

It's Time to Rethink Sustainability

A Legacy of Resilience on
the Farm Driving Today's
Smart Agriculture



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Industry Challenges

Barn management is becoming more complex than ever as dairies navigate the competing priorities of lowering operating costs, meeting health and safety guidelines, and providing an optimal environment for animals and employees. Having access to reliable data across all systems and facilities becomes crucial when you also factor in shifting work patterns, compliance issues, and sustainability goals.



Finding and Maintaining Labor

Workforce is always at a premium and typically the second-highest operational cost on a dairy farm. Therefore, managing labor costs and maintaining labor efficiency are critical drivers in the net cost of production and overall profitability. Research shows farms that were more labor efficient were also more profitable.

Operational Efficiency

The healthiest, most productive, and profitable cows are comfortable and have time to eat with generous rest periods throughout the day.

We achieve this by bringing ventilation, lighting, and cooling together - even competitive systems - into a **single system** that can be automated, monitored, and adjusted in real-time.



Animal Wellbeing

Our scientifically designed systems ensure optimal animal health and profitability for your dairy farm.

Regulations

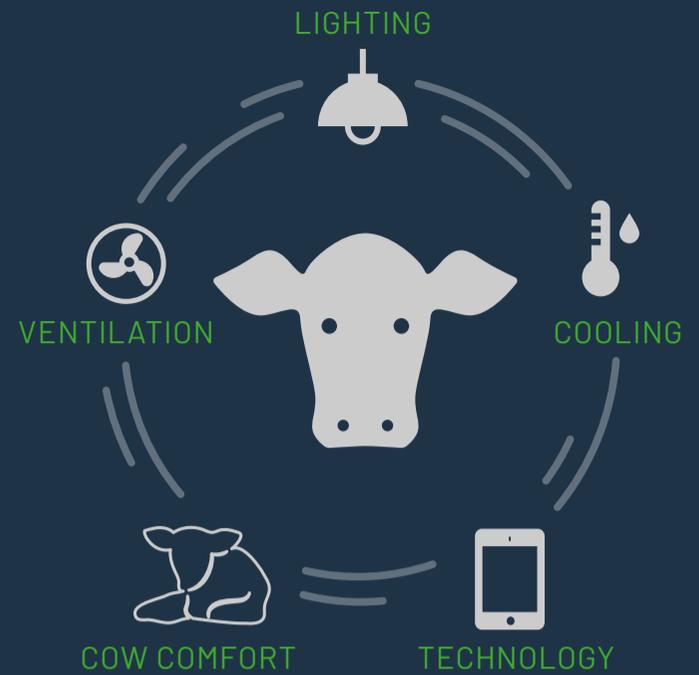
The need for actionable data

Dairy operators must consume large amounts of information and data to run their operations and meet and report on industry regulations. Having actionable data to manage and monitor animal health and productivity is crucial part of regulatory compliance.

Recent studies indicate that dairy operations are proactively managing their risk. Turntide Intelligent Barn Solutions provide the control you need to mitigate risk in your business.

With changing regulations on the minimum pay rate and overtime pay considerations, dairy managers are looking harder at ways to make the best use of workers' time and improve labor efficiency on the dairy. Profitable, comfortable working environments retain their workers longer than facilities that struggle to do the same.

Turntide Intelligent Barn Solutions Powered by VES-Artex



Ventilation

Our patented technologies and effective cooling velocity fans are the most efficient durable ventilation systems in the industry. Combined with our technology integration, we make it easier for you to control your environment and operate your business.



Removal of Noxious Gases



Cows are Inefficient Breathers Using Only 30% Lung Volume



Fresh Air with Frequent Air Changes Per Hour (ACH)

BENEFITS

Dry Bedding, Low Humidity, Reduced Mastitis, Reduced Pneumonia

Cooling

VES-Artex analyzes your weather patterns to understand the best cooling system for your operation. An effective ventilation system, plus a focused cooling system creates the ideal animal-centered environment by helping reduce heat stress and saving time and money.



Increased Feed Efficiency



No Peak Milk Lost From Early Lactation



Energy Focused On Milk Production & Reproduction



Decreased Embryonic Death Increased Pregnancy Rate



Healthier Birth Weights Increased Metritis



Decreased Udder Edema



Healthy Immune System

BENEFITS

Lighting

Through supplemental lighting, which can include a combination of translucent polycarbonate barn siding and ultra-efficient industrial LED lighting, combine with barn sensor technology that provides just the right amount of light. An automated Long-Day Lighting solution can be a very cost-effective way to produce consistent, high-quality milk.

BENEFITS

Automated Long-Day Lighting 24/7 365 days a year.



