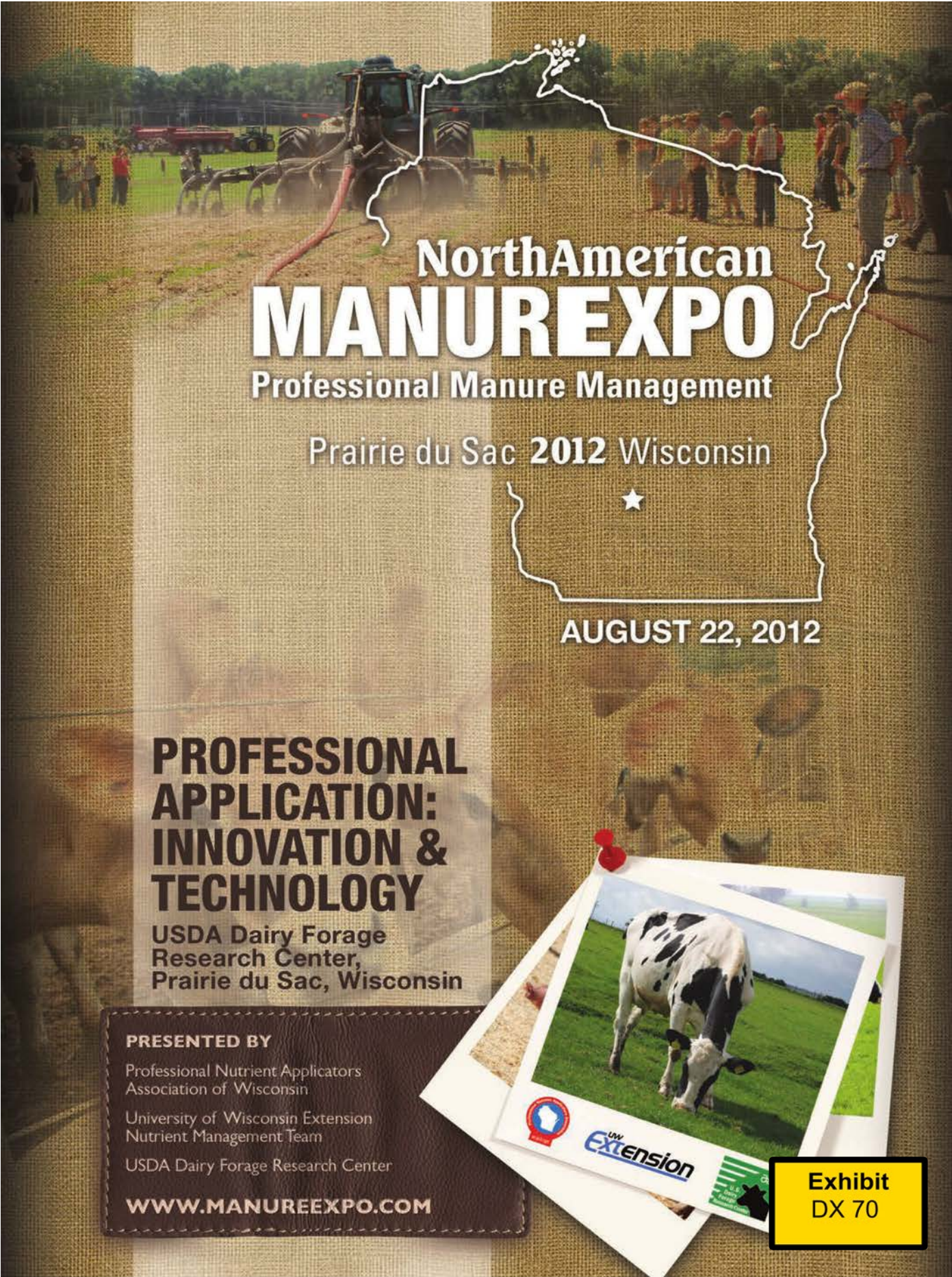




North American **MANUREXPO**

Professional Manure Management

Prairie du Sac 2012 Wisconsin

AUGUST 22, 2012

PROFESSIONAL APPLICATION: INNOVATION & TECHNOLOGY

USDA Dairy Forage
Research Center,
Prairie du Sac, Wisconsin

PRESENTED BY

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Association of Wisconsin

University of Wisconsin Extension
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North American **MANUREXPO**

Professional Manure Management

Prairie du Sac 2012 Wisconsin



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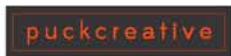
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PROFESSIONAL MANURE MANAGEMENT

The theme for this year's North American Manure Expo – “Professional Manure Management” aptly fits the 2012 event. From high-end computer/GIS technology that immediately alerts the applicator that a problem is developing to applicator-developed unique mechanical innovations to remove sand from manure storage and move manure over busy highways, **Professional Manure Management** means getting the job done the right way, every time.

The livestock industry in Wisconsin produces the equivalent of 13 billion gallons of manure annually. That's enough manure to cover a professional football field (including the endzones) to a depth of 5¼ miles. Wisconsin applicators began taking a more proactive role in their industry over 10 years ago, forming a professional association (the Professional Nutrient Applicators Association of Wisconsin, or PNAAW) to help members stay abreast of and provide input on regulations and to improve professionalism in the industry. A decade later, PNAAW is nationally recognized as a leader in reducing manure's environmental impact while helping livestock farmers meet the ever-changing regulations that impact manure application.

The North American Manure Expo's humble origin began when PNAAW members asked UW-Extension to bring a few equipment companies together and demonstrate different spreaders “head to head”. The first show, held at this same farm in 2001, drew 435 manure applicators from 5 states. The Expo has grown since, rotating to 6 other states (IA, NE, MI, MN, OH, PA) and drawing an average of 1,000 people from North America, Europe and Australia. Key to the Expo's success in each state is the active involvement of commercial manure applicators in every aspect of the event.

The Expo demonstration and education program shows the advancement by both industry manufacturers and applicators. Many of the application companies have developed specialized equipment to help them deliver the best value to their clients. Our demonstration program will include equipment that can improve manure agitation to deliver a more uniform product to the field or aid application over longer distances while reducing potential residential conflicts. Application of technology has been rapidly applied to monitoring and control of equipment, GPS guided application, and in advancing the basic manure spreader to a machine that can deliver prescribed application rates. The importance of research in advancing BMP's for manure application is evident in the seminar topics such as nitrification inhibitors for manure, timing and application methods, reducing impact on roads, and improving nutrient utilization.

