CowTime
CASE STUDY

Dennis Granshaw,
Queensland

Cooling tower not so cool in humid areas

Queensland dairy farmers, Dennis and Claudia Granshaw, avoided investing thousands of dollars on a water cooling tower that would have been unsuitable for their humid climate.

The Gympie couple were hosts for *Watts 'n' Your Dairy,* CowTime's 2006 Shed Shake-up. They milk 170 cows year-round in a 16 unit swing-over herringbone dairy.

"Our dairy is about seven years old so it's fairly efficient," said Dennis. "We are expanding the herd over the coming few years so we were looking at options to increase the speed and efficiency of the milk cooling system when we have higher volumes," he said.

The Granshaws were considering a water cooling tower. "But I learned at *Watts 'n' Your Dairy* that they are not efficient in humid climates so that saved me wasting thousands of dollars."

CowTime's Darold Klindworth said that milk cooling towers rely on evaporative cooling so work best in dry climates such as northern Victoria. "But they are not efficient in humid climates such as Queensland," he said. "The other disadvantage of cooling towers is that they are much more effective in the cooler months and less so in the summer when the vat is working the hardest," Darold said.

The effectiveness of Granshaw's plate cooler is limited by their water supply. "It would work much better if we had cooler water entering the plate cooler," said Dennis.

The Granshaw's water currently comes from a shallow dam. One option they are looking at to use water from a deeper dam on the property.

Ideally, the water entering the plate cooler should be as cold as possible, certainly less than 20°C all year round.

Another option could be a refrigerate water before it enters the plate cooler. This system is becoming popular on larger dairies. To be efficient they must run on night electricity rates and hold enough water for both milkings.

One of the benefits of refrigerated systems is that they provide consistently cool water all year round. But they are a significant investment.

For now, the Granshaws have decided to make the most of their existing system.

"You don't have to spend thousands to save energy in the dairy," said Darold. Significant savings in energy costs can be achieved by regular maintenance of dairy plant equipment, checking the hot water system is not set too high and making sure cleaning processes are in line with manufacturer's recommendations. "CowTime has many examples of farmers who've cut their energy use from simple, low cost changes," said Darold.

Energy Monitor

Find out how energy efficient your dairy is. Run your dairy through CowTime's Energy Monitor. Log on to www.cowtime.com.au and follow the prompts; or phone CowTime on 03 5624 2221 and ask us to fax you the Energy Monitor form.

CowTime is proudly supported by Dairy Australia, DPI VIC, DPI&F QLD, Sustainability Victoria and the University of Melbourne. Your Dairy Australia levy making milking easier.

Did you know?

- **most farms use far more energy than they need and many could save at least half their energy use**
- **some farmers use four times the energy that others use to harvest the same amount of milk**
- **water heating and milk cooling account for 80% of energy used in the dairy**

(based on research conducted for SEAV/Bonlac)