

# North American **MANUREXPO**

Professionalism in Nutrient Management

Chambersburg **2022** Pennsylvania



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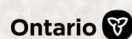
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Chambersburg 2022 Pennsylvania

July 13-14

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## WELCOME TO THE SHOW

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Welcome back to the in-person North American Manure Expo!

We are very excited to bring the 2022 Manure Expo back to Pennsylvania. Finally, we have a super spreader event worth attending.

Today's agricultural industry continually faces increased environmental scrutiny, especially in the Chesapeake Bay Watershed. The overarching theme of "Professionalism in Nutrient Management" and this year's slogan, "The application of science and technology (and vice versa)" is very timely. Whether you have traveled here from near or far, we are glad you are here. If you traveled far, you might be interested in learning more about Franklin County agriculture. Local attendees might be interested in learning what the agricultural industry and its specialists are bringing to your home turf. Manure Expo melds international expertise, technological advancements, and local utilization. It is an opportunity to see where we are as a manure application industry and to look at where we might go.



**Robb Meinen**  
*Penn. State Dept. of Animal  
Science*



**Jennifer Brattthauer**  
*Ag Conservation Technician  
Franklin County Conservation  
District*

Many people have worked very hard to make this event happen, and we simply do not have enough space to thank them all. At the top of our "thank you" list are hosts Leslie Bowman and Leshers Poultry Farm. They continually evaluate their operation to make manure nutrients benefit their agronomic, economic and environmental goals while implementing technologies like grid soil sampling and variable rate nutrient applications. Our local agricultural industry (equipment dealers, manure haulers, etc.) has been an invaluable resource and we truly appreciate the time and effort extended to us. We wish to thank the Franklin County Conservation District, Penn State Extension and the Pennsylvania State Conservation Commission for their support, as well as their recognition that our time commitments to this event bring unmeasurable value to the objective of balancing agricultural production and environmental stewardship. Our show manager, Annex Business Media, and its fantastically organized team bring professional continuity and management experience. The entire Annex crew deserves a special nod as they have worked tirelessly behind the scenes to assure that the vast details necessary for success are addressed. Of course, this event would not occur if not for the support of the vendors that bring their boundless knowledge and cutting-edge industry technology to the show, allowing us all to move forward together. We hope you take time to learn from them, and maybe even do a little business. Attendees will also notice a lot of volunteer workers on the show grounds. We hope you will share our gratitude to them for their help.

Finally, we want to remind you that the nature of this event does present biosecurity risk to anyone that is returning to work in the animal industries. Please take special precautions as you move from this event to your next visit to livestock and poultry farms.

Whether you've come from near or far, we hope you enjoy the North American Manure Expo's theme of "Professionalism in Nutrient Management" and this year's slogan of "The application of science and technology (and vice versa)."



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## 2022 AGENDA - JULY 13

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START TIME	MORNING TOUR SCHEDULE	
	Registration and payment required for morning tours; fee includes transportation & lunch voucher. Buses depart from the expo grounds	
7:30AM	TOUR REGISTRATION OPENS	
8:00   8:30   9:00   9:30   10:00AM	Robotic dairy & poultry tour buses departure times	
8:30AM	Stream tour buses depart	
11:30AM	TRADE SHOW OPENS	
	AFTERNOON & EVENING SCHEDULE	
1:30PM	Buses start to load for agitation demonstration tour	
2:00PM - 4:00PM	Buses depart & will rotate between agitation demo site and expo grounds.	
	TRADE SHOW REMAINS OPEN for business at expo grounds during afternoon demonstrations and industry sessions	
5:00PM - 7:00PM	INDUSTRY SESSIONS	
	<b>TENT 1: PUCK PUMP SCHOOL</b>	<b>TENT 2: DAIRY POWER SMART MANURE AERATION SYSTEMS</b>
	Learn the capabilities & possibilities of Lightspeed to gain performance efficiencies. Discuss roles & responsibilities of team members to increase crew efficiencies.	Using data, the team will demonstrate that aeration of manure reduces emissions, decreases carbon footprint and has health benefits for both workers and animals.
7:00PM	EXPO GROUNDS CLOSE	

## TOUR DESCRIPTIONS

### Robotic Dairy & New Poultry Layer Tour

This tour will stop at a dairy that has recently installed robotic milking, feeding, and manure collection technologies where the producers will provide a demonstration of the systems. The second stop of this tour will be at a large, under-construction, egg layer farm that will be close to populating their eight barns at the time of the tour. The layer farm tour will showcase the operation to bus attendees, highlighting their innovative manure handling practices, including belt drying and centralized manure collection.