While the industry strives to make improvements, accidents and manure spills can still happen. Knowing how to handle a spill can minimize or avoid environmental impact. A live-action manure spill response session will demonstrate practices that help avoid environmental impact during manure application and procedures to follow in event a manure spill does occur. The spill response demo will show us components and implementation of a spill response plan.

The North American Manure Expo is North America's largest manure education and demonstration event. Applicators and farmers from across the country will see innovations that will help them meet tomorrow's environmental challenges. But just as importantly, you will see and learn how to improve implementation of nutrient management plans. From innovations in agitation that will ensure a more consistent nutrient and solids content, to pumps that automatically shut down when a leak occurs, to variable rate spreaders, you will see how to apply manure safely and more accurately.

The Expo is a collaboration between the Professional Nutrient Applicators Association of Wisconsin and UW-Extension with the essential support of many partners in the manufacturing industry, University of Wisconsin, and agriculture agencies. The 2012 Expo has a great site and partner in the USDA Dairy Forage Research Center farm. The farms' manure storage facility can accommodate lagoon agitation demonstrations with field accommodation of solid and liquid manure applications. The UW-Extension Nutrient Management Team has provided professional support of the many components of Expo, including the education program, web site, and bringing in the financial support of our manufacturing participants. Members of the Professional Nutrient Applicators Association have brought their expertise and innovations to the Expo highlighting business development in their industry. Advancement in manure management in Wisconsin has always been seen as a partnering opportunity with neighboring states. This is evident in the travel of the Expo and in the contribution from neighboring State Universities and professional applicators.

We look forward to this opportunity to support farmers and applicators in Wisconsin through a program that addresses public concerns in Wisconsin while supporting the economically important agricultural industry of the U.S.

Ted Bay

Grant and Lafayette County Crops and Farm Management Agent, University of Wisconsin Extension

Kevin Erb

Conservation Professional Development and Training Coordinator, University of Wisconsin Extension

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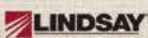
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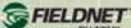
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EXPO presentations

1) CAN NITRIFICATION INHIBITORS IMPROVE THE NITROGEN USE EFFICIENCY OF MANURE?

Carrie Laboski – Associate Professor of Soil Science – University of Wisconsin-Madison

ABSTRACT: Data will be presented on the efficacy of nitrification inhibitors to improve nitrogen use efficiency from manure. This presentation will summarize preliminary research in Wisconsin with dairy manure and fertilizer and will touch research with swine manure in other states.

SPEAKER BIO: Carrie Laboski is an Associate Professor at the University of Wisconsin-Madison and an Extension Soil Fertility/Nutrient Management Specialist. Her research focuses on: nitrogen and phosphorus availability from manure including the effects of manure treatment; evaluation of nitrogen extender/stabilizer products to improve nitrogen use efficiency of fertilizer and manure; developing/refining diagnostic tests to predict or diagnose nutrient deficiency; and understanding general nutritional needs of grain and forage crops in various production systems. Dr. Laboski's extension activities include education related to soil fertility/nutrient management principles as well as the development and delivery of tools to assist producers, ag professionals, and regulatory agencies in making decisions that help sustain economically and environmentally sound production of grain and forage crops in Wisconsin and the Upper Midwest.

2) IS TIMING OF MANURE APPLICATION A BEST MANAGEMENT PRACTICE TO REDUCE PHOSPHORUS LOSS IN RUNOFF?

Peter Vadas – Research Soil Scientist – USDA-Agricultural Research Service-Dairy Forage Research Center

ABSTRACT: Phosphorus loss in runoff from agricultural fields can pollute local surface waters, and manure on the soil surface can be a source of phosphorus in runoff. Increasing the time between manure application and the first rain-runoff event is often mentioned as a practice to runoff phosphorus loss, but research investigating this topic has had mixed results. We will discuss the factors that control phosphorus loss in runoff from manure and show that differences in the amounts of rain and runoff during storms are more important to consider than timing of manure application. The information can help producers understand the mechanisms controlling manure phosphorus loss in runoff, which in turn can help them decrease the environmental impacts of manure application.

SPEAKER BIO: Peter Vadas is a soil scientist with the USDA Dairy Forage Research Center in Madison, WI. He conducts research on nutrient management on animal production farms, and especially management of agricultural phosphorus to reduce environmental impacts. His research also focuses on using current scientific information to develop decision-making tools for producers and planners.

3) NITROGEN AND PHOSPHORUS AVAILABILITY IN TREATED MANURES

Chris Baxter – Associate Professor of Soil & Crop Science – University of Wisconsin - Platteville

Carrie Laboski – Associate Professor of Soil Science – University of Wisconsin-Madison

ABSTRACT: The presenters will explain how various manure treatment systems, including liquid-solid separation, composting, and anaerobic digestion can change both the physical and chemical properties of manure, including its ability to supply N and P to crops. The factors influencing N and P availability in treated manures will be discussed. Data from research conducted in Wisconsin will be presented on the effects of treatment on manure N and P availability.

SPEAKER BIOS: Chris Baxter is an Associate Professor of Soil and Crop Science at the University of Wisconsin-Platteville, and serves as a Nutrient Management Specialist with UW-Extension. He

is involved with nutrient management education including the Training for Nutrient Management Planners Workshops and local nutrient management planning workshops for producers. His research interests include nitrogen and phosphorus dynamics in agroecosystems, treatment effects on manure nutrient availability, and effects of lime and flue-gas desulfurization byproducts in alfalfa production. Dr. Baxter also serves on the Research Advisory Board and as the nutrient management consultant to the UW-Platteville Pioneer Farm.

