

# Water Efficient Farming



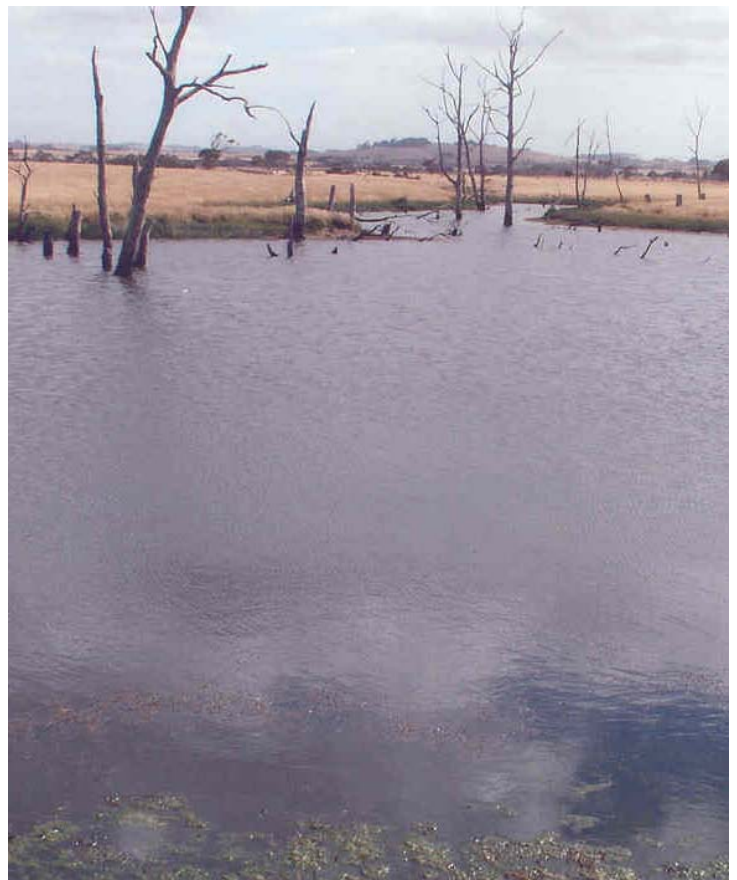
## Dam lucky – turning a resource into an asset

By September 2006, Wonthaggi dairy farmer Graeme Mabin was getting nervous. The dam he used for his entire dairy operation, including watering his 400 cow herd, was running low, and there was no rain in sight. “Normally I can save myself by pumping from the creek, but because it was so dry, every other farmer further up the creek was doing the same thing,” he recalls. “I just knew I wasn’t going to get through.”

Luckily for Graeme, he had a large amount of water on a recently acquired property that with a bit of planning, some expert help, and \$45,000, he was able to tap into. Using a local tradesman, Graeme installed a system to pump water almost 3km uphill, from a reservoir on the new property, to a dam on the existing property. “The moment that water started flowing into the dam was such an achievement,” says Graeme. “It was simply the best decision I could have made.”

Graeme believes the system paid for itself within a year. Coincidentally, just days before the system was completed, an accident at a trough had virtually emptied his dam. As he hadn’t destocked, the ramifications could have been disastrous. “We would have been looking at carting around 40,000 litres a day just to maintain the herd and young stock, and I hate to think what that would have cost.”

As well as relieving his immediate supply problems, Graeme believes the system has secured the farm’s future water supply. “I’m right if I get a wet winter and can fill the dams, but we’re just not getting as much rain as we used to,” he says. “Even last year, which was wetter than we’ve had for a while, I had to pump that water for a week or so to make sure I got through.”



*Graeme now has a large water supply for the farm*

Graeme is full of praise for the tradesman who did the job, adding that he used top quality materials and took no shortcuts. Both he and Graeme took a lot of time to plan the system to ensure they got it right from the beginning. A priority was making sure they could use Graeme's existing 20hp diesel pump, rather than purchasing a new one.

"We worked out that with my pump, and the hill [20m], we needed constant push and no pipe resistance," explains Graeme. In the end, they decided to use 4 inch PVC, rubber –joined piping – a decision that was driven in part by the shortage, at the time, of piping. "We had to move quickly, to make sure we got piping but it was a good choice," he says. "It's industrial quality and should last a lifetime."

The combination of pump and piping delivers approximately 500 litres of water a minute, or half a megalitre a day. Graeme says he could push for more, but 500 litres a minute suits his needs, is fuel efficient, and doesn't stress the pump.

Installing the system took around two weeks and was, in Graeme's words, "a big job" involving plumbers and a contractor with a trencher, an excavator and borer to go under the road. The piping was laid in trenches approximately 800mm deep, and it was necessary to tunnel under a bitumen road (for which planning approval was required).

Graeme believes the system (which can be reversed so that he can reticulate the water to troughs on the new block) complements his farm perfectly. "I had a wasted asset on one block," he says, "and nowhere to put a new dam on the other. It was such a bonus to be able to take advantage of all that water and use it."

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For further information regarding this case study or other Water Efficient Farming case studies, please contact the:

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*The pump featuring 4 inch PVC allowing larger volumes of water to be pumped; saving money on energy and less stress on pump.*

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