### Stream Tour

The stream tour will explore impacts of excess nutrients on a local stream as well as providing hands-on opportunities for attendees to assess stream health and the benefits of buffers and stream restoration practices. One stop will be at a stream located in an agricultural area and another will be at the stream's forested headwaters.

### Agitation Demonstrations

Between 2:00pm and 4:00pm on July 13, pit agitation takes centre stage. Jump on a bus and be driven to our agitation pit, free of charge! Participants will have an opportunity to watch different brands of manure agitators and pumps at work. Manufacturers and dealers will be on hand to explain their technologies and answer any questions.

Buses will rotate between the Expo grounds and agitation pit non-stop between 2:00pm and 4:00pm. Please stop by our trade show and learn about the latest technology and products serving your industry!

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## 2022 AGENDA - JULY 14

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START TIME	TENT 1 Sponsored by PA State Conservation Commission	TENT 2 Sponsored by Yokahama	TENT 3 Sponsored by Farm Credit	TENT 4 Sponsored by Oxbo
8:00AM	Manure injection of digestate Sailesh Sigdel	Generate better as-applied maps to document manure applications Rich Meinert	Precision agriculture and variable rate manure application at Lesher Poultry Farm Leslie Bowman	Investing in soil health and manure Nick Hepfl
8:30AM	Injecting manure into cover crops Melissa Wilson	Economic considerations for the development of a decision support tool for manure management systems Varma Vempalli	Weed seeds in manure Chryseis Modderman, Stephanie Kulesza	Calculating the economic and environmental benefits of low disturbance manure injection Eric Rosenbaum
9:00AM	Side-dressing emerged corn with injected liquid manure using a drag hose Glen Arnold	Manure management at Herbruck's new Blue Springs layer farm Vince Herbruck, Ric Herrera, Jered Birkbeck, Russell Phenicie	How we run our manure service in Indiana Rob Buiter	Variable rate manure applications – are you ready for it? Eric Rosenbaum
10:30AM	LIVE SOLID MANURE DEMONSTRATIONS Spreaders & Compost Turners <i>*Demo materials supplied from cattle farms only*</i>			
12:30PM	PA's Commercial Hauler regulations and record keeping requirements Mike Aucoin	EXPO & TRADESHOW GROUNDS OPEN FROM 7:30AM - 5:00PM  BE SURE TO VISIT THE EXHIBITORS AND FOOD VENDORS  We thank them for their continued support of the North American Manure Expo.		
1:00PM	Food processing residual application in PA Kevin Beer			
1:30PM	Protecting private drinking water resources Danielle Rhea, Susan Boser, Andy Yench			
2:00PM	LIQUID MANURE APPLICATION DEMONSTRATIONS			
3:30PM	LIVE ACTION SPILL RESPONSE DEMO			
5:00PM	EXPO GROUNDS CLOSE			



# SPEAKER BIOS

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## SIDE-DRESSING EMERGED CORN WITH INJECTED LIQUID MANURE USING A DRAG HOSE

**GLEN ARNOLD**  
OHIO STATE  
UNIVERSITY EXT  
Field Specialist, Manure  
Nutrient Management  
Systems Associate Professor



**Applying liquid manure to corn to replace purchased side-dress nitrogen captures the true value of the manure nutrients and keeps more nutrients in the field. The nitrogen savings can pay for the manure application.**

*Glen Arnold is a Professor with Ohio State University and serves as an extension Field Specialist in the area of Manure Nutrient Management Application. His research efforts have been to move livestock producers and commercial manure applicators toward applying manure to wheat and corn during the growing season to capture more manure nutrients. His work with emerged corn involves using three 12-row manure side-dress toolbars to subsurface apply swine and dairy manure through the V4 stage of growth.*

