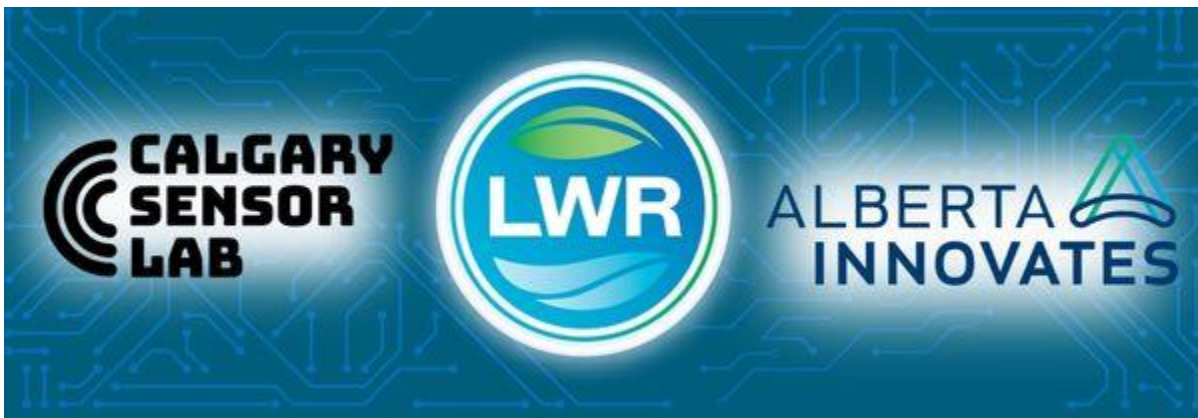




PRESS RELEASE

LWR PARTNERS WITH UNIVERSITY OF CALGARY ON \$1.7M CUTTING EDGE, REAL-TIME NPK NUTRIENT SENSOR FOR FARMS TOGETHER WITH FUNDING FROM ALBERTA INNOVATES

With the support of a \$500,000 grant from Alberta Innovates, this project contributes to a healthier planet and brighter future by optimizing resource utilization for increased food production.



FOR IMMEDIATE RELEASE:

Calgary, AB, July 29, 2024 – [Livestock Water Recycling](#) (LWR) and the [University of Calgary's Sensor Lab](#) are collaborating to redefine nutrient monitoring in agriculture with a novel nutrient sensor to replace labor-intensive, time-delayed lab methods with an automated real-time system. This 3.5 year project is supported by a \$1.7 M investment by LWR and [Alberta Innovates](#). Utilizing a \$500,000 grant from Alberta Innovates' [Agri-Food and Bio-Industrial Innovation Program \(ABIP\)](#), this project is expected to revolutionize nutrient management practices.

This technology seamlessly integrates into existing agricultural IoT setups to instant track key nutrients, including Nitrogen, Phosphorus, and Potassium, found within nutrient-laden liquids. By addressing nutrient imbalances and replacing costly, time-delayed lab analyses, LWR smart manure management continues to align with global environmental objectives.



"This innovative sensor will revolutionize nutrient monitoring in agriculture," says Hailey Poole, LWR's Senior Environmental Chemist. "Whether integrated into the First Wave and PLANT system, or deployed as a stand-alone product, it promises to empower food producers with real-time data to optimize nutrient application strategies, reduce environmental impacts, and foster a more sustainable, and profitable future."

The nutrient sensor will be developed at the University of Calgary's Sensor Lab under the supervision of Dr. Zahra Abbasi, with grant funds supporting graduate researchers and scientists for project contributions. Following laboratory validation, field tests will be conducted on multiple farms, before a large-scale pilot test in Alberta. "In this collaboration we aim to use RF/microwave circuitry and system development and contribute to food security and sustainable agriculture in Alberta" say Dr. Abbasi.

"LWR's commitment to sustainable agriculture perfectly aligns with our research goals," says Dr. Abbasi. "This collaboration represents a significant step forward in addressing the urgent need for real-time nutrient monitoring in agriculture. By integrating advanced sensor technologies, data analytics, AI-driven algorithms, and cutting-edge materials science, we aim to engineer a real-time, non-contact, sensing solution, facilitating wireless nutrient monitoring coupled with water reuse."

LWR continues to be the market leader in nutrient recovery, with over 60 systems projected to be operational by the end of 2025 and over 100 installations anticipated by 2030. The integration of the nutrient sensor into LWR's nutrient recovery systems will further enhance their efficiency in reducing manure volume and concentrating nutrients. By offering farmers precise insights into their manure's nutrient content, the sensor will optimize treatment processes, minimize waste, and maximize resource recycling.