Carrie Laboski is an Associate Professor at the University of Wisconsin-Madison and an Extension Soil Fertility/Nutrient Management Specialist. Her research focuses on: nitrogen and phosphorus availability from manure including the effects of manure treatment; evaluation of nitrogen extender/stabilizer products to improve nitrogen use efficiency of fertilizer and manure; developing/refining diagnostic tests to predict or diagnose nutrient deficiency; and understanding general nutritional needs of grain and forage crops in various production systems. Dr. Laboski's extension activities include education related to soil fertility/nutrient management principles as well as the development and delivery of tools to assist producers, ag professionals, and regulatory agencies in making decisions that help sustain economically and environmentally sound production of grain and forage crops in Wisconsin and the Upper Midwest.

4) TILL, INJECT, OR SURFACE-APPLY MANURE: IMPACTS ON CORN YIELD, NITROGEN UPTAKE, AND RELATIVE NITROGEN LOSS THROUGH AMMONIA VOLATILIZATION AND NITRATE LEACHING

J. Mark Powell – Research Soil Scientist – USDA-Agricultural Research Service-Dairy Forage Research Center

ABSTRACT: The incorporation of manure into soil reduces odors and conserves manure N for subsequent crop use. However it is not known if this practice impacts N loss via other pathways. This presentation will include partitioning of total manure N applied each of 4 years into relative amounts of N, taken up by corn, volatilized as ammonia, leached as nitrate and remaining in soil at trial's end.

SPEAKER BIO: Dr. Mark Powell is a Research Soil Scientist with USDA-Agricultural Research Service, US Dairy Forage Research Center (USDFRC) and is recognized for his expertise in nutrient cycles of mixed crop-livestock farming systems in tropical, subtropical, and temperate environments through his work in Africa, Asia, Europe, Australia and USA. Mark's current research has four objectives: (1) develop ammonia and greenhouse gas emission abatement strategies for barns, outside cattle-holding areas, and other dairy farm components; (2) determine the effects of dairy diets on soluble nutrient forms (e.g., urine N) in manure, ammonia and GHG emissions, and the environmental performance of dairy farms; (3) develop herd and manure management practices that improve manure collection, distribution and recycling in soils/crops-pasture on dairy farms; and manure land application techniques that minimize nutrient loss via ammonia and greenhouse gas emissions, nitrate leaching, and runoff and (4) develop tools for farmers and farm advisors to measure, monitor and evaluate nutrient use efficiency and emissions in dairy production components, and to improve overall nutrient use, nutrient balances and environmental impacts of dairy production. Dr Powell has authored or co-authored over 190 journal articles, papers in conference proceedings, book chapters, and technology transfer publications.

5) PROACTIVE STEPS LIVESTOCK PRODUCERS CAN TAKE TO EXTEND THE LIFE OF LOCAL ROADS

Kevin Erb – Conservation Training Coordinator – University of Wisconsin-Extension

ABSTRACT: Heavy agricultural loads (whether manure tankers, semis of grain or forage) can be very destructive to asphalt and

concrete pavements. There are proactive steps that producers can take to reduce the impact on local roads, and this presentation will focus on the results of a just-completed 4-state research project that looked at the impact of manure tankers (4,000-9,500 gal), overloaded semis (102,000#) and grain carts on roads. Simple changes, such as how close to the edge you drive, time of day and where you load from the tanker or grain cart can make a dramatic difference in pavement life. Learn how farmers and local governments are working together to find solutions to this issue and explore manure moving technologies that reduce the problem. The presentation will also provide an update on the ongoing ag equipment/bridge study as well.

SPEAKER BIO: Kevin Erb is the Conservation Professional Development and Training Coordinator for University of Wisconsin-Extension. Kevin holds an MS in Environmental Science and Policy (2000) from the University of Wisconsin-Green Bay and has 19 years of experience working with farmers and rural landowners on nutrient management and environmental issues. He is the lead advisor to the board of the Professional Nutrient Applicators Association of Wisconsin (PNAAW), and assists applicators and Extension educators on commercial applicator education in five states, including coordinating cooperation between researchers and industry on projects examining the impact of manure equipment on rural roads and bridges.

6) MORE REGULATIONS? HOW OSHA APPLIES TO YOUR BUSINESS

Cheryl A. Skjolaas - Director - UW Center for Agricultural Safety and Health & Program Manager - National AgrAbility Program

ABSTRACT: You have employees injured out on a worksite or OSHA comes for an inspection while you're on a worksite. What does this mean to the host employer (farm operator) and what will this mean to you as a contractor to the farm? Learn safety procedures to improve your employee safety program and meet the requirements of the Occupational Safety and Health Act.

SPEAKER BIO: Cheryl Skjolaas, Interim Director and Agricultural Safety Specialist, University of Wisconsin-Madison/Extension Center for Agricultural Safety and Health, has worked in agricultural safety for over 20 years. She has presented numerous programs on safety related to the manure handling industry including confined spaces, manure gases and road safety. Recently, she has been working with the Wisconsin dairy industry to develop safety programs and address the OSHA Local Emphasis Program (LEP) for Wisconsin Dairy Farms. She is an authorized OSHA trainer for general industry.

7) SAND-LADEN MANURE: HANDLING & SEPARATION

Becky Larson - Assistant Professor of Biological Systems Engineering - University of Wisconsin-Madison

ABSTRACT: Sand bedding has shown to increase cow health and comfort compared to many other bedding materials making it a popular choice for many dairies. However, handling sand in manure systems can pose difficulty in manure management including clogging manure transfer systems, extreme wear on equipment, difficulties in recovering sand in separation systems, and costly operational and maintenance issues. Designing and operating manure systems to handle sand laden manure can reduce the time and cost to operate these systems. This talk will focus on key aspects of transferring sand laden manure on the farmstead as well as options for sand separation systems and optimizing performance.

SPEAKER BIO: Dr. Rebecca Larson is an Assistant Professor in the Biological Systems Engineering Department at the University of Wisconsin-Madison and a Biowaste Specialist at the University of Wisconsin-Extension. Dr. Larson performs research and extension/outreach for applications of biowaste management including handling, treatment, and processing of all types of biological waste streams including manure. Her work is largely comprised of manure

management systems focusing on increasing the profitability and sustainability of food production systems while simultaneously reducing the environmental impact. A large portion of her research and outreach activities incorporate on-farm anaerobic digestion systems including pre- and post-digestion processing. Dr. Larson is a Biological Systems Engineer by training earning her B.S., M.S., and Ph.D. degrees from the Department of Biosystems and Agricultural Engineering at Michigan State University.