## PENNSYLVANIA'S COMMERCIAL HAULER REGULATIONS AND RECORD KEEPING REQUIREMENTS

**MIKE AUCOIN**  
PENNSYLVANIA STATE  
CONSERVATION  
COMMISSION  
Conservation Program  
Specialist



**Pennsylvania Act 49 Commercial Manure Hauler and Broker record keeping requirements will be reviewed.**

*Michael Aucoin graduated from Delaware Valley University with an agronomy degree in 1995 then started his career at the Bucks County Conservation District as a Resource Conservationist. In 1999 Michael was hired as a conservation program specialist with the PA Dept of Agriculture/State Conservation Commission in which he administers the state's Nutrient Management, Commercial Manure Hauler and Broker and Odor Certification Programs.*

## FOOD PROCESSING RESIDUAL APPLICATION IN PENNSYLVANIA

**KEVIN BEER**  
PENNSYLVANIA  
DEPARTMENT OF  
ENVIRONMENTAL  
PROTECTION  
Environmental Group  
Manager, Bureau of Waste  
Management



**Information applicable to entities generating residuals from food processing operations and the available permit exemption [under 25 Pa. Code § 287.101(b) (2)] for processing and disposal of the residuals in the course of normal farming operations through implementation of best management practices.**

*Kevin Beer has served the commonwealth through his work with Pa Department of Environmental Protection for the past eleven years. In his current role as Compliance and Technical Support Section Chief in the Bureau of Waste Management, Kevin strives to protect people and the environment by promoting safe and effective handling practices in materials management, including effective processing of waste streams for beneficial use. Kevin has a M.S. in chemistry from the University of Pittsburgh.*

**Manure application setbacks prevent contamination of surface water and groundwater. In Pennsylvania, there are no statewide well construction regulations for private water systems, so following setbacks are especially important for preventing manure contamination in wells and springs. This session will focus on what groundwater, how it moves, how contamination can happen, and how we can keep our drinking water resources clean.**

## PROTECTING PRIVATE DRINKING WATER RESOURCES

**DANIELLE RHEA  
SUSAN BOSER  
ANDY YENCHA**  
PENNSYLVANIA STATE  
UNIVERSITY  
Water Resources Educators



*Danielle is a statewide water resources educator for Penn State Extension, based in Jefferson County. She provides educational programming and products related to private drinking water, pond management, agriculture and water, stormwater management, and watershed protection and restoration. Danielle is a certified Act 38 Nutrient Management Planner/Reviewer and holds a Master of Science degree from Duquesne University in Environmental Science and Management.*



*Susan Boser is a water resources educator with Penn State Extension based in Beaver County, Pennsylvania. She is a graduate of West Virginia University where she earned her Bachelor of Science in Agriculture with a major in Environmental Protection. Susan interacts with clientele throughout Western Pennsylvania via educational programs focusing on the areas of private water supply education, pond management, stormwater, youth water education and pesticide education.*



*Andy helps Pennsylvania's residents, businesses, and local governments find answers to water related questions to protect the Commonwealth's shared natural resources. His current focus areas include drinking water protection, testing and treatment, and urban stormwater education. His work highlights the important ways land use and water quality are connected within the geographic boundaries of Pennsylvania's watersheds.*

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## PRECISION AGRICULTURE AND VARIABLE RATE MANURE APPLICATION AT LESHER POULTRY FARM

**LESLIE J. BOWMAN**  
LESHER'S POULTRY FARM, INC.  
Crops Manager, Nutrient Management Specialist



The use of current technology and innovative practices to improve soil health and increase crop yields at Leshar Poultry Farm.

Leslie is the crop manager at Leshar's Poultry Farm, Inc. His job duties include directing manure application and sales. He has nutrient management plan writer, odor management and manure broker certifications. He has more than 25 years of experience with precision farming.

## HOW WE RUN OUR COMMERCIAL MANURE SERVICE IN INDIANA

**ROB BUITER**  
FASTRACK FERTILIZER  
Owner



From sand-laden dairy to watered down hog lagoons we pump it all! We will talk about how we deal with sand in tankers, high application rates for lagoon water, and everything in-between.

