



## Herd about New Zealand's eco cow shed?

Tom and Kathy Pow's Herd Homes are attracting good regional interest for their agricultural and environmental efficiency. Herd Homes Pty Ltd

An innovative 'kiwi' stock shelter could have as revolutionary an effect on cattle farm management as herringbone dairy sheds did in the 1950s. Herd Homes, more colourfully described as cow loos or 'rumen long drops', protect cattle from weather, reduce greenhouse gases and nitrogen leaching into waterways, and provide an environmentally efficient method of recycling stock effluent, saving on the cost of artificial fertiliser.

Dairy herd farmers Tom and Kathy Pow, from Whangarei in Northland, New Zealand, came up with the initial concept after observing cow cooling systems in the United States and being invited to advise British farmers about getting their animals out of barns and onto grass.

'Over 30 years we'd seen all sorts of feedpad and housing systems, but when we saw the British barns, which were frankly awful – dark, damp,

smelly and full of bacteria and effluent – it all came together,' says Tom.

The Pows' solution was an animal shelter with a clear plastic roof to let in light, venting to ensure good air circulation, removable stress-tested slatted concrete floor panels (they're 'springy' and dry) to be easy on the hoof and accessible bunkers beneath to collect and store effluent.

'We wanted something as close as possible to an outdoor environment, without compromising animal welfare,' says Tom.

They aimed to provide accessible year-round protection from extreme weather conditions, especially at vulnerable times like calving. Heat, cold and wind chill are constant but unpredictable stress factors – and a stressed animal is less productive.

'It can take up to five hours for an animal to recover from

heat stress,' says Tom. By incorporating shade cloth and clever airflow technology, which can be remotely controlled and even solar-powered, Herd Homes offer cows in-paddock air conditioning.

The sterilising effect of sunlight eliminates most of the bacterial problems common to

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traditional animal shelters too. But it's the environmental advantages that have brought others on board.

Nitrate and phosphorus leaching into riparian waterways is a serious problem in New Zealand, resulting in toxic algal blooms, excessive waterweed and loss of in-stream habitat. Effluent from intensive dairy farming is the major

culprit. Recent industry initiatives such as the Clean Streams Accord and the Dairy Environmental Strategy, which set targets for fencing, buffer zone planting and effluent management, aim to reduce negative impacts while Regional Councils offer financial and regulatory support.

All are fully supportive of Herd Homes. Because the effluent is collected, leaching of excessive nutrients, which the soil can't absorb, is reduced. In the bunkers, a thin layer of absorbent topsoil and an efficient air circulation system keep the effluent warm, dry and odourless; this minimises the time dung is wet – when nitrogen and sulphur gas is given off.



The farm tractor removes the bunker covers and retrieves accumulated manure for later re-spreading as valuable fertiliser. Herd Homes Pty Ltd

Valuable nitrogen is retained, greenhouse gases and leaching are reduced, pasture is protected from pugging damage (when soft ground turns to mud under trampling hooves), and the farmer is left with an easily spreadable fertiliser

worth thousands of dollars.

It's a win-win situation according to Chris Glassey, a Farm Systems specialist for Dexcel Limited, who says, 'Results indicate that by "on-off" grazing using the sheds for 'off' periods, we can reduce

nitrate leaching by 25 per cent during the winter period and increase the productivity of cattle and farm.'

Another bonus is that the Herd Homes roofs provide a large surface for on-site rainwater harvesting, which helps clean the sheds out. Mounted solar power has been considered too, but at present, the technology is proving costly.

Herd Homes themselves don't come cheap. The initial outlay is around \$1100 per animal, but Brett Farrell is one of over 50 farmers who has found the investment in Herd Homes well worth the return. 'I don't like farming cows in mud,' he says. 'Being sheltered in bad weather keeps the animals calm and easy to handle.'

The 21st century bovine eco-shelters come in modules that comfortably accommodate up to 200 animals – with plenty of

room to feed and lie down. Most farmers have two to three modules housing between 300 and 600 animals, although there's no limit to the number of modules that can be linked. Brett Farrell's farm set-up in Mangakahia Valley north of Whangarei supports 820 cows.

The sheds could work for other animals too; Tom Pow has been approached by both sheep and goat farmers about his product.

Herd Homes look set to spread to Australia. Peter Clayton of Packo Australia, a supplier of milk cooling vats, has been negotiating with the Pows for several months and it's anticipated that the first Herd Homes will appear in Gippsland, Victoria, shortly.

● Marilyn Head

More information:  
[www.herdhomes.co.nz](http://www.herdhomes.co.nz)

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