

Dairy Distillation Grants

Projects aim to find environmentally friendly, cost-effective solutions for turning dairy waste into marketable by-products

Funding awarded: \$3,880,000

Project timeframe: June 2018-June 2019

Goals:

- Evaluate innovative technology that will turn manure into nontoxic by-products that can be used on-farm or sold to other markets.
- All technology should be cost-effective for dairies of various size to use.

Grant recipients and project summaries:

Coldstream Farms and Regenix / Flocculation and Membrane System for Treatment of Dairy Manure to Produce Fertilizer Concentrates and Dischargeable Clean Water

Partners will install and test operation of a combined fine solids separator and clean water membrane system. Co-products from manure treatment will be a nutrient-rich solid, a liquid ammonia/potassium concentrate, and dischargeable clean water as a potential new water right.

Since the award of this grant, Coldstream Farms has been nominated for the 2019 National Outstanding Dairy Farm Sustainability Award.

Award: \$930,305

Location: Whatcom County

Other partners: Whatcom PUD



Membrane System at Coldstream Farms

Organix / Installation and Operation of BioFiltro BIDA System: Operation Efficiency, Effects on Air and Water Quality, and Marketability of Byproducts

This project will install a processing system that uses worms to convert wastewater into irrigation-grade water. Partners will evaluate potential impacts to air and water and explore market options for the “worm tea” generated by the system.

Award: \$762,900

Location: Yakima County

Other partners: J & K Dairy, Washington State University (WSU)

Stillaguamish Tribe of Indians / Demonstration of an Innovative Distillation and Nutrient Separation Processor for Dairy Wastewater

Partners will demonstrate and evaluate a Vapor Recompression Distillation (VRD) processor for the whole treatment of dairy manure. The VRD processor will convert manure wastewater in real time into distilled recycled water, concentrated liquid ammonia, and a pathogen-free, dry, organic fertilizer or nutrient product.

Award: \$1,750,000

Location: Snohomish County

Other partners: Janicki Bioenergy, Natural Milk Dairy, Snohomish Conservation District, WSU

WSU - Puyallup / Capture and Recycling of Phosphorus from Dairy Manure as Struvite: Focus on Cost Reduction and Organic Production

This project will test a mobile processing system that turns manure into struvite, which is a non-toxic, sand-like mineral fertilizer. Partners will demonstrate the use of struvite fertilizer on commercial alfalfa hay operations to develop a regional nutrient recycling relationship.

Award: \$186,795

Location: Testing on dairies in eastern and western Washington

Other partners: Alfalfa hay growers in eastern Washington, dairy producers in eastern and western Washington, Washington Dairy Products Commission

George DeRuyter and Son Dairy and DVO, Inc. / Installation and Evaluation of a Lagoon-Based Nitrification Denitrification for Treatment of Digested, Solids/Liquid Treated Dairy Manure

Partners will build on existing digester technologies to achieve nitrogen removal efficiencies and reduce nitrogen concentrations in dairy manure. The project will convert reactive nitrogen to non-reactive nitrogen gas, providing valuable by-products and the potential for new market opportunities for dairies.

Award: \$250,000

Location: Yakima County

Next steps:

- All projects will conclude by June 30, 2019. Grant recipients will submit reports of project findings to the Washington State Conservation Commission (SCC) at that time.
- The SCC will compile results from all projects into a final report for the Washington State Legislature by December 1, 2020.

Contact:

Karla Heinitz, SCC Management Analyst
360-407-6212 | kheinitz@scc.wa.gov