Rob Buitter is the owner of Fastrack Fertilizer, a custom manure application service in northwest Indiana that runs drag line, truck tankers and tractors with tank for swine and dairy manure.

## LIVE ACTION MANURE SPILL RESPONSE DEMO

**KEVIN ERB**  
UNIVERSITY OF WISCONSIN EXTENSION  
Director, Conservation Professional Training Program UW-Madison Division of Extension Natural Resources Institute



Accidental manure spills happen. Do you know the action steps to take when something goes wrong? How to protect a well or tile inlet using a 5-gallon bucket? The best way to keep a small spill from becoming a major headache? This live action field demonstration of simple, effective techniques will prepare you and your employees to take the right steps to contain and clean up a manure spill.

Kevin Erb is the director of the Conservation Professional Training Program at University of Wisconsin-Madison-Extension. Erb has more than 30 years' experience with Extension, focusing on manure management, nutrient management plan implementation and training of conservation professionals. Kevin initiated one of the nation's first manure spill response training using actual manure, and has created more than 20 live spill response demonstrations around the US and Canada.

**ROBB MEINEN**  
PENNSYLVANIA STATE UNIVERSITY  
Senior Extension Associate, Department of Animal Science



Robb Meinen is a co-chair of the 2022 North American Manure Expo. Meinen has worked in Penn State's Department of Animal Science for 22 years and has acted as the lead educator for Pennsylvania's manure hauler and broker certification program since its inception.

## INVESTING IN SOIL HEALTH AND MANURE

**NICK HEPFL**  
CLEARFIELD COUNTY CONSERVATION DISTRICT  
AGRICULTURAL TECHNICIAN



This session will cover the key properties of your soil and how investing in manure management and soil health will impact your bottom line and the future of your farm.

Nick Hepfl is the agricultural technician with Clearfield County Conservation District. After growing up on a small family dairy farm in western Pennsylvania, Nick began working on several thousand-acre grain and beef farm while attending college at Clarion University for Environmental Biology. Nick has been with the Conservation District for six years and works with approximately 500 farms to implement programs and promote soil health.

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## MANURE MANAGEMENT AT HERBRUCK'S NEW BLUE SPRINGS LAYER FARM

**VINCE HERBRUCK**  
Manager, Poultry Systems

**RIC HERRERA**  
VP, Marketing

**JERED BIRKBECK**  
Director, Feed & Fertilizer Ops

**RUSSELL PHENICIE**  
Production Manager, Blue  
Springs Egg Farm



Sharing the technology and innovation employed to convert our hen's litter into a nutrition-rich fertilizer product. In addition to the reduction in resources used to produce the product, it also helps to complete the organic cycle that is part of our overall sustainability plan.

Vince Herbruck is a third-generation egg farmer with Herbruck's. He is responsible for all the layer aviary equipment and systems engineering dealing directly with the birds. Vince has worked in nearly every department at Herbruck's in some capacity for the last 15 years.



Ric Herrera joined Herbruck's in 2019 as the vice president of Marketing. He is responsible for managing the direction of Herbruck's brand, consumer and customer marketing, and branded retail sales. Ric holds a B.S.P9:P17 in Business Management and Marketing from SUNY. He has over 30 years of marketing, sales, and management experience.



Jered Birkbeck joined Herbruck's in 2018 and is the director of feed manufacturing and fertilizer processing. He is responsible for leading the fertilizer departments in four of Herbruck's facilities to process litter into value-added fertilizer, overseeing the three company feed mills to produce feed for our hens and pullets, and leading capital projects in those areas. Jered holds a B.S. in Feed Science from Kansas State University and has 25 years of experience in feed mill management.



Russell Phenicie joined Herbruck's in June of 2021 as the production manager at Blue Springs Egg Farm, Herbruck's newest farm opening in Mercersburg, PA. He is responsible for the care of the birds and fertilizer processing. Russell holds a B.S. in Poultry Science and an M.B.A. from Penn State University. Russell has been involved in agriculture his entire life and operates his family's beef farm.

