mcpr
Minnesota
Crop Production Retailers

University of Minnesota
EXTENSION

Crop Pest Management Short Course
&
Minnesota Crop Production Retailers Trade Show

December 11-13, 2018
Minneapolis Convention Center & Minneapolis Hilton Hotel

Taking Control

Program & Exhibitor Guide

WELCOME to the 68th Annual Crop Pest Management Short Course and MCPR Trade Show

MCPR Board Chair's Message

Welcome to the 68th Crop Pest Management and Minnesota Crop Production Retailers Trade Show. The partnership between the MCPR and the University of Minnesota Extension on this program has been productive for all of us. Having completed a challenging fall season, it is time for all to engage in this great show and program. This is the great Minnesota and Upper Midwest Ag "Get Together" which will challenge, educate, and help you enjoy this great adventure we call agriculture.

Dale Johnson
MCPR Board of Directors

Dean's Message

Good decisions about crop production require solid research-based information. University of Minnesota Extension's Crop Pest Management (CPM) Short Course and the Minnesota Crop Production Retailers (MCPR) Trade Show provide crop decision-makers with an excellent opportunity to learn more about the complex issues surrounding agriculture today and to meet with other professionals who share similar interests. The joint MCPR and U of M Extension event offers many educational opportunities and ample time for building connections with your colleagues. I hope you enjoy the presentations and networking and gain practical, useful information at the 2018 CPM Short Course and MCPR Trade Show.

Bev Durgan
Dean, University of Minnesota Extension

Back by Popular Demand for 2018!

MCPR Board Chairman's Reception

The MCPR Board invites you to the MCPR Board Chairman's Reception. Drop in before your planned evening festivities. Use your exhibitor drink tickets (available for purchase at the registration desk).
Join us on:

WEDNESDAY, DECEMBER 12th
from 5 - 7:00 PM
Hilton Hotel – Marquette Ballroom, 2nd Floor

Light appetizers will be provided. Cash bar or use exhibitor drink tickets.

Trade Show Hours

- **Tuesday, December 11th** – 3:00 pm - 6:30 pm
- **Wednesday, December 12th** – 9:00 am - 5:00 pm (includes breaks and lunch (in the exhibit hall)
- **Thursday, December 13th** – 9:00 am - 11:00 am

Registration Hours

- **Tuesday** – 9:00 am - 6:30 pm
- **Wednesday** – 7:00 am - 5:00 pm
- **Thursday** – 7:00 am - 11:00 am

Educational Tracks

Technical Service Provider (TSP) Training

December 11th 10:00 am - 1:00 pm Room 208 CD

This training will present the latest information from the USDA-Natural Resources Conservation Service (USDA-NRCS) on nutrient management and integrated pest management (IPM) to Technical Service Providers (TSP) certified in these categories in Minnesota. This session will provide an update on NRCS Nutrient Management and IPM documentation requirements including revised plan templates and planning forms. There will be a discussion regarding Implementation Requirements forms along with a review of nutrient management and IPM requirements for Environmental Quality Incentives Program (EQIP) and Conservation Stewardship Program (CSP) participants. An update on TSP certification and recertification requirements will also be provided.

2018 Anhydrous Ammonia Bulk Storage Tank and Equipment Inspection Tool Kit and Program Updates

Presented by Minnesota Department of Agriculture (MDA) Inspection Staff

December 11th 10:00 am - 11:00 am Room 211 AB

A USB drive with pictures, videos, inspection checklists on anhydrous ammonia (NH3) compliance topics will be provided to all program participants. The USB drive is an interesting and easy to use safety tool for farmers, agricultural dealer employees, emergency responders. NH3 hot topics will be presented including an overview of incidents and commonly found compliance items identified during MDA inspections.

Pesticide Applicator Recertification

December 11th 2:00 pm - 3:30 pm Room 103 ABC
December 12th 8:00 am - 5:00 pm Room 103 ABC

These MDA-approved sessions are for applicators that need recertification credit in Categories A (Core), C (Field Crop Pest Management), and/or H (Seed Treatment). Workshop topics will include insect, disease, and weed updates, new pesticide safety topics, prevention of off-target movement of pesticides, and more.

