

CowTime

CASE STUDY



Maintenance eats away at energy bill

It took less than an hour for Tasmanian dairy farmer Brett Ford to save energy in his dairy, following CowTime's dairy energy savings checklist. It involved no direct cost, just simple maintenance of plant equipment and a review of cleaning processes.

Brett and his wife Vanessa farm at Paradise Valley, their property at Sheffield on Tasmania's mid-north coast. Brett does most of the milking of the 170-cow spring calving herd, in a 16-unit herringbone shed.

Always on the lookout for ideas to improve, Brett attended *Watts 'n' Your Dairy*, CowTime's 2006 Shed Shake-up on saving energy in the dairy.

He heard that hot water accounts for almost half (45%) the energy used in a dairy and milk cooling accounts for a about third (36%), with the rest being used for running milking machine, ancillary equipment and lighting.

Each participant at *Watts 'n' Your Dairy* received two free thermometer strips designed to be attached to the plate cooler's incoming water and outgoing milk pipes.

Like most participants, Brett went home and put the strips in place. The difference in the two temperatures was 12°C, a long way off the recommended 2°C difference.

"That was a clear sign the plate cooler wasn't working efficiently so I stripped it down and cleaned it," said Brett.

That 15 minutes of effort resulted in an instant energy saving, with the thermometers indicating the plate cooler is now cooling milk an extra 7°C.

→ 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)

"There's still room for improvement, which we'll get in the future when we add about four more plates," he said.

The thermometers stay on the pipes, providing a regular reminder to monitor temperatures.

Brett also cleaned the dust from the vat's condenser a job he previously did about every 18 months but now plans to do twice a year.

These two simple maintenance steps mean milk is cooled 15 minutes quicker after each milking, saving costly vat running time.

Water heating was Brett's next step. A quick thermometer check confirmed the thermostats of the two hot water systems were working properly.

A review of the manufacturer's recommendations for his cleaning products enabled Brett to cut the amount of hot water he'd been using.

"I'd been starting with a cold water flush but I heard at *Watts 'n' Your Dairy* that a warm rinse does 95% of the cleaning by removing milk fat from the pipes," said Brett.

The warm rinse enabled Brett to reduce the volume of hot water in the chemical wash cycle without compromising milk quality.

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.

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