## WEED SEEDS IN MANURE

**STEPHANIE KULESZA**  
NORTH CAROLINA  
STATE UNIVERSITY  
Nutrient management and  
animal waste specialist,  
Dept. of crop and soil  
sciences

**CHRYSEIS  
MODDERMAN**  
UNIVERSITY OF  
MINNESOTA  
Extension educator,  
crops manure nutrient  
management



There are several methods that reduce weed seed viability both before and after animal digestion. In this presentation we'll take a look at a few studies that show what works and what doesn't for weed seed destruction.

Stephanie Kulesza is the nutrient management and animal waste specialist in the Department of Crop and Soil Sciences at NC State University. Her research focuses on the use of animal manures in the wide range of cropping systems found in North Carolina, focusing on barriers to adoption of manure in fertility programs.



Chryseis Modderman is an extension educator with the University of Minnesota where she focuses on manure management as a crop nutrient source. She is originally from a farm family in west-central Minnesota, and prior to working at UMN, she was a research technician at North Dakota State University.

## CAN WE CREATE A BETTER AS- APPLIED MAP TO DOCUMENT MANURE APPLICATIONS?

**RICHARD MEINERT**  
UNIVERSITY OF  
CONNECTICUT  
Associate Extension  
Educator,  
Nutrient Management



We have developed a software program to create detailed as-applied maps from GPS coordinates and scale weights or flow meter readings for farm material applications. Current commercially available software does not sum applications for multiple passes of material made to a specific area of a field, nor does it accurately reflect the different rates per acre for material applied on the inside versus the outsides of turns. Our software handles both of these deficiencies and can provide a more accurate accounting of the material applied and the accuracy of the application process.

Rich has been an extension educator at UConn for 34 years, since receiving his Master's Degree from Penn State in Dairy Science. His duties include dairy and livestock production, nutrient management planning, and crop production. He wrote his first Nutrient Management Plan for a dairy in 1989 as part of the original Long Island Sound Water Quality Study.



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# SPEAKER BIOS

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## CALCULATING THE ECONOMIC & ENVIRONMENTAL BENEFITS OF LOW DISTURBANCE MANURE INJECTION

**ERIC ROSENBAUM**  
PENNSYLVANIA 4R ALLIANCE  
Executive Director, PA 4R Alliance  
Agronomist, Rosetree Consulting LLC

The PA4R Nutrient Stewardship Alliance will share farm data calculating the economic and environmental benefits of LDI.

## VARIABLE RATE MANURE APPLICATION - ARE YOU READY FOR IT?

**ERIC ROSENBAUM**  
PENNSYLVANIA 4R ALLIANCE  
Executive Director, PA 4R Alliance  
Agronomist, Rosetree Consulting LLC



Whether you're using VR technology to manage application setbacks or managing yield zones with variable application rates, the PA4R Alliance, along with Granular, will show you the steps for creating a VR manure script.

Eric is the senior agronomist with Rosetree Consulting LLC and serves as the executive director of the PA 4R Nutrient Stewardship Alliance. PA4R is a statewide organization of ag retailers, regulatory agencies, environmental groups, and farm organizations promoting nutrient stewardship on PA farms.

## MANURE INJECTION OF DIGESTATE

**SAILESH SIGDEL**  
PENNSYLVANIA STATE UNIVERSITY  
PhD Candidate,  
Ag & Environmental Plant Science



Evaluating liquid digestate injection vs. surface application for NH<sub>3</sub>-N conservation and corn yield response.

Sailesh Sigdel's current research explores improving nitrogen management and amendment in no-till dairy cropping systems.

## ECONOMIC CONSIDERATIONS FOR THE DEVELOPMENT OF A DECISION SUPPORT TOOL FOR MANURE MANAGEMENT SYSTEMS

**VARMA VEMPALLI**  
UNIVERSITY OF ARKANSAS  
Research Associate,  
Chemical Engineering



We are developing a tool that tracks the environmental and economic impacts of several technologies and systems available to dairy farmers. We developed several "scenarios" defined by the unit processes used in the capture, treatment, storage, and usage of dairy manure. Environmental and economic results are integrated into the multi-criteria decision algorithm. Results can be used by farmers to assist in their decision-making in addressing options for improved manure management.

