

CowTime

CASE STUDY



Saving energy is easy

South Australian dairy farmer Murray Klemm has a plan to save energy and money in his dairy. Topping his list are some easy, low cost changes. Murray says saving energy is going to be easy, thanks to CowTime's 2006 Shed Shake up, *Watts 'n' Your Dairy*.

Murray and Margaret Klemm and their son, Ben, milk about 180 cows year-round at their property near Angonston in South Australia's Barossa Valley.

In 2000 they built a new dairy with the view to expanding the herd to 250 cows. The 15-aside double up herringbone was designed with the objective of keeping milking times efficient.

"We don't mind paying a little extra in running costs if we can save time in the dairy," said Murray. Automatic cup removers and rapid exit gates save milking time and enable the Klemm's to milk with a single operator.

Easy ways to save

As hosts for *Watts 'n' Your Dairy*, CowTime's 2006 Shed Shake-up, the Klemms were looking forward to finding ways to save energy in their dairy, within the constraints of their single-phase power supply.

From the discussion, Murray identified three simple changes to save energy: improving air flow around the condenser, maintaining the plate cooler and insulating hot water pipes.

In theory there's plenty of airflow around the condenser but the roof angle means warm air tends to recycle around the condenser, making it work harder than it should.

"Someone suggested we install 'whirly birds' in the roof to extract hot air. As they are quite low cost to install, we'll be doing that soon," said Murray.

The Shed Shake-up highlighted that simple things like maintenance can make a big difference to energy costs.

The Klemms have measured a four degree temperature difference between the water entering the plate cooler and the milk leaving it.

"We know that difference should be closer to two degrees for best energy efficiency so we'll be giving

the plate cooler its annual maintenance overhaul on the next rainy day," said Murray.

Heat recovery

In the longer term Murray is considering installing a heat recovery system and recycling the sanitising rinse water.

"A heat recovery system makes good sense - harnessing the heat produced in the milk cooling process and use it for water heating," he said.

Murray has already spoken with a dairy technician. A heat recovery system suitable for his dairy is likely to cost about \$3000, and save \$1000 a year in water heating costs.

"That means it will pay for itself in three years, and it will go on saving us energy for many more years to come," he said.

At the Shed Shake-up Murray heard about wash water recycling systems that save energy without compromising milk quality.

"I want to find out more about that too, because it has the potential to save on water heating costs, water use and chemical costs. Using less chemicals would also be good for the environment," he said.

CowTime's Energy Monitor

Murray has run his dairy through CowTime's Energy Monitor, and is looking forward to using it again in the future, to see what impact the changes have had.

"The 15 minutes it takes to use the Energy Monitor was well worth the effort. There are lots of tips for saving energy and money, and many can be done at very little cost," he said.

Find out how energy efficient your dairy is. Run your dairy through CowTime's Energy Monitor (www.cowtime.com.au).

CowTime is proudly supported by Dairy Australia, DPI VIC, DPI QLD Sustainability Victoria and the University of Melbourne.



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