

CASE STUDY

Hydroscreen®
Henry & Botzek Dairy Farm



Screening for better dairy pen waste management

Overview

The Henry & Botzek Dairy Farm, located in Foley, Minnesota, is a model of state-of-the-art milk production. It's clean, efficient, and a showcase for agricultural students and visitors from across the country.

Challenge

In 1988, Henry & Botzek's herd reached 120 head and the dairy was faced with the problem of how to accommodate the growth. The milking parlor was crowded and production inefficient.

There was no provision for handling additional manure and no holding pond or lagoon system for treating the wastewater. Manure was manually scraped from the barn floor, into a pile, and then hauled away and land-applied as fertilizer.

Animal nutrient management was not an issue when the herd was around 60-80 head, but at over a hundred head, it was becoming one. Dairy cows feed on fiber-rich diets and consequently produce nitrogen-rich manure. Only so much

nitrogen is allowed per square foot, so additional land or some type of waste treatment system may be required to handle the increased waste.

Furthermore, if enough wet waste seeps into the ground, it could contaminate groundwater and potentially become a nonpoint source of pollution.

Henry & Botzek consulted with Land-O'Lakes Dairy Development Group who offered several options: continue scraping or implement a flush wash-down system.

Solution

The dairy selected a flush system and installed it right into their new freestall barn – a large 94' wide x 330' long structure that could easily accommodate the growing herd. A 3-stage lagoon was also created to treat the flush water.

Now, the barn is flushed three times a day. Manure, bedding and other barn waste are all washed down the barn's alleyways and pumped over a Parkson Hydroscreen® to

separate the liquid from the solids. Flow rate is approximately 500-700 GPM.

The screened liquid is pumped into a 3-stage lagoon system, and after clarification, is recycled as flush water. This recycled flush water is held in two 8,000 gallon concrete storage tanks. Screened solids are stored on a concrete slab and then hauled to the fields as fertilizer.

Twice a year the lagoons are cleaned and the water is used to irrigate the fields. It takes only 60-90 minutes to flush the barn. It's much easier and faster than the laborious scraping method.

Henry & Botzek's herd now numbers 430, which means that the modernized barn with the liquid/solid separation flush system, permitted the herd to quadruple in size.

Screening is the solution to increasing herd size without expanding lagoon systems. Many states have imposed strict restrictions on the size of lagoons. Trends also point to stricter federal and local enforcement regulating the consistency and quantity of land-applied wastes.

Henry & Botzek selected a Hycor Hydroscreen unit, which met their needs exactly. It was easy to set-up, pipe and clean. ■



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