Dr. Vempalli S. Varma is an environmental engineer with a research focus on manure management and modeling GHG emissions. He holds a doctoral degree from IIT Guwahati, India. Later he joined Agricultural Research Organization, Israel as Post Doc and worked on "Process control, GHG emissions, odors, sanitary and post-doc aspects" during composting of livestock manure and industrial sludge. Currently, he works with Dr. Greg Thoma's research group at the University of Arkansas on the "Decision support system for dairy and swine manure management". Further, he is coordinating model development for dairy manure management systems for the RuFaS project at Cornell University.

## INJECTING MANURE INTO COVER CROPS

**MELISSA WILSON**  
UNIVERSITY OF MINNESOTA  
Associate Professor and Extension Specialist, Manure Nutrient Management & Water Quality,  
Department of Soil, Water, and Climate



This presentation will cover research in Minnesota where manure was injected below the cover crop and how the combined practices affected the following corn crop.

Melissa Wilson is an associate professor and manure nutrient management specialist at the University of Minnesota with appointments in both research and extension. Her research focuses on filling knowledge gaps about manure nutrient cycling as farming practices, weather and technologies change. She is also currently evaluating techniques for opening up the window of opportunity for manure application.

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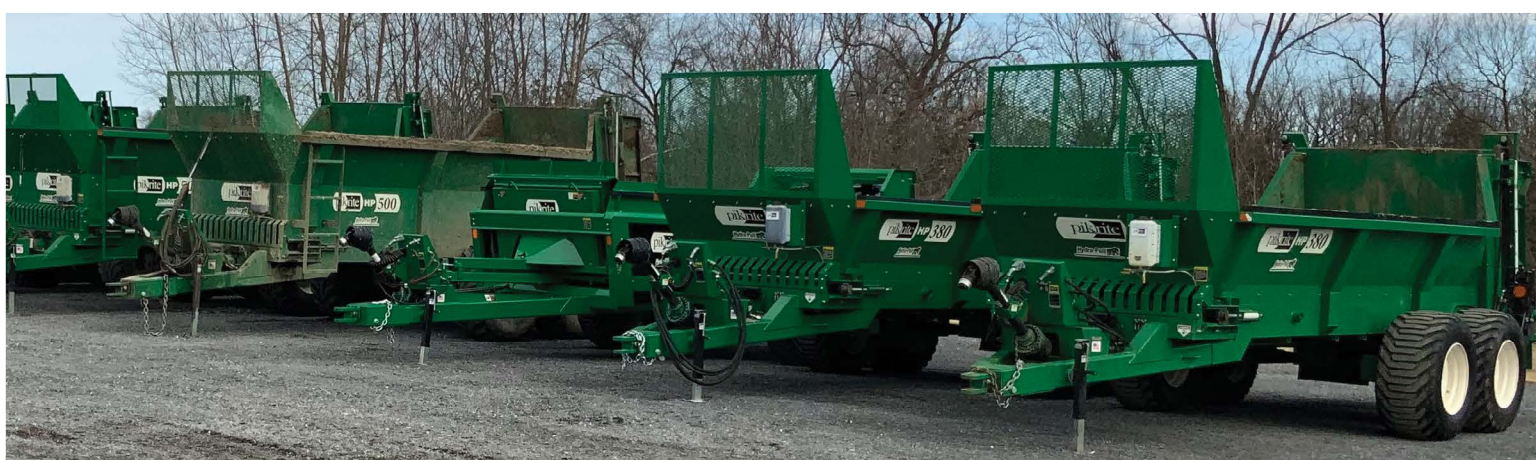