- Category A + C: Attend all December 12th recertification sessions.
- Category A + H: Attend December 11th from 2 pm to 3:30 pm and December 12th recertification sessions from 8 am to 2:45 pm.
- Category A + C + H: Attend all December 11th and December 12th recertification sessions.

MCPR Plenary Session

December 11th 1:00 pm - 3:00 pm Room 102 DEF

Structural Changes in the Global Market for Fertilizers
Andy Jung, Senior Director, Market & Strategic Analysis, for The Mosaic Company

Explore the recent evolution of the nutrient supply side and what to expect going forward. Receive an overview of the structural changes to the crop nutrient industry that have taken place around the world over the recent past, with a particular focus on the impact on North American markets for N, P and K fertilizers. Note the resurgence of the North American nitrogen industry, the rationalization/ consolidation of phosphate assets, as well as the changing competitive landscape in potash. The presentation will also outline ag commodity demand and how that translates to demand for the various crop nutrients, before detailing what that could mean for crop nutrient retailers going forward.

High Performance!
Greg "Boss" Wooldridge, top tier speaker and motivator on demand across the USA building on his service as Blue Angels Commanding Officer. Greg will build excitement within your crew as you join him in the cockpit in his heart-driven approach proven in the Blue Angel's culture of excellence will empower you and your team on their journey toward High Performance. His approach proved a perfect match for the Blue Angels' culture of excellence, and he was called back to lead two more teams through times of difficult transition. Since his success with the Blues, Greg has been inspired to share his methods in order to empower individuals and teams on their journey toward high performance.

OMG GMO? Get to Know GMOs
Michael Stebbins, Council for Biotechnology Information/GMO Answers

We've all heard about GMOs. But what does the average consumer really think about them? And how can we advance the conversation about them? We know that people have questions about GMOs – from the safety of GMOs, to why farmers and food companies use them, to what foods (or food ingredients) were developed using genetic engineering. That's why GMO Answers was founded. Here we provide a primer about what a GMO is (and perhaps more importantly, what a GMO isn't), what research says about public perception about GMOs, and how we can talk about this technology in a way that will help create meaningful dialogue with people who want to know more about their food and how it's grown. Michael Stebbins will provide specific tips, techniques, and messaging on how to talk about GMOs, and best practices on how to move the needle on public acceptance.

Educational Tracks

General Session

December 12th Starting at 8:00 am Room 102 DEF

8:00 am — #IPM: How do we build resilient, sustainable, pest management crop systems?
Dr. Erin Hodgson, Iowa State University

The notion of "IPM" or integrated pest management was originally proposed 60 years ago and encouraged a multi-pronged, proactive approach. Now IPM is a commonly used term in field crop entomology, but are we succeeding at implementing tactics to protect yield and create sustainable farms? The rapid adoption of prophylactic tactics to insect pest management make farming with an IPM focus not convenient anymore (e.g., transgenics and seed treatments). In addition, the worldwide demand for food, feed, fiber, and fuel is increasing; and future grain market values are stagnant. In other words, farmers are asked to produce more and higher quality crops with only hopes of a thin profit margin. In this presentation, Erin will re-visit the foundational concepts of IPM and provide case studies on current pests within an IPM framework. A discussion about how to keep IPM relevant in Midwestern agriculture will allow farmers to take control of decision making and build resilient crop systems.

8:55 am — Are we serious about stewardship?
Jean Payne, Illinois Fertilizer & Chemical Association

Jean will discuss the IFCA's efforts in Illinois to be proactive on difficult issues facing the agrichemical industry and how they've built trust and transparency with environmental groups as the controversy over dicamba use on soybeans escalates. In a state with 22 million acres in crop production, but only a handful of legislators familiar with agriculture, IFCA's commitment to provide solutions instead of deflecting blame is paramount to ensure reasonable pesticide us policy. Jean will also share results of their ag retailer dicamba survey in both 2017 and 2018 and how they use feedback from their members to help develop successful regulatory and legislative strategies in a major corn and soybean production state.