8) VARIABILITY IN MANURE NUTRIENT CONTENT AND SAMPLING STRATEGIES FOR VARIOUS MANAGEMENT SYSTEMS

John Peters - Director - University of Wisconsin Soil Testing Laboratories and Extension Soil Scientist

ABSTRACT: Book values for manure nutrient content are largely based on laboratory data from raw manure and may not reflect the typical nutrient content of treated manures from new technologies. Variability is a concern with manure analysis which can only be minimized by following recommended sampling protocols, proper handling of samples and sound laboratory methods. This talk will address these issues as well provide a summary of laboratory data and updated sampling guidelines.

SPEAKER BIO: John Peters is the Director of the UW Soil and Plant Analysis Laboratory and UW Soil and Forage Analysis Laboratory and conducts research and extension programming in the areas of diagnostic services, soil fertility and liming, manure analysis, and land application of waste materials.

9) USING PRECISION FARMING TECHNOLOGIES AND EQUIPMENT FOR MANURE APPLICATION AND MANAGEMENT

*Jim Leverich - University of Wisconsin-Extension On-farm Research Coordinator
Dustin Ransom - T-K Ag Works, Darien, WI*

ABSTRACT: Use of precision farming tools allows producers and custom applicators to control the steering of manure application tractors and implements, control manure application rates, and record manure applications - allowing for more accurate manure applications to site-specific location in fields. The result should be improved nutrient use efficiency and higher crop yield with less environmental risk. Precision steering systems can also be used in combination with no-till manure injection systems to place nutrients near crop root zones to minimize surface runoff of nutrients while at the same time maintaining a no-till system.

SPEAKER BIO: Jim is a professor and on-farm research coordinator in the Agricultural and Natural Resources Department at the University of Wisconsin-Extension. Jim focuses on farming systems research and extension programming which helps farms to improve their environmental performance while improving farm profitability. Jim's current research areas are: economic analysis of best management practices for major watershed projects, manure separation systems and irrigation modeling in combination with soil moisture sensors to improve nutrient use and environmental performance, use of precision agriculture to manage manure and fertilizer nutrients, no-till and cover crop farming systems, economic analysis of UW research stations, and use of precision agriculture to develop and evaluate variable rate nitrogen management.

Dustin Ransom is a commercial manure applicator based in southern Wisconsin. He is a partner in T-K AgWorks, a custom application firm specializing in the use of GPS technology on tanker and drag hose application systems. Dustin pioneered the firm's application of GPS technology with early mapping applications and advanced to current auto-steer equipment and record generating software for compliance with a client's nutrient management plan. T-K AgWorks is a member of the Professional Nutrient Applicators Association of Wisconsin and Dustin serves as a Board member.

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10) INNOVATIVE MANURE APPLICATION METHODS TO IMPROVE NUTRIENT UTILIZATION AND REDUCE ENVIRONMENTAL IMPACT

Bill Jokela – Research Soil Scientist – USDA-Agricultural Research Service-Dairy Forage Research Center

ABSTRACT: Manure is a source of nitrogen (N) and other nutrients for crop production, but large losses of ammonia from surface application limit crop N utilization and can contribute to environmental problems. Incorporation of manure with tillage or standard injection methods greatly reduces ammonia losses and conserves N but may increase erosion potential by reducing residue cover. Recent innovations in application equipment provide low-disturbance manure incorporation while maintaining surface residue in annual crops and even perennial forages. These improved methods increase the crop N utilization and economic value of manure, reduce the environmental impact, and improve the manure N-P balance for better nutrient management planning.

SPEAKER BIO: Bill Jokela is a research soil scientist with the USDA-Agricultural Research Service (ARS) unit in Marshfield, WI, part of US Dairy Forage Research Center in Madison. Jokela came to his position with ARS in 2005 with previous experience as an extension soils specialist and researcher at the University of Vermont, as an extension specialist at the University of Minnesota, and as a crop and livestock farmer in Cannon Falls, MN. Jokela conducts research to evaluate manure and crop management effects on water, soil, and air quality, including practices to minimize transport of nutrients in surface runoff and emissions of ammonia and greenhouse gases. His research is aimed at developing improved management practices, such as manure application methods, cover crops, and tillage methods for corn and perennial forage production on dairy farms. Jokela has M.S. and Ph.D. degrees in Soil Science from the University of Minnesota and a B.A. in Biology from Carleton College, Northfield, MN.

11) SPRINKLER APPLICATION OF MANURE

Chris Henry – Assistant Professor of Biological Systems Engineering - University of Arkansas

ABSTRACT: Sprinkler systems are an efficient way to apply liquid manure and offer many advantages over tanker wagons and pull-type applicators – advantages such as application to a growing crop. The presentation will discuss linear systems, center pivots, big guns, and K-line portable systems and how they can be used to manage liquid manures. Case studies of manure management systems will be presented and discussed.

SPEAKER BIO: Chris Henry Ph.D., P.E. is an Assistant Professor at the University of Arkansas. He received a B.S. and M.S. in Agricultural and Biological Engineering in 1996 and 1998, from Kansas State University, respectively. He received his Doctorate in Engineering in 2009 from the University of Nebraska. He is a registered Professional Engineer (P.E.) in Kansas and Nebraska. From 1998 until 2012 he worked for the University of Nebraska conducting Extension programs on animal manure management. His primary extension program, the "Small AFO" Demonstration Program developed and demonstrated alternative best management practices, primarily vegetative treatment systems and Sprinkler VTS's, for small and medium sized livestock producers. He was party to a multi-state research effort to study the performance of large CAFO VTS systems in the US. At the University of Arkansas his responsibilities include irrigation water management and water quality research and Extension programs.