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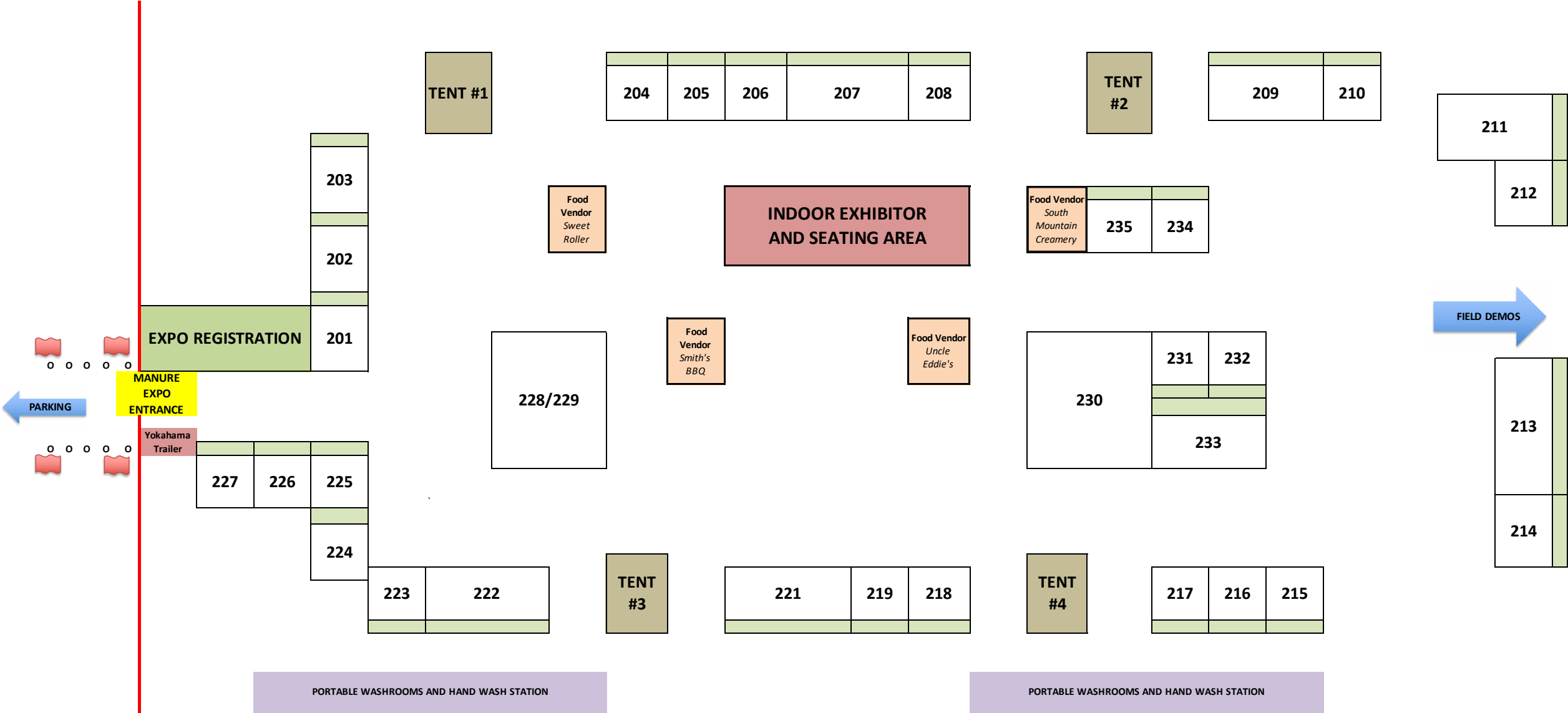
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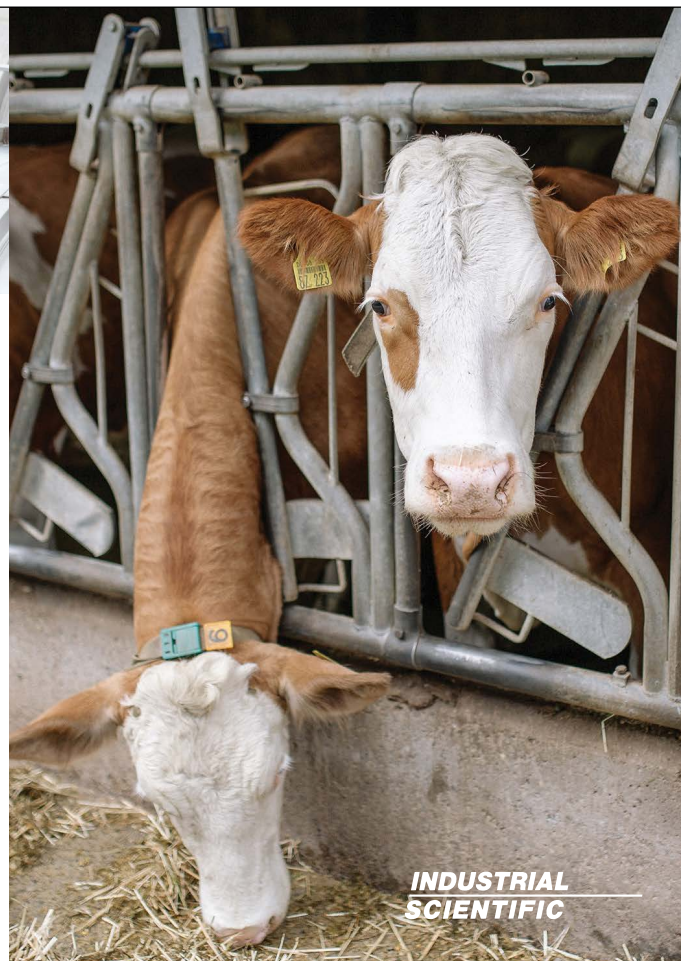
