



Love Our Lakes

Gippsland Lakes



Every drop counts

WHEN Brad Missen thinks about improving water efficiency on his dairy farm, he can look to the past and the future for inspiration.

The 100 hectare Missen family dairy farm at Denison in the Macalister Irrigation District (MID) was one of the first in the region to install major water recycling infrastructure as part of a whole farm plan.

Today, Brad is at the forefront of tapping into technology that will make even better use of the precious irrigation water that is the lifeblood of the district.

"When I was still at school, my father Jim built one of the first recycling dams in the district," he said.

"It was small dam - probably half a megalitre on 30 hectares of catchment - but we saw the benefits of what we can do with a recycling dam, the production gains we had and the minimising of water losses."

Jim Missen's foresight in the 1980s has been carried on by his son, who is embracing information-age technology in the pursuit of efficiency gains and reducing the amount of potentially harmful run-off into nearby waterways.

Soil moisture monitors send updates to Brad's smartphone, letting him know the exact amount of water that is needed

for maximising pasture growth.

"The moisture probe is our next step," he said.

"It can tell you when to irrigate just by looking at the moisture probe data.

"By better scheduling our irrigation, we can improve our water usage - meaning we don't irrigate too soon or too late."

Combined with high flow flood irrigation, the Missen farm makes the most of every drop.

"In the past we would have had two or three bays irrigating a hectare through the water wheel, whereas we now irrigate with one bay at a time with a flow rate of basically double of what we were using.

"Our bay opening time is aimed at one to two hours per bay, whereas in the past it could have been five or six hours, which minimises seepage, particularly on our soil here."

Automation of irrigation flood gates will not only allow Brad to stay in bed instead of opening and closing gates every hour during the night, it is also improving farm efficiency at a dramatic rate.

"We've been using automatic time clocks for 15 years and we've been fortunate to have a demonstration site on the farm for automatic gates which are web based, meaning they can be operated from anywhere in the world," he said.

This combination of water saving measures and automation technology looks set to improve what is already some of Australia's most productive farmland producing more than 20% of Gippsland's milk all within a 30km radius of Maffra.

"Now we are talking about huge volumes of water being saved and labour being put to a productive use that would have otherwise been lost."

The Missen farm at Denison is only a short drive west of Lake Wellington and is near the Thomson River which feeds into the Gippsland Lakes.

Brad, who is well aware of his proximity to the lakes and river system, wants his farm to work in harmony with them.

"We are only a couple of kilometres here from the river, so the river is part of life," he said.

"We certainly don't want any problems caused in The Lakes by what we are doing."

It's a sentiment he believes is shared by farmers across the MID.

"There's still lots of things we can do to improve, but I definitely think farmers consider the environmental impact of their decisions these days."

In it together

DAIRY farming can be a tough business, with rainfall and milk prices not always helping farmers to turn a profit.

Making large-scale investments on efficiency infrastructure isn't always possible, especially when seasons are tight and it's a battle to keep the books in the black.

For Brad Missen, the support of incentive schemes and subsidies for water efficiency improvements has made a massive difference to his farm and the whole of the MID.

"The biggest change has been the program subsidies for whole farm and irrigation planning for recycling dams and conversions," he said.

The program, run by West Gippsland CMA and Department of Economic Development, Jobs Transport and Resources, has in the past provided financial incentives towards on farm improvements such as re-use dams, whole farm planning and flood to spray conversions.

"Without the incentives, I'd say less than ten per cent of the current reuse-dams would exist."

The reason that farmers struggle to go it alone on infrastructure project is the long payback time for money spent.

Like any other business, dairy farms have bank loans and cash flow issues that need to be dealt with on a monthly basis.



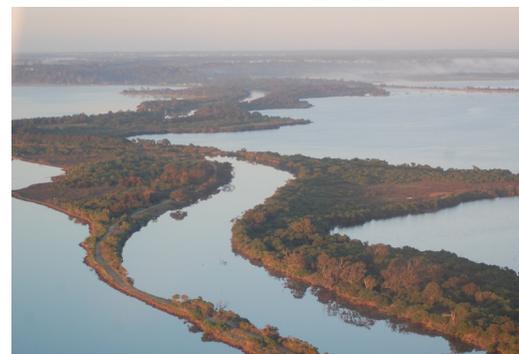
Spending money that they won't see for more than a decade is not often an option.

"We were looking at a 17 to 18 year payback last time, which is now down to six or seven, which just gets it within the potential to go and do it," Brad said.

"Even during the drought years, when it is easy to economically justify a recycling dam, it's still a big decision."

Even away from the farm, modernisation of irrigation channels through the Southern Rural Water MID 2030 Project, has improved the way farmers use their water allocations.

"Certainly with the upgrades to the district's irrigation system we can better order our water through the Total Channel Control system, and getting it closer to when the timing is right."



Thinking ahead

LIKE every other farmer who has seen his share of tough times, Jim Missen hates to see waste.

When your livelihood revolves around how much water flows into your irrigation channels each year, making the most of every drop is a priority.

Back in the early '80s, during one of the worst droughts in Australian history, Jim looked at his farm and realised water – and thus money – was going down the drain.

"We had a farm plan done in '82/83 and a recycling dam was part of that plan," Jim said.

"Every time we watered, I'd look down and think that there's water running away.

"I thought if I could save that water, it would cut my time of watering, let alone all the water I would save. That was a big incentive for me."

Trying to keep his head above water financially during a drought, Jim was in no position to be spending money on anything that wasn't good for his farm's bottom line.

Saving water, however, was a win for more than just his balance sheet.

"We had to make money out of it too - we are a business like anyone else," he said of the Missen family's early forays into water saving infrastructure.

"There has to be a benefit at the end, which can be the environment, using less water, recycling effluent and nutrient runoff.

"You need to remember that we can empty the dam at Glenmaggie in about six weeks, so we value every megalitre of water."