9:55 am — Is there an opportunity for managing herbicide-resistant weeds by neighbors working together?
Dr. Michael D.K. Owen, Iowa State University

The presentation will highlight the findings of a NIFA research project that looked at how farmers interact and how willing they would be to develop a community-based herbicide-resistant weed management program. The project included ag economists, rural sociologists and weed scientists from Iowa, Minnesota, Arkansas and North Carolina. Differences in farmer perspectives varied greatly from north to south. The requirements of a community-based weed management program to address herbicide resistance will be described. The likelihood of community-based herbicide-resistant weed management programs will be discussed.

Concurrent Sessions I & II

(Session I jointly offered with Applicator Recertification)

December 12th Starting at 1:00 pm
Rooms 103 ABC & 211 AB

1:00 pm & 1:55 pm — Invasive diseases: current and future threats to corn and soybean production
Dr. Dean Malvick, University of Minnesota

New and invasive diseases have threatened and forced drastic changes in production of crops multiple times in recent history. Corn and soybean in the Midwestern USA have rarely developed devastating new diseases; however, invasive pathogens have caused problems that have been managed with different levels of success. Forward-thinking breeding practices are a key part of addressing these challenges. None of the new diseases that appear most likely to come to Minnesota may result in major changes in corn and soybean production, but this could change and continued vigilance is important. This presentation will discuss invasive diseases of corn and soybean and other crops that have resulted in changes in crop production, lessons we can learn, and invasive disease threats that may be on the horizon for corn and soybean.

1:00 pm & 4:10 pm — Adventures with Insect Management: 2018 Insights - 2019 Outlook
Dr. Kenneth Ostlie, University of Minnesota

In this presentation, we'll review status of corn and soybean insects in Minnesota with a focus on insecticide and trait resistance, new tools to manage populations, and their performance. In particular, four issues stand out, renewed scouting efforts for key pests, pyrethroid resistance in soybean aphid, Bt resistance in corn by moths, and performance of management options for corn rootworm in the face of input cost reductions and shifting Bt-RW trait resistance.

1:55 pm & 3:15 pm —When is crop pest management a team sport?
Bruce Potter, University of Minnesota

Pesticide resistant populations of insects, weeds, and disease are likely to increase, as are changes in the pest species that drive crop pest management on the farm and field level.

(continued on next page)

Educational Tracks

Public and private sector interests and capabilities in crop pest management are not necessarily the same but all are important to understanding the economic risks from crop pests.

Is there a way to slow the spread of problem pest populations? Can detecting changes in pest populations early prevent widespread economic losses? Can crop scouting be more efficient? This discussion present several examples to focus on how information systems and collaborative efforts might improve pest predictive capabilities and reduce crop losses.

3:15 pm & 4:10 pm — Herbicide resistance – What a tangled web we weave
Dr. Jeffrey L. Gunsolus, University of Minnesota

With the increasing frequency of several weed species developing resistance to multiple classes of herbicides and the detection of new mechanisms of resistance, corn and soybean producers are facing a problem that grows more challenging by the year. This problem becomes more challenging as there are no new effective herbicide sites of action on the horizon. This presentation will explore the network of weed- and herbicide-related problems corn and soybean producers are facing and how they all relate back to the need to take a more aggressive and proactive approach to herbicide resistant weed management.