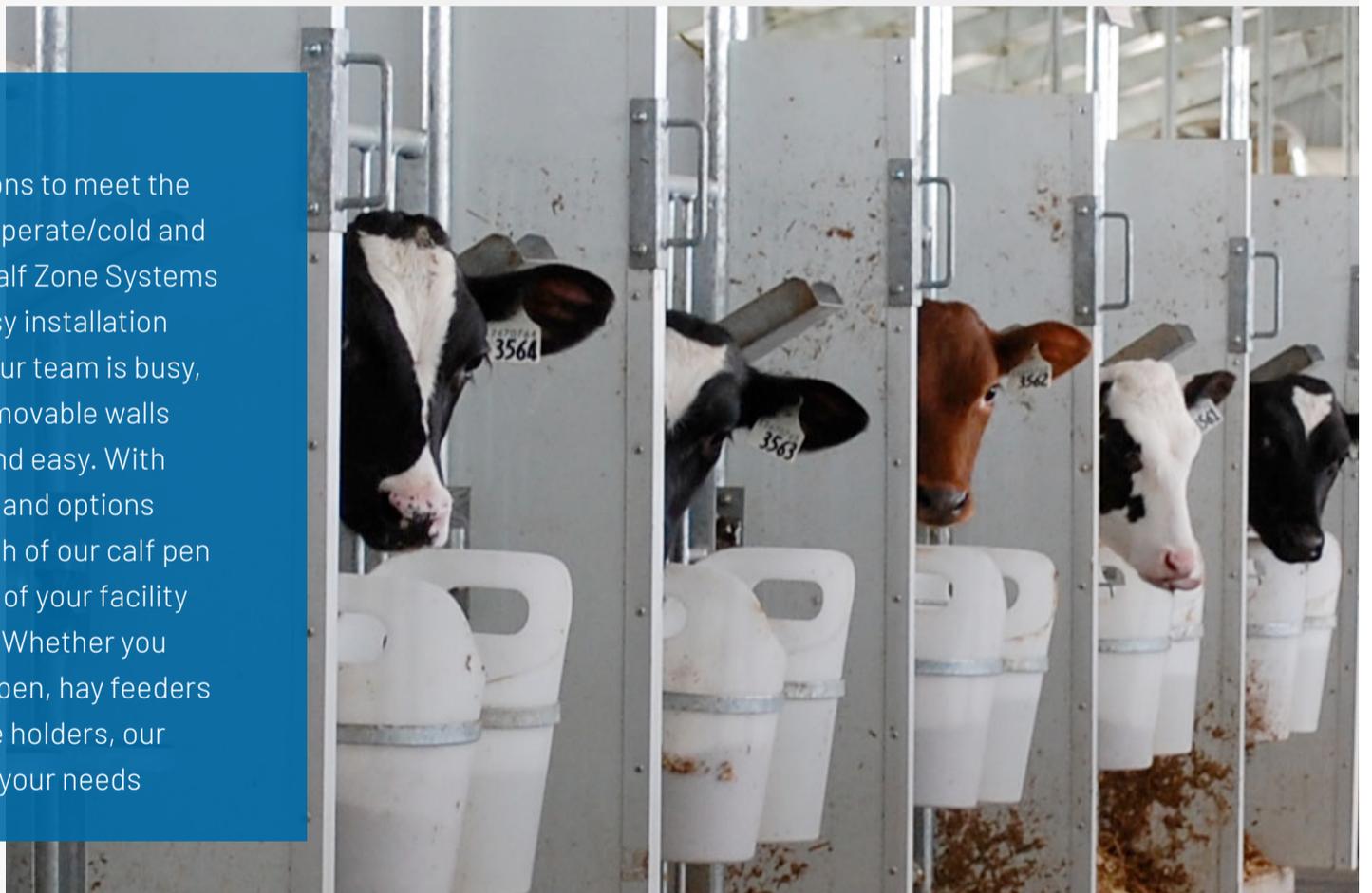


Cattle Handling

Cattle handling products play a significant role in creating the best possible animal-centered environment. Designed with low maintenance and cow comfort in mind, our stabling products encourage the natural behaviors found in pasture environments – with all the management benefits that make your job easier and help reduce labor costs.

Calf Zone

Two different calf pen options to meet the needs of calves in both temperate/cold and hot climates. Each of our Calf Zone Systems has been designed with easy installation and sanitization in mind. Your team is busy, and our pens come with removable walls that make cleaning quick and easy. With a variety of customizations and options available, you can tailor each of our calf pen systems to meet the needs of your facility and management strategy. Whether you need a longer wall or wider pen, hay feeders or larger buckets and bottle holders, our pens can be customized to your needs



DairyBOS® Overview

Creating a Unified Dairy Ecosystem
Through a Single Barn Operating System

Turntide Intelligent Barn powered by VES-Artex provides a solution for sustainable operations that combines our Smart Motor System™ with building controls and intelligence that allow you to work with your existing platform or other systems and manage multiple barns in one place.

