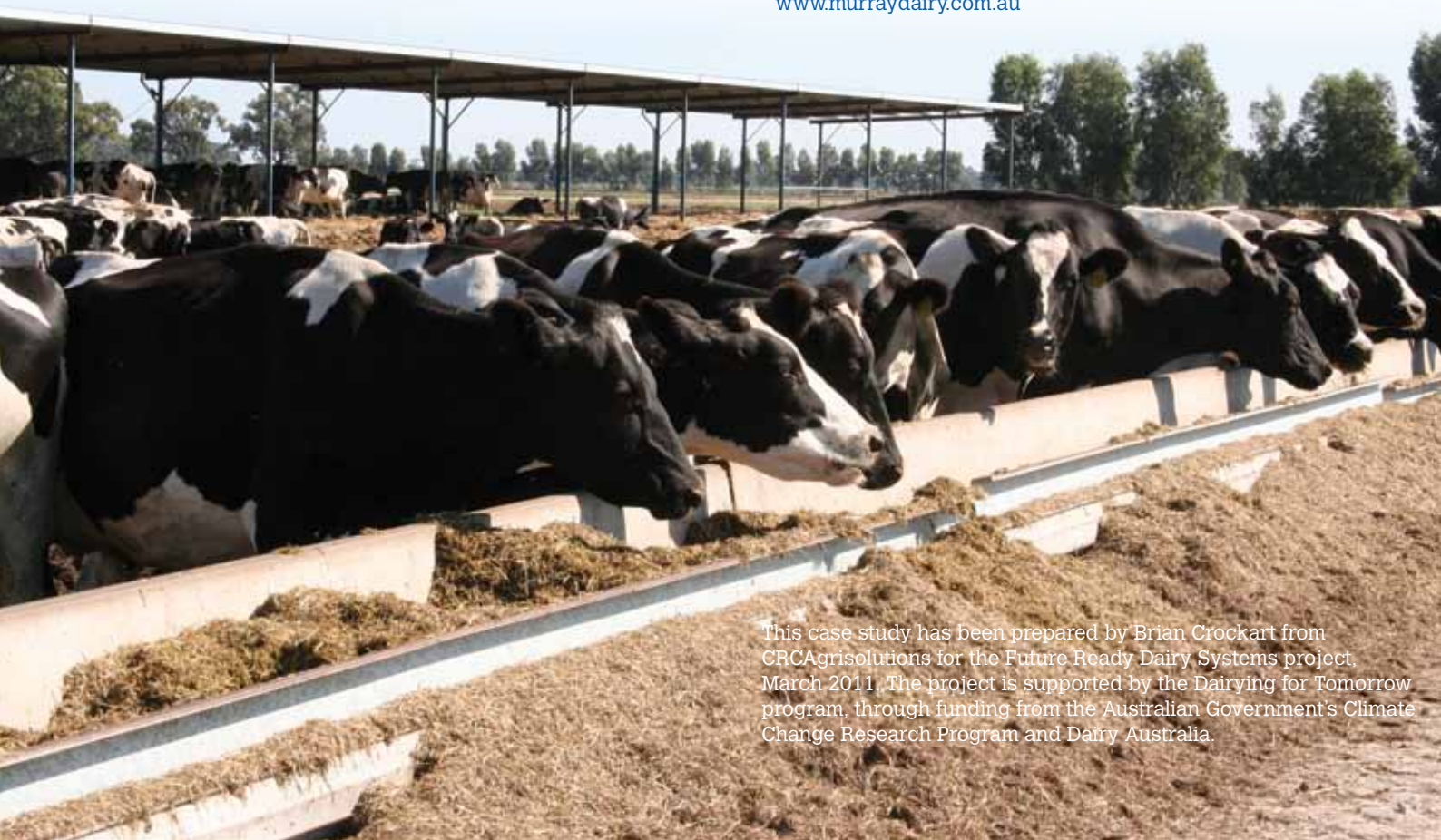
Graph 4 highlights the impact of poor-quality forage on production per cow and feed conversion efficiency in 2007/08.

“There was a lot of panic buying in the market and we ended up buying expensive forage of poor quality. This is one of the major lessons we learnt through the drought – always buy quality where possible,” Ian said.

### Lessons from the drought

- Sourcing feed is not easy and it pays to have more control over the feed base.
- Poorly contracted feed can cost a lot of money – “We thought we contracted maize at a price, but the price kept changing. Contracts need to be formalised on paper!” Ian said.
- When water is too expensive, abandon pasture early, otherwise it will end up being expensive feed.
- Focus on quality – poor-quality feed ends up costing you.

Contact Murray Dairy  
 T +61 3 5833 5312  
 F +61 3 5833 5929  
 E [admin@murraydairy.com.au](mailto:admin@murraydairy.com.au)  
[www.murraydairy.com.au](http://www.murraydairy.com.au)



This case study has been prepared by Brian Crockart from CRC Agrisolutions for the Future Ready Dairy Systems project, March 2011. The project is supported by the Dairying for Tomorrow program, through funding from the Australian Government's Climate Change Research Program and Dairy Australia.