

Alberta Inventors and Inventions

A Century of Innovation



home info search sitemap contact glossary

-  Inventors
-  Inventions
-  Innovation
-  Patents

Home >> Inventions >> The Inventions >> Frostfree Nosepump

Frostfree Nosepump



The Frostfree Nosepump™ developed by Rimbey-area farmers Jim and Jackie Anderson uses basically the same pumping mechanism that regular hand pumps use, but it incorporates the necessary heat to help prevent freezing to ensure access to water all year long.

Quicklinks

Inventor Profile:
Jim and
Jackie Anderson

The pump employs a downhole piston, similar to the familiar hand pump seen in farm yards a generation or more ago, to draw water to the surface. The pumps are installed on a platform on the top of a culvert, which is sunk vertically in the ground. The vertical culvert can be installed near a dugout or other surface water source, or it can be placed to tap into an underground water supply. The frost free pump can also be installed over an existing cased well.

The culvert is usually at least 60 centimetres in diameter, and installed at least seven metres below ground to take it below the frost line and utilize available geothermal heat to help prevent freezing. A cement pad poured in the ground around the culvert's top, along with insulation installed under the cement pad and inside the culvert's top two metres, help retain warmth and prevent freezing.

The pump is activated when a cow pushes with its nose on a small pressure pad installed in a trough at the top of the culvert. The pad is connected to the pump piston, and each push brings up about half a litre into the drinking trough. The design helps prevent pumped water from washing back into the well, and a hood over the trough prevents birds from fouling the water. Since the cattle control the pump, they will only drink as much as they need.

The frost free pump depends on making sure the cows learn how to use the pressure pad, but inventor Jim Anderson provides training hints on the company website. Besides advocating using a small number of animals for the initial learning process, and drinking exclusively from the pump, Anderson also counsels patience for farmers trying to introduce the new system to their cattle. The initial animals will teach the remainder of the herd to drink.

The Frostfree Nosepump is being used by farmers across Western Canada, and the testimonials include praise it for its ease of operation and the ability to keep water sources clean.

The Frostfree Nosepump was awarded the "Farmer Innovation or Invention Award" at the 2002 Alberta's Farm Classic Awards.

Sources:

- Frostfree Nosepump Website
<http://www.frostfreenosepumps.com/training.html>

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Innovation Alberta <http://innovationalberta.com/article.php?articleid=374>
This article also has an audio link, as well as a photo of the Andersons with the nose

pump. *Edmonton Journal*, March 22, 2004

- Frostfree Nosepump website/testimonials
<http://www.frostfreenosepumps.com/testimonials.html>

Featured Video

Nosepump in Action at -40

The Heritage Community Foundation is pleased to present this feature video segment courtesy of Frostfree Nosepumps Ltd.

Watch as the Frostfree Nosepump meets the challenge of providing fresh drinking water for cattle, even on the coldest winter days!. Watch it

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