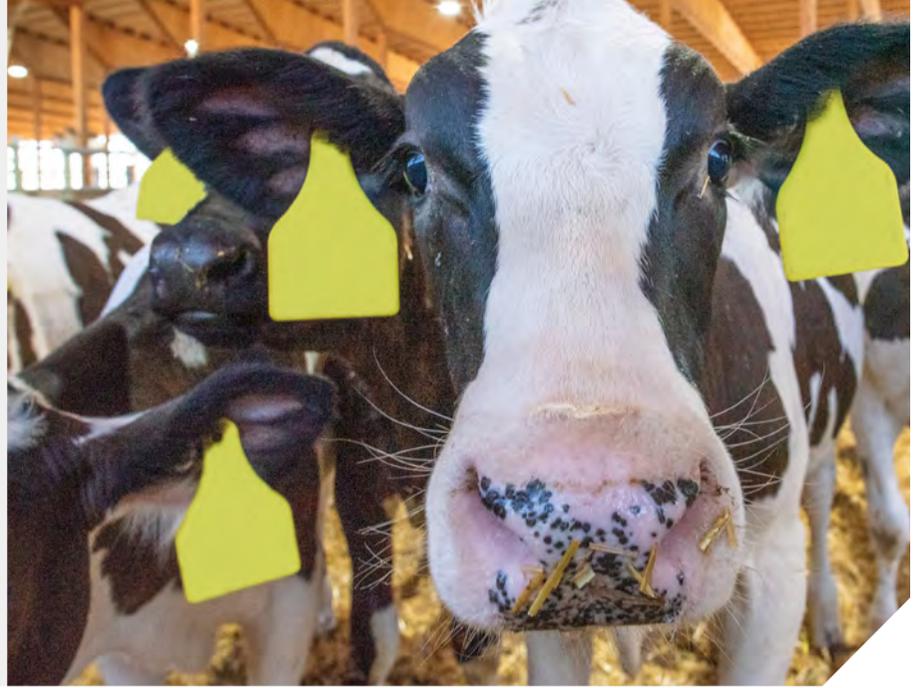


- Real-time barn accessibility with control and automation provides a consistent environment optimized for animal health and wellbeing
- Optimal efficiency equipment: Integrates ventilation, cooling, lighting, and cattle handling solutions together to achieve an optimum environment

- Actionable data and alerts: Deliver alerts and reports on system status, energy usage and efficiency and potential cattle issues
- Connectivity & Cloud storage: Provides an integrated dashboard for multiple cattle performance data streams to alert and recommend best outcomes for improved animal health and increased margins

Animal and Business Benefits

Maximum impact from your energy conservation measures



Animal

A dairy's bottom line directly ties to cow performance, which is affected by several variables from feed and health issues to resting times and heat stress. Each of these variables can drastically reduce milk production, and it's often a combination of these that causes milk loss.

Intelligent Barn Systems improve cow comfort and health:

- Higher milk yields and no peak milk lost from early lactation
- Increased pregnancy rates and decreased embryonic death
- Healthier birth weights
- Fewer health challenges like udder edema, and lameness
- Increased feed efficiency
- Fresh air at the cow level reduces heat stress, dries bedding, and reduces insects

Business

Intelligent barn Systems are designed with veterinarians to produce measurable and improved animal welfare, with an outcome of better lives for cows, better milk output for the dairy and transparency of animal welfare to the industry.

Intelligent Barn Systems significantly reduce operational costs

- Pays back initial cost more quickly with measurable RIO on investment.
- Increased employee satisfaction
- Increase product revenue and stable cash flow
- Reduce ventilation costs with Variable speed motors and auto controls
- Increased energy efficiency for immediate savings

Industry experience and next-generation technology focused on the needs of the animals and the future of your business.

Turntide Smart Motor System Reduces Energy Consumption



More savings potential than LED

Motors and mechanical systems use 2x more electricity than lighting, often accounting for more than half of the electricity used in barns, resulting in huge potential savings when optimized.