12) ECONOMICS OF MANURE TRANSPORT AND LAND APPLICATION

Tim Harrigan – Associate Professor of Biosystems and Agricultural Engineering - Michigan State University

ABSTRACT: Large spreader tanks in excess of 10,000 gallons have been developed, the use of in-field relay tanks has improved the pro-

ductivity of over-the-road nurse trucks, boom extensions have reduced the need for in-field truck maneuvering, and high-capacity pit and spreader pumps have reduced the time needed for loading, unloading and land application. Manure agitation, pumping, transport and land application costs are typically \$100-\$160/cow/year for a dairy farm in the Great Lakes Region. Tank spreaders are efficient when the fields are near the manure storage pit, but the hauling rate (gallons per hour) drops off by 20% with a one mile haul, 40% with a two mile haul and 50% with a three mile haul. This session will evaluate the costs of various methods of manure land application and the opportunities to reduce costs with manure nutrient credits.

SPEAKER BIO: Tim Harrigan's research and Extension programs focus on mitigating adverse farming systems impacts on the environment and creating sustainable agroecosystems. His research includes the development of an innovative process that combines low-disturbance tillage, the seeding of forage and cover crops, and manure land application in one sustainable operation. Currently, he is evaluating effects of the die-off and regrowth of root systems on the fate and transport of manure contaminants in the soil.

13) COMPARISON OF PHOSPHORUS AND NITROGEN LOSS IN SURFACE RUNOFF VERSUS TILE FLOW IN WISCONSIN TILE DRAINED LANDSCAPES

Eric Cooley – Research Coordinator - University of Wisconsin - Discovery Farms Program

ABSTRACT: Land management in tile-drained, agricultural landscapes plays a vital role in the timing and magnitude of nutrient loss from tile systems. The Discovery Farms program has collected 27 site years of tile line water quality data. This data, combined with concurrent edge-of-field surface water monitoring, has provided vital information on the timing, magnitude, and speciation of nutrient loss from tile drainage systems in Wisconsin.

SPEAKER BIO: Eric Cooley grew up in Sturgeon Bay and DeForest, Wisconsin. He earned undergraduate degrees in nuclear engineering from Thomas Edison State College and soil and water conservation from UW-Madison and a master's degree in soil physics from UW-Madison. Eric also served a 6-year enlistment in the U.S. Navy as a nuclear reactor operator and water chemist. He was previously employed by the Door County Soil and Water Conservation Department, where he specialized in nutrient management planning. Eric started work for Discovery Farms in December 2004 as an outreach specialist. His work focuses on natural resources issues in eastern Wisconsin with an emphasis on surface water runoff and tile line drainage. He will be primarily working in Kewaunee and Manitowoc counties.

14) USING PRECISION MANURE MANAGEMENT TO IMPROVE WATER QUALITY IN TMDL-IDENTIFIED PROBLEM AREAS

Larry Wagner – Agronomy Crops Field Specialist - South Dakota State University-Extension

ABSTRACT: Results from a five-year deep placement of manure study conducted in South Dakota will be presented. The goal of the Using TMDLs to Target the Demonstration and Evaluation of Deep Placement of Manure as a P Management BMP was to develop, evaluate, and demonstrate the impact of deep placement of manure as a best management practice to reduce phosphorus (P) loading to surface water on five field locations in the Upper and Lower Big Sioux River Watersheds.

SPEAKER BIO: Larry Wagner is an agronomy field specialist at the South Dakota Extension Regional Center in Sioux Falls. He is a certified professional agronomist (CPAG) through the American Society Agronomy. He also serves on the Board of Trustees of the South Dakota 4-H Foundation. Wagner has a B.A. in English Literature from St. Mary's University of Minnesota and a B.S. in Agronomy from the University of Minnesota.

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POSTERS & DISPLAYS

1) BETTER MAPS FOR BETTER MANURE MANAGEMENT

Sue Porter – Nutrient Management Specialist – Wisconsin Dept. of Agriculture, Trade & Consumer Protection
Laura Ward Good – Wis. Phosphorus Index & SNAP-Plus Coordinator – UW-Madison Dept. of Soil Science

2) PAIRED WATERSHEDS FOR AGRICULTURAL RUNOFF RESEARCH

Bill Jokela – Research Soil Scientist – USDA-Agricultural Research Service-Dairy Forage Research Center

3) THE USDA-ARS-DAIRY FORAGE RESEARCH CENTER

Lori Bocher – Agricultural Information Specialist – USDA-Dairy Forage Research Center

4) PATHOGEN LOSSES IN SURFACE RUNOFF FROM DAIRY MANURE APPLIED TO CORN FIELDS

Mark Borchardt and Susan Spencer – Microbiologists – USDA-ARS-Dairy Forage Research Center
Bill Jokela – Research Soil Scientist – USDA-ARS-Dairy Forage Research Center

5) WHEN IS THE BEST TIME TO APPLY MANURE TO ALFALFA?

Bill Jokela & Michael Russelle – Research Soil Scientists – USDA-Dairy Forage Research Center

6) UW-NUTRIENT & PEST MANAGEMENT (NPM) PROGRAM

Scott Sturgul – Nutrient Management Specialist – UW Nutrient & Pest Management Program

7) UNIVERSITY OF WISCONSIN-OSHKOSH SOLID WASTE BIO-DIGESTER PROJECT

Nick Schneider – Agricultural Agent – University of Wisconsin-Extension – Winnebago County

8) DETERMINING THE TOTAL SOLIDS CONTENT OF MANURE: A SIMPLE TEST

Graduate Students of Becky Larson – Assistant Professor of Biological Systems Engineering – University of Wisconsin-Madison

9) MANURE PIT AGITATION AND SAMPLING STUDY

Graduate Students of Becky Larson – Assistant Professor of Biological Systems Engineering – University of Wisconsin-Madison

10) SILAGE LEACHATE TREATMENT PRACTICES

Graduate Students of Becky Larson – Assistant Professor of Biological Systems Engineering – University of Wisconsin-Madison

11) MONITORING EDGE-OF-FIELD SURFACE-WATER RUNOFF: A THREE-STATE PILOT PROJECT TO PROMOTE AND EVALUATE A SIMPLE, INEXPENSIVE, AND RELIABLE GAUGE

Randy Mentz, Dennis Busch, Mark Tomer, Adam Birr – UW-Platteville Pioneer Farm, USDA-ARS-Ames, IA, Minnesota Dept. of Agriculture

12) MAKING THE MOST OF MANURE NUTRIENTS

Lori Bocher – Ag Information Specialist – USDA-Agricultural Research Service-Dairy Forage Research Center
Bill Jokela – Research Soil Scientist – USDA-Agricultural Research Service-Dairy Forage Research Center