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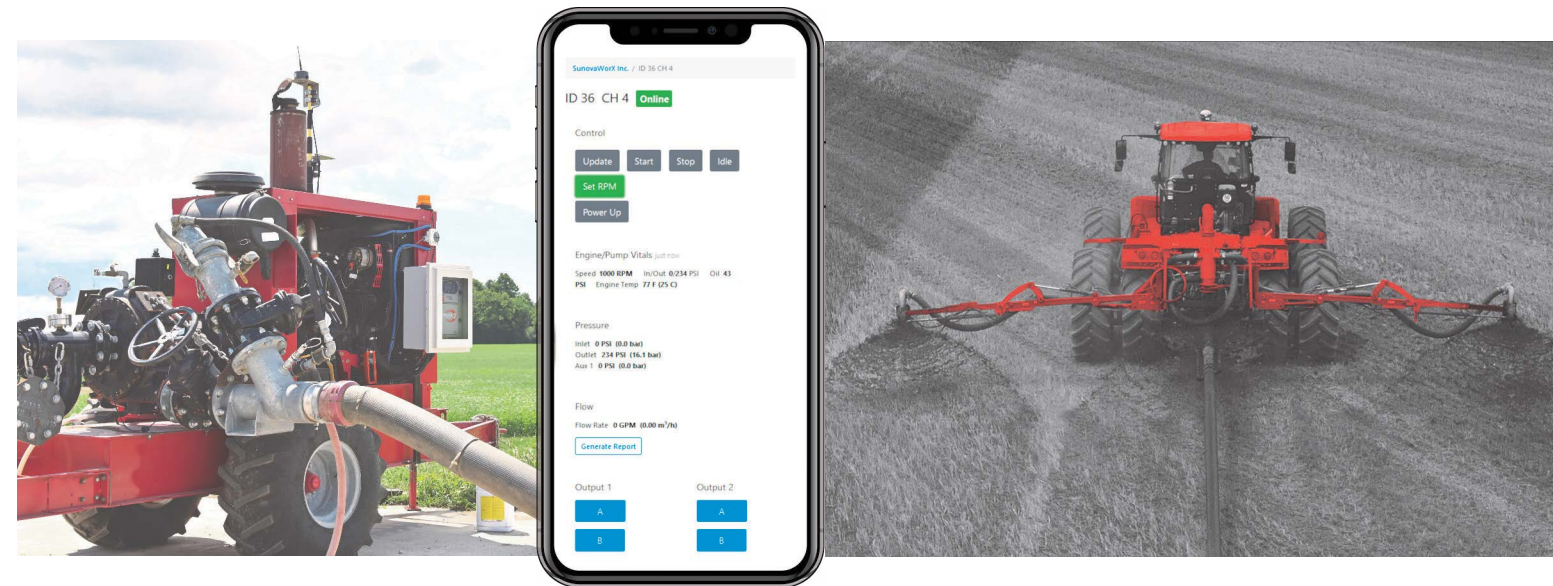
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