"The benefits of the nutrient sensor's data for farmers include enhanced productivity, potential cost savings, and environmental stewardship" adds Poole. "Farmers can leverage this data to optimize fertilizer application, resulting in increased yields and reduced environmental impact, aligning with industry-wide sustainability goals."

The urgency for real-time nutrient monitoring is undeniable. Food producers are currently mandated to complete extensive nutrient management plans annually. With the addition of the nutrient sensor to LWR's existing technology platforms, producers can replace costly lab analytics with consistent, real-time data accessible through LWR's mobile app reporting simplifying the nutrient management planning process.

"Through our Agri-Food and Bio-Industrial Innovation Program, Alberta Innovates is proud to support groundbreaking initiatives that drive agricultural sustainability and technological advancement," says Dr. Virginia Mulligan, Senior Manager, Agri-Food Innovation with Alberta Innovates. "This collaborative project between Livestock Water Recycling and the University of Calgary Sensor Lab exemplifies the spirit of innovation and environmental stewardship that our program aims to foster. Together, we're working towards a future where cutting-edge technology and responsible resource management converge to create a more sustainable and prosperous agricultural sector."

LWR remains dedicated to promoting environmental conservation and sustainability through innovative solutions. This project exemplifies their commitment to advancing agricultural practices for a healthier planet and a brighter future. By leveraging cutting-edge technology and fostering collaborations, they are empowering farmers and food producers to

optimize resource utilization, reduce environmental impacts, and contribute to global sustainability goals. Together, we are paving the way for a more sustainable world, ensuring a prosperous future for generations to come.

LWR will be exhibiting this week at [AgSmart](#), proudly produced by [Olds College](#) - a must-see educational expo focused on data and technology across the agriculture industry. You will find them in [BOOTH 201](#) and you're invited to join CEO Karen Schuett for a panel discussion in Tent 2 on July 31st at 11 a.m. This engaging session will delve into the innovations shaping the agricultural technology landscape, exploring collaborative strategies for sustainable growth and environmental stewardship.

-30-

About Alberta Innovates and the Agri-Food and Bio-Industrial Innovation Program

Alberta Innovates is a provincially funded corporation driving innovation in Alberta, Canada. Through collaboration with government, industry, and academia, Alberta Innovates accelerates sector growth, promotes economic diversification, and addresses societal challenges to ensure a prosperous future for Albertans. Administered by Alberta Innovates, the Agri-Food and Bio-Industrial Innovation Program focuses on advancing innovation within Alberta's agriculture and bio-industrial sectors. Through financial support, technical expertise, and industry connections, the program assists researchers, entrepreneurs, and businesses in developing and commercializing new technologies, processes, and products. By enhancing sustainability, productivity, and competitiveness, the program drives growth, fosters job creation, and positions Alberta as a global leader in agri-food and bio-industrial innovation. For more information, please visit <https://albertainnovates.ca/funding/agri-food-and-bio-industrial-innovation-program/>

About Calgary Sensor Lab

The Calgary Sensor Lab specializes in developing smart sensor technologies for real-time detection and intelligent monitoring. Their research focuses on advancing applied electromagnetics, circuitry development, system integration, and data analysis to create portable and user-friendly sensor solutions. The goal is to enable real-time data collection and provide reliable measurement information in various environments. The sensors are designed to operate effectively in harsh conditions, including high temperatures and pressures, and have the capability to detect and monitor components in out-of-access environments. The lab prioritizes highly sensitive and selective sensing devices with the potential for distant and wireless detection to ensure accurate and efficient measurement outcomes. For more information, please visit <https://sensorlab.ca/>

About Livestock Water Recycling

LWR is an award-winning global innovator of the on-site fertilizer PLANT™. This patented technology platform provides hog, dairy, anaerobic digester, and food processing operations the ability to selectively extract particles from biosolid stream allowing for the best use of the liquids - recycled clean water, fertilizers, biogas feedstock. LWR's approach to water treatment achieves triple-bottom-line outcomes: meeting the growing demand for food, increasing farmer profitability, and protecting the environment and public health. LWR's fertilizer PLANTs save farmers time and money by providing them with a cost-effective solution to manage manure and bioliquids in a sustainable manner. LWR has systems operating throughout North America, the Middle East, and the United Kingdom. For more information, visit: www.manure.ai

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