No magnets or rare earth materials used

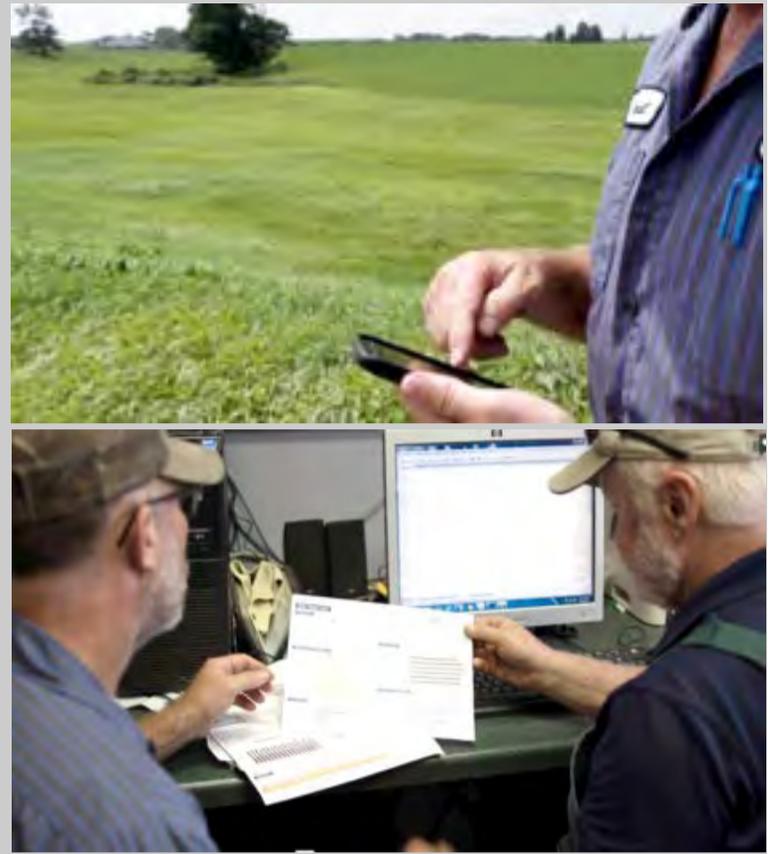
Keeping rare earths out of our products eliminates both the supply chain risk and environmental damage and lowers costs.

Standard dimensions for easy installation

- Cost-effective retrofits are easy with standard motor dimensions
- Drive continuous energy savings that go straight to your bottom line
- Reduced carbon emissions

Fetzer Farms Case Study

A legacy of resiliency on the farm to ensure operational efficiency is a way of life for the dairy operator. The efficient use of every resource on the farm sustains the business including the land, animals, and natural resources including water, power, and feed. The Turntide Intelligent Barn powered by VES-Artex brings the control of resources, throughout the year, to achieve operational efficiency and grow profits. The value to the dairy industry is demonstrated through the dairy farms we partner with as demonstrated in the Fetzer Case Study example.



Fetzer Farms: Sustained Growth with Technology Reduce Summer Heat Stress in Dairy Cows and Mitigate Winter Pneumonia

Fetzer Farms operates a double-20 parallel DeLaval milking parlor as well as its own calf and heifer facilities in Elmwood, WI. Their animal environments need to accommodate unpredictable summer humidity and heat, followed by below-zero winter temperatures and shorter daylight hours.

Fetzer has worked with VES since 2008 to retrofit existing facilities into Animal-Centered Environments to optimize the health and well-being of their animals and employees. Benefits have included increased milk production, rate of gain, and conception rates, and decreased somatic cell counts and pneumonia rates. Their ongoing relationship with our team puts the best technology to work to optimize their operations, performance, and profits.

Healthy Heifers; High Conception Rates, Promising Future

Through a dairy ventilation system designed with adequate intake, recirculation, and exhaust fans Fetzer's heifers receive optimal fresh airflow at their level.

Thanks in part to less ammonia and higher air quality, the heifers suffered fewer infections and respiratory issues. Fetzer was able to improve health with fewer antibiotics. Healthy heifers lead to a great rate of gain and high conception rates. Fetzer's raise these heifers and their calves to sustain the future of their farm.

Value of Sustainability

Farmers understand a legacy of sustainability on the farm grows the business and families around the world.

Calf Operation Controlled and Optimized by DairyBOS®

Most recently, Fetzer Farms installed DairyBOS® the Dairy Barn Operating System, into their cow barn. The system is designed with our veterinarians to optimize their herd health and productivity all year long, through automated ventilation, cooling, lighting, and continuous environmental feedback. It gives Fetzer the connectivity and controls they need to manage their calves' environment each season efficiently and precisely.

In this smart-barn environment, calves will grow and thrive in an environment optimized for their health and wellbeing from birth, assuring steady growth and a promising future of milk production in the years to come.



Getting Started

1. Meet with a system specialist to design the best animal-centered environment for your operation
2. We support and guide you through every step of the process ensuring successful installation
3. We validate the installation and set you up on DairyBOS®, the Turntide Intelligent Barn

Contact a Dairy Expert Today at info@ves-artex.com or call 1.888.622.2999

Sources:

- Supplemental Long Day Lighting Can Boost Milk Production During Winter Months
- Regulation, Trade & Taxes Are Top Concerns For Farmers
- USDA and Dairy Farmers Work Together to Mitigate Risk for 2021
- Goodrich Farm: A Definition of Sustainability

For more information : Visit **Turntide Agriculture** or Schedule time with an expert. Phone:1.888.622.2999
Email: info@ves-artex.com