GSR Solutions and Green Mountain Dairy Farm Validate Multi-Year Waste-to-Value Tech for Commercial-Grade Premium Inputs

Enabling dairy farms and energy-generating anaerobic digesters to transform liquid manure into value-added OMRI-certified organic fertilizers

Green Mountain Dairy Farm with Cow Power Operation (Courtesy of Green Mountain Dairy Farm)

BURLINGTON, VT, UNITED STATES, May 21, 2025 /EINPresswire.com/ -- GSR Solutions (GSR), in partnership with Green Mountain Dairy Farm, has successfully validated an initial commercial roll-out of its liquid-waste-to-value platform that converts liquid dairy manure into nutrient-dense, commercial-grade OMRI-certified organic fertilizers. Operating continuously for multiple years under real-world farm conditions, the biotechnology system integrates with daily milking and manure management routines, adapts to seasonal weather swings, and handles varied liquid manure compositions—all without disrupting workflows.

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>
> *Bill Rowell, Green Mountain Dairy Farm*

In addition to its on-farm deployment at Green Mountain Dairy Farm, a pioneering farm in the Green Mountain Power Cow Power program, GSR collaborated with several dairy farms across Vermont and other states to assess variability in nutrients, from high-strength digested manure effluents to food-waste co-digests. The GSR's GSR-AD-BOLT™ system has been tuned to process any dairy or organic waste stream into bag-ready fertilizer while reducing nutrient runoff to local waterways. Anaerobic digester operators using any organic feedstock can now boost the economics of energy production by integrating the GSR platform to convert digestate into high-value products.

“GSR Solutions has developed innovative manure-to-fertilizer technology which removes nutrients from the farm's waste stream and turns the effluent into organic fertilizer,” said Brian Rowell, owner of Green Mountain Dairy. “This technology would allow farmers to allocate these nutrients to more remote fields without transporting the entire volume of liquid. This increases the potential of improving water quality. GSR’s technology has been in operation on my farm since 2021, which has proven that the system works here. Now it is time to expand to a larger commercial scale to utilize a larger volume of our effluent to improve the product availability of organic fertilizer.”

Dairy cows at the farm (Courtesy of Green Mountain Dairy Farm)

Vermont Agriculture Secretary Anson Tebbetts visits the booth featuring innovative organic fertilizer products made using GSR’s biotechnology, during the NTCC Conference at the Hilton Hotel. (Courtesy of GSR Solutions)

Vermont’s dairy industry contributes $5.4 billion annually (12 percent of state GDP), uses over 70 percent of its agricultural land, and produces two-thirds of New England’s milk. On that scale, manure management is essential to protect water quality. GSR’s liquid-manure-to-fertilizer solution advances Vermont’s farm-sustainability goals by improving water and soil quality and boosting dairy farm profitability.

“It is understood that clean water is of importance to everyone. GSR Solutions has developed a process that separates phosphorus and nitrogen from the farm waste stream, thereby reducing the nutrients of the liquid effluent to a small fraction of its original content and converting them into marketable organic fertilizer,” added Bill Rowell, who farms with his brother Brian. “Those nutrients now compartmentalized can either be sold as organic fertilizer or transported to fields requiring the nutrients. The GSR process will afford the farmers more options when planning the required load for each of the fields. The GSR system has now proven its waste-to-value technology and is now ready for further expansion to produce fertilizer for commercial purposes.”

According to Cornell CALS's Pro Dairy program, each lactating cow produces roughly 150 pounds (≈ 18 gal) of liquid dairy manure per day, which is about 87 % water. It's a blend of solid waste, urine, bedding, feed waste, and wash water that contains about 1 pound of nitrogen and 0.2 pound of phosphorus and potassium. This nutrient-rich manure must be managed in compliance with regulations to prevent runoff from polluting waterways.

"Producers now have a turnkey solution that reduces nutrient-management costs, meets evolving regulations, and employs GSR technology to convert on-farm waste streams into high-value organic products—directly boosting the resilience and profitability of Franklin County farms," remarked Tim Smith, Executive Director of the Franklin County Industrial Development Corporation.

"We believe strongly in the potential of this initiative to integrate GSR's advanced technology into dairy farm operations, reducing nutrient runoff and promoting water quality," added Kathy Lavoie, Special Projects for Economic Recovery Lead at the Northwest Regional Planning Commission. "All while generating economic value through the production and marketing of high-quality organic fertilizers."

"Over the past several years, we've fine-tuned and stress-tested our platform on active dairy farms and through collaborative trials with partner operations," said Dr. Anju Krivov, President & CEO of GSR Solutions and NutriHarvest. "Achieving continuous, certified-organic fertilizer output under varied farm conditions proves that liquid manure can be transformed into a profitable, innovative product—right where it's generated."

Nationally, U.S. milk production reached 226 billion pounds in 2024, down 0.2 percent from the previous year, and the industry faces mounting sustainability pressures. Manure management adds complexity. Innovative on-farm systems like GSR's manure-waste-to-value platform could play a pivotal role in helping farms nationwide improve environmental outcomes without sacrificing productivity.

In his congratulatory letter to GSR Solutions, Zippy Duvall, President, American Farm Bureau Federation, wrote, "Your (GSR's) groundbreaking agricultural innovation serves as a beacon of excellence in a time where sustainable and innovative practices are more crucial than ever" (September 2024). It recognized GSR Solutions' Ag Innovation Challenge honor. Since then, GSR has further refined its platform and enhanced its innovative commercial product offerings for 2025 and beyond. These innovative organic fertilizers are now available through the NutriHarvest® online marketplace as well as local and regional retailers.

Looking Ahead

GSR Solutions is advancing a multi-farm rollout across key agricultural regions to support commercial scaling and strengthen strategic partnerships with farm owners, technology providers, and investors. This initiative transforms liquid manure and food waste into premium organic fertilizers—delivering value to dairy farmers, digester operators, and food operations;

supporting growers with nutrient-rich alternatives; and protecting waterways through improved nutrient management.

About GSR Solutions
GSR Solutions is a leader in agri-innovative waste solutions, using biotechnologies to convert organic waste—including livestock waste and organic residuals from farm operations, food industries, and anaerobic digesters—into valuable products like organic fertilizers, animal feed, and renewable fuel. Its proprietary processes recover over 95% of phosphorus and nitrogen, helping address major challenges in the food, water, and energy sectors. For more, visit https://www.gsrsoln.com

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