13) UW DISCOVERY FARMS PROGRAM

Kevan Klingberg – Outreach Specialist – UW Discovery Farms Program

14) SWINE MANURE-BASED ASPHALT BINDER

Elham Fini – North Carolina A&T State University

15) REAL TIME NITROGEN MEASUREMENT FOR MANURE APPLICATORS

Aaron Hying – Animal Slurry Pumping

DEMONSTRATIONS

LAGOON EQUIPMENT DEMONSTRATIONS:

Dave Eisentraut, Eisentraut Ag Services, Waldo, WI – Coordinator

- Propeller & Pump Agitation
- Boat Vertical Agitation
- Dredge Agitation
- Mechanical Arm Cutterhead
- Manure Pump Monitoring & Control with Mobile Computer and Communication Devices

FIELD DEMONSTRATIONS:

Jerry Clark, UW-Extension Crops & Soils Educator, Chippewa & Eau Claire Counties – Coordinator

• Solid Manure Application Demonstrations

Kevan Klingberg – Outreach Specialist – University of Wisconsin-Extension Discovery Farms Program – Coordinator

• Liquid Manure Application Demonstrations

Jerry Clark – Coordinator

• Manure Dragline Application Demonstrations

Dana Cook – Cook's Countryside Trucking, North Freedom, WI – Coordinator
Chad Tasch – Tasch's Custom LLC, Malone, WI – Coordinator

- Frac Tank & Hoses
- Bladder Tank
- Hose Bridge
- Dragline Toolbars

MANURE SPILL RESPONSE DEMONSTRATION:

Richard Halopka – Agricultural Agent – University of Wisconsin-Extension-Clark County – Coordinator

The goal of a manure spill demonstration is to demonstrate practices a manure applicator or farmer can use to prevent off-site manure application or procedures to follow if they would have a manure spill. Much like a 15 inch wrench in the bottom drawer of a tool box, you may not need it every day, but an emergency spill response plan in the business or farm office will allow quick action if any type of spill occurs. The emergency plan provides and outline to follow and resources needed in a the event of a spill such as a list of phone contacts for emergency response, equipment/earth moving contractors, septic pumping business, local, regional, and state authorities for quick response if a spill would occur. The spill demonstration will focus on the 4 C's of the spill: 1. Control the spill. 2. Contain the spill. 3. Clean up the spill. 4. Contact the proper authorities. The spill response will demonstrate the use of equipment and materials that are on the farm to control and contain the spill. Clean up may require additional equipment depending on the size of the spill, but generally will be accomplished with equipment on the farm. Remember step 4, it is not illegal to have a spill, but it is illegal to not report a spill.



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7:30 a.m.	Registration/Trade Show Opens at Expo Field Site <i>Commercial vendor displays and poster sessions open throughout the day</i>
8:00 a.m. - 10:30 a.m.	Lagoon Agitation Demonstrations <i>(Shuttle service to farm site 7:30-11:30)</i> <ul style="list-style-type: none"> • Lagoon prop & pump agitation • Boat with remote control vertical agitation • Solids removal with truck mounted boom-arm cutterhead dredge • Stir Dredge floating agitator incorporating crust & settled solids • Pump monitoring and control with laptop computers and smart phones
10:30 a.m. - 12:30 p.m.	Education Seminars at Expo Field Site <i>Presentations</i> <ul style="list-style-type: none"> • Nitrification Inhibitors for Manure • Manure Application thru Irrigation • Timing of Manure Application to Reduce # Phosphorus Loss in Runoff • Nitrogen and Phosphorus Availability in Treated Manures • Till, Inject, or Surface Apply Manure-Impact on Yield, N Uptake, and N Loss • Pro-Active Steps Livestock Producers can take to Extend the Life of Local Roads • More Regulations? How OSHA Applies to your Business • Sand-laden Manure: Handling & Separation • Variability in Manure Nutrient Content - Sampling Strategies for Mgt. Systems • Using Precision Farming Technologies and Equipment for Manure Application • Application Methods to Improve Nutrient Utilization/Reduce Environmental Impact • Economics of Manure Transport and Land Application • Comparison of P and N Loss in Surface Runoff versus Tile Flow in Wisconsin • Using Precision Manure Management to Improve Water Quality
12:30 p.m. - 2:00 p.m.	Lunch & Exhibitor Time
2:00 p.m.	Field Demonstrations <ul style="list-style-type: none"> • Solid Manure Spreader Application <i>(GPS rate application, automatic rate control)</i> • Liquid Manure Tanker Application <i>(toolbar injection)</i> • Liquid Manure Dragline Application <i>(toolbar injection, frac tank, bladder tank, hose bridge)</i> • Manure Spill Response Demonstration <i>(implementing a spill response plan)</i>
30 min. after final demonstration	Commercial displays close and Manure Expo closes

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DEMO areas

Exhibitors

	Booth/ Lot	Demonstration
Advanced Biologicals	B 533-534	
Agri-View	B 536	
AgXplore	B 504	
AgSource Laboratories	B 502	
Balzer Inc.	L 201	
Bambauer Equipment LCC	L 202	
Bazooka Farmstar Inc.	L 209	Coulter-Till Toolbar on Houle Tanker Coulter-Till Toolbar on Dragline
BIOFerm Energy Systems	B 526	
Braun Electric Inc.	B 503	
Bugtussel Wireless	B 505	
Cadman	L 301	Cadman-Albers Alligator Bag Tank 5100m Hard Drag Hose w/30' applicator toolbar
Cooks Countryside Trucking, LLC	L 306	Husky Frac Tank
Cornell Pump Company	B 506	
Crop IMS	B 507	
Dairy Star	B 513	
Dairyland Laboratories Inc.	B 512	
Degelman Industries Inc.	L 103	M28 Spreader
Dept. of Natural Resources	B 514	
Digi Star	B 508	
Dutch Bunning Distribution, Ltd.	L 204	180 Spreader 230 HBD Spreader
E Tip, Inc.	B 527	
Eisenbraut Ag Services	L 410	100' Boom Dredge
Firestone Specialty Products	B 521	
GEA Houle - Komro Sales	L 207-208	
GEA Houle - Field Silo	L 207-208	
GEA Houle - Foxland	L 207-208	
Greenfield Spreading & Sales, Inc.	L 102	TEBBE HS320 Spreader
H & S Manufacturing Co., Inc.	L 203	5142 Tanker HP425 Spreader 5142 Spreader

