

## CASE STUDY

# NAVIGATING CHANGING WATER MARKETS AND VARIABLE CLIMATE

Plan2Farm irrigation business planning

## Background

Farm Owner: GJ Quinn and Sons  
Area: 5000 acres  
Location: Cohuna, Victoria  
Enterprise: Dairy  
Irrigation: 1150 Murray ML and  
350 ML Goulburn water  
Infrastructure: Border check

When Pat Quinn's parents first bought the property in 1948 it was a sheep farm of 440 acres. Too small for sheep farming.

Pat's father began transitioning to a guernsey stud four years later and had phased out sheep by 1970. Sons Pat and Bill continue to work the farm with Pat's wife Michelle and their children; Gregory, Kaleb and Erika. All bring a complimentary skillset to maintaining and building their farming enterprise.

The family have expanded the original 440-acre footprint and their most recent purchase of 1200 acres brings the total size close to 5000 acres, with 2500 acres of good soils regularly irrigated and 800 acres of Goulburn irrigation region.

## How have you changed irrigation infrastructure on your farm?

The Quinns' farm sits on the border of Victoria and NSW, where the Goulburn ends and the Murray starts. Irrigation was flood irrigation gravity fed from the Murray River in NSW and Torrumbarry system in Victoria.

The Quinns have focused on land purchasing and managing their water entitlements. The purchase of 800 acres of land in the Goulburn region meant the family initially enjoyed the security of two allocation systems. This changed when the inter valley trading regulation was introduced and they were faced with complexities of managing water across two irrigation systems.

The Quinns follow the water markets, and study trends but "sometimes it's a bit like backing a racehorse, you study the form to get a bit of an idea of what's going on and consultants can only advise with the knowledge that they have available to them at a point in time," says Pat.

They converted their small, run-down channels into one major fully automated system, allowing them to ensure optimal water use and returns.

## How has climate variability changed the way you use water in your farm business?

Today the Quinns have a totally different way of using water. Through the 70s', 80's and most of the 90's they irrigated summer perennial pastures – that was until the Millennium Drought. In 2002 it was no longer viable to irrigate that way, it took too much water and yields were low. At that time the Quinns were doing partial feed pads, but changed direction and started to grow irrigated fodder crops, cereals and vetch to develop a 50:50 grazing and feed pad system.



In 2014/15 it was hot and dry and water became a big issue. Then in 2016 rainfall was well above average. "It felt like it rained for the whole year. It was so wet, the gravel feed pads disintegrated and had to be replaced with concrete," said Pat.

"By 2017/18 it was dry again, and our water utilisation was not good enough, so we converted to a fully fed system, with no grazing. We went from growing grass to cereals and vetch. Now, only the heifers graze pasture". The Quinns put great credence on the advice of their agronomist and their dairy business consultant. Both have a big influence in their detailed rolling crop rotation plan.

"We went from growing grass to cereals and vetch"



# What impact did the changes have in ensuring your business is more resilient in the future?

They are able to double their yields growing cereals compared to pastures, the quality is better and the cows diet can be managed better by utilising silage, grain, hay, vetch and minerals.



"With cereals we can double the yield per megalitre, the quality is much higher and the diet can be better managed"

Water is one of the highest costs in the business, and by changing from growing pasture for grazing to a fodder-based system the Quinn's saw the following improvements:

- More tonnes of feed per megalitre of water.
- A better quality controlled diet for the cows so that even in a dry years they can easily feed the cows with a mixed ration.
- In a variable climate, they keep a good reserve, but it's more cost efficient to buy in local feed to supplement when needed.
- Improved effluent management, spreading manure on the paddocks allows the benefit of selective fertiliser use.
- Massive improvements in soil structure by reducing continuous grazing.

## Further Information

[Plan2Farm – Irrigated Cropping Council](#)  
[Agriculture | North Central Catchment Management Authority](#)  
[nccma.vic.gov.au](http://nccma.vic.gov.au)

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