

# FOCUS ON CASE STUDIES: VENTILATION RETROFITS

## The Problem

Dallmann East River Dairy is a dairy farm in eastern Wisconsin that milks 2,100 cows. They had multiple naturally ventilated free stall barns with side wall curtains and an open ridge. They also used circulation fans hanging over the stalls to move air within the barn. During the summer months, the dairy was experiencing a drop in milk production of 5–6 lbs/cow/day due to heat and stress.

## The Approach

Dallmann East River Dairy built their first tunnel ventilated barn in 2012. It was so successful in keeping the cows comfortable, they decided to retrofit their existing natural ventilated barns to tunnel ventilation. The Dallmanns worked with a Focus on Energy Trade Ally to identify an energy efficient exhaust fan for this retrofit, and were able to receive Focus on Energy incentives to help pay for the initial costs.

## The Solution

In early 2016, the Dallmanns retrofitted their final barn to tunnel ventilation. They accomplished this by:

- **Sealing the open ridge and side walls (except on one end of the barn) with poly-carbonate**
- **Removing all unnecessary circulation fans**
- **Installed large, energy efficient exhaust fans to pull air from one end of the barn to the other**

Focus on Energy provided \$22,364 in incentives to aid in the installation of these energy efficient exhaust fans.

## The Benefits

Milk production remains steady now through the summer months. The Dallmanns are able to achieve 7-8 MPH winds through the barn. This knocks down bugs, which prevents the cows from huddling. The cows are cool and relaxed, allowing them to lay down much more often, which increases milk production. By selecting an energy efficient fan, Dallmann East River Dairy is achieving higher milk production and greater cow comfort at lower energy costs in just under two years.

## Project Breakdown:

- **Equipment Installed:**  
197 ventilation fans ranging from 50-60" in two barns
- **Benefits:**  
Increased cow comfort and milk production
- **Annual Energy Savings:**  
233,725 kWh and 56.79 kW
- **Focus on Energy Incentive:**  
\$22,364
- **Payback: 2 Years\***

\*Payback calculated based on annual energy savings and recovered milk production during summer months.



Milk production and reproduction have increased since the retrofits. Focus on Energy incentives are helpful to buy down the upfront cost of these retrofits.



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## REDUCING ENERGY WASTE ACROSS WISCONSIN

Focus on Energy, Wisconsin utilities' statewide program for energy efficiency and renewable energy, helps eligible residents and businesses save energy and money while protecting the environment. Focus on Energy information, resources and financial incentives help to implement energy efficiency and renewable energy projects that otherwise would not be completed.

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