	Booth/ Lot	Demonstration
Husky Farm Equipment Limited	L 305	PL490 24' Lagoon Pump
Hydro Engineering	L 303	34' Drag Hose Coulter Tool Bar
Jamesway Farm Equipment	L 402-403	Pumpeller Hybrid Lagoon Pump ULTRA-TRAC Tanker
K-Line Irrigation	B 535	
Kuhn North America, Inc.	L 105	PS150 Vertical Beater Spreader
Lindsay Corporation	B 530-531	
Manure Manager	B 501	
Meyer Manufacturing Corporation	L 106	8720 Auger Spreader 9500 Apron Spreader
MSA Professional Services	B 510	
Northern Biogas LLC	B 522	
NUHN Industries Ltd.	L 406	Header Series Lagoon Pump
Phil's Pumping & Fab. Inc.	L 405	Booster Pump Station (dual)
PNAAW	B 518	
Pik Rite Inc.	L 401	
Prof. Dairy Producers of WI	B 517	
ProfitPro, LLC	B 523	
Puck Custom Enterprises, Inc.	L 408/409	Agitation Boat
Real Time Ag	B 525	
Redwood Metal Works	L 104	
Roberts Irrigation Company, Inc.	L 302	
Schmidt's Pumping LLC	L 304	
Senninger Irrigation Inc.	B 511	
SFP	L 205	Sponsor Elite Bath Facility
Southwestern Petroleum Corp.	B 524	
Sundstrom's Pit Pumping	L 407	Stir Dredge CaselH STX600 JD2100 Ripper Puck Stinger Puck Booster Pump
Sunova WorX, Inc.	B 528	
Tasch Custom LLC	L 206	Hose Bridge
U.S. Environmental Protection Agency (EPA)	B 509	
USDA-NRCS	B 515	
USEMCO, Inc.	B 532	
UW Soil Testing Labs	B 520	
Vincent Urban Walker & Assoc., Inc.	B 519	
VTI LCC	L 404	Jamesway 9600 Tanker w/Injector
Wis. Dept. of Agriculture	B 516	
Yunker Plastics, Inc.	B 529	



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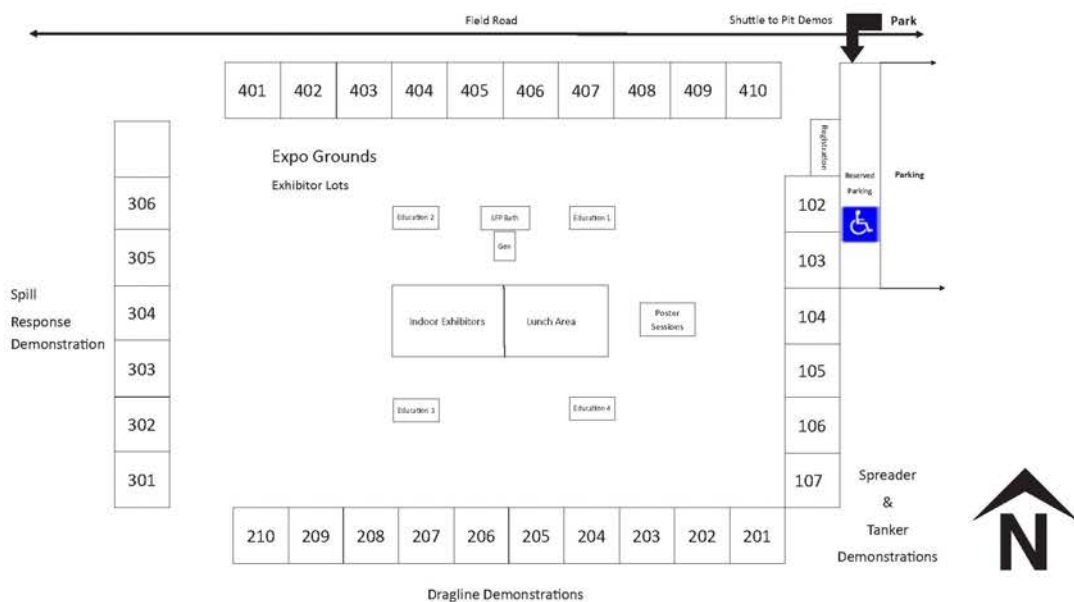
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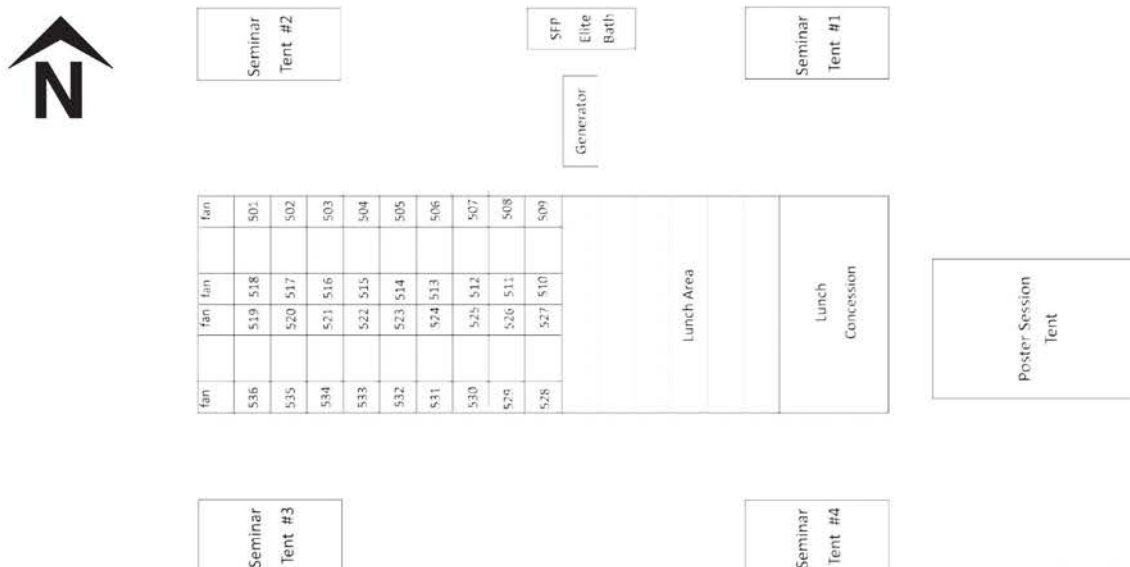
Expo Lot and Tent Layout



Outdoor Exhibitors

102	Greenfield	206	Tasch Custom LLC	306	Cooks Countryside Trucking, LLC
103	Degelman Industries Inc.	207-208	GEA Houle - Field Silo	401	Pik Rite Inc.
104	Redwood Metal Works	207-208	GEA Houle - Foxland	402-403	Jamesway Farm Equipment
105	Kuhn North America, Inc.	207-208	GEA Houle - Komro Sales	404	VTI LCC
106	Meyer Manufacturing Corporation	209	Bazooka Farmstar Inc.	405	Phil's Pumping & Fab. Inc.
201	Balzer Inc.	301	Cadman	406	NUHN Industries Ltd.
202	Bambauer Equipment LCC	302	Roberts Irrigation Company, Inc.	407	Sundstrom's Pit Pumping
203	H & S Manufacturing Co., Inc.	303	Hydro Engineering	408-409	Puck Custom Enterprises, Inc.
204	Dutch Bunning Distribution, Ltd.	304	Schmidt's Pumping LLC	410	Eisentraut Ag Services
205	SFP	305	Husky Farm Equipment Limited		

Exhibitor and Seminar Tents



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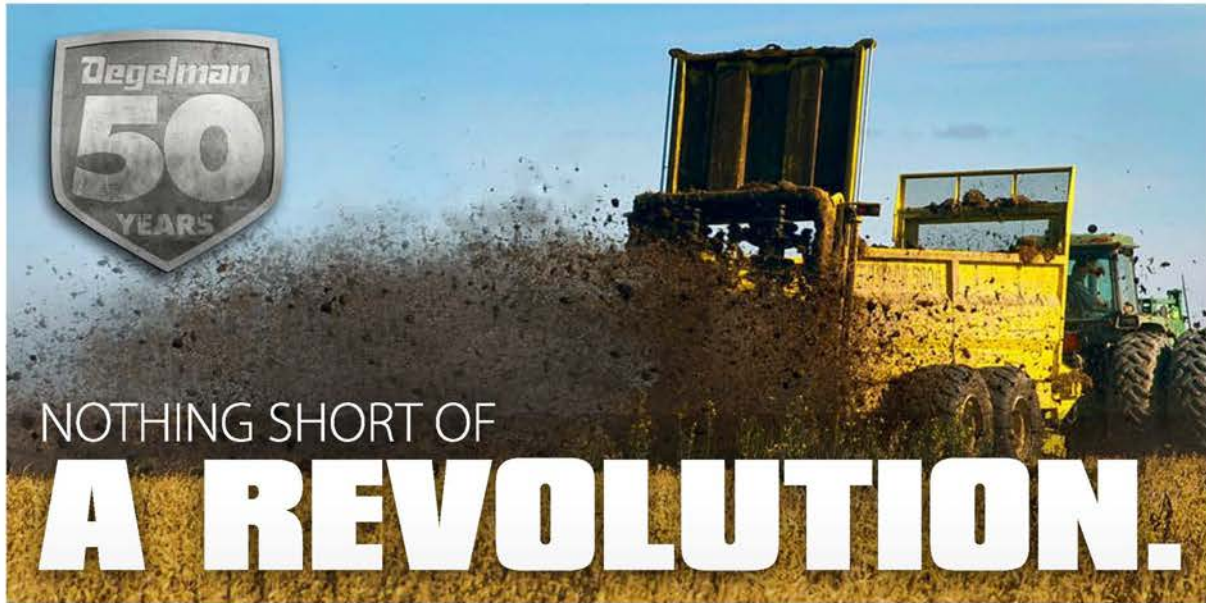
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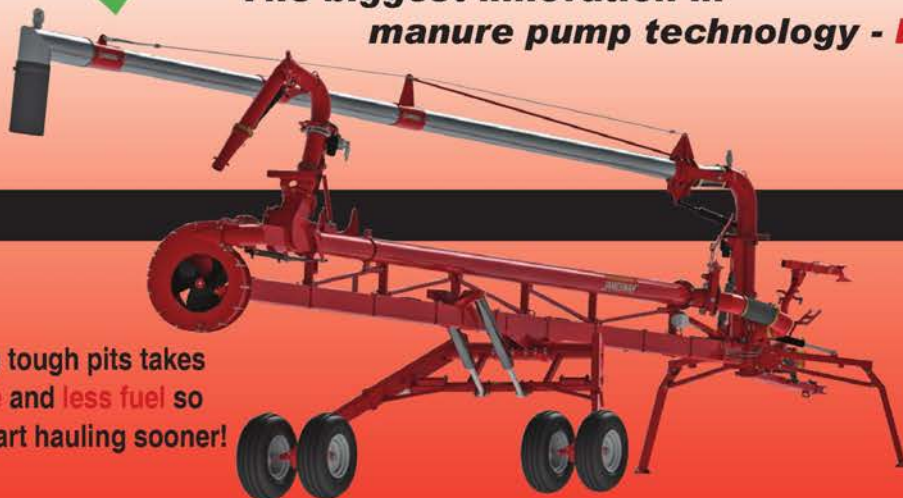
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The **PUMPELLER Hybrid Turbine** revolutionizes manure pump performance. Incredible intake suction pulls solids into the cutter knives, reducing the toughest crust to nothing in just seconds. The turbine combines the high-volume mixing of a propeller agitator with the power and reach of a lagoon pump, the resulting hybrid design radically outperforms both.

PUMPELLER™ HYBRID LAGOON PUMP

***The biggest innovation in
manure pump technology - **EVER!!*****



Agitating tough pits takes
less time and less fuel so
you can start hauling sooner!

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