Concurrent Sessions III & IV

December 12th **Starting at 1:00 pm**
Rooms 102 DEF & 208 CD

1:00 pm & 1:55 pm — Contribution of plant density to corn yield gain in North America
Dr. Ignacio A. Ciampitti, Kansas State University

Crop yields have steadily increased since the last half of the 20th century. For the US Midwest, corn-soybean rotation is the major agro-ecosystem relative to productivity and land use. Therefore, improving overall productivity of this major agro-ecosystem will require a better understanding of the main yield limiting factors for each crop. My presentation will focus on quantifying the contribution of plant density to corn yield gain for North America. Unlike yield, the rate of change of the agronomic optimum plant density (AOPD) and its contribution to yield gain are rarely reported at country-level in the scientific literature. Thus, a synthesis of a large database of corn hybrid by seeding rate trials conducted in North America (1987-2016) allowed us to reach the following main outcomes: (i) AOPD increased at rate of 285 plant acre-1 yr-1, (ii) plant density contribution to corn yield gain ranged from 8.5%-to-17%, and (iii) yield improvement came not only from changes in AOPD but also for a positive impact on yield components.

1:00 pm & 4:10 pm — Hogtied by pigweed – How will agriculturalists retake control
Dr. Thomas J. Peters, North Dakota State University and University of Minnesota

Redroot pigweed and Powell amaranth were the main pigweed species in row crop fields for growers in the previous generation. Waterhemp is currently the predominate pigweed species on many farms in southern and west central Minnesota and the southern Red River Valley in North Dakota and Minnesota and has become an important production challenge for row crop growers. There are multiple factors that may contribute to this important weed shift including change in cropping and tillage systems and are accentuated by increase in annual precipitation. Presentation will emphasize development of a weed management strategy including scouting, weed identification and the design and implementation of integrated weed control practices that considers the sequence of crops produced in a field across years.

1:55 pm & 3:15 pm — Soybean gall midge: Overview, observations and management strategies for an emerging pest of soybeans
Dr. Justin McMechan, University of Nebraska, Eastern Research and Extension Center

Soybean gall midge is not a new insect to soybeans in the North Central region. In Nebraska, gall midge was found in isolated soybean fields by Tom Hunt and others in 2011 in northeast Nebraska. These fields had received hail damage during the early half of the growing season and it was thought that the adult midges were attracted to lay eggs on the damaged plants and that the larvae were feeding on the decaying tissue. In 2018, a number of observations were made that raised concerns about the status of soybean gall midge as a secondary pest of soybeans. Unlike previous years, infestations occurred two months earlier than expected, damaged. In many cases, heavily damaged soybean fields were often next to a field that had been planted to soybeans the previous year. In addition, plant death was greatest next to waterways and ditches with dense vegetation. Little is known about the biology and ecology of soybean gall midge. This presentation provide an overview of observations made during 2018, studies conducting during that season in the field and greenhouse, and potential management strategies for 2019.

Educational Tracks

3:15 pm & 4:10 pm — Making informed decisions on specialty fertilizer products
Dr. Daniel Kaiser and Dr. Paulo Pagliari, University of Minnesota

Specialty fertilizer amendments are sold to increase plant growth or to enhance nutrient availability for fertilizers applied to or nutrients already contained in the soil. Determining if amendments work can be difficult as many promote effects that may not be easily measured in the field. Yield of commodity crops is viewed as a way to evaluate products with increases in marketable yield considered a success when a product is applied. Establishing appropriate experimental designs is critical to evaluate products as they may contain multiple nutrients or compounds which could impact yield.

This presentation will outline best practices for evaluating products and will focus on key points when determining if a product should be used. We will also outline sources of information available for those interested in researching products before they are used on their farm. We will also review the details of how to set up on farm trials, focusing on how to select the area to be used in the trial and also what areas to avoid as well as how to analyze the data after the trial is completed.

Concurrent Session I

December 13th — **Starting at 8:00 am**
Room 103 ABC

8:00 am & 1:25 pm — Take control by using sound management of urea
Dr. Fabian Fernandez, University of Minnesota

It would sure be nice to have a single nitrogen management recipe to give consistent result in every acre every year. The reality is that many variables impact nitrogen availability and crop development. We often talk about using the right time, source, rate, and placement, but what does that look like in real life? This presentation will focus on recent research findings to help us better understand some of the variables to watch for that can "make it or break it" when it comes to nitrogen management. The focus would be on urea as a fertilizer.

8:55 am & 11:10 am — Using variable rate application to increase phosphorus use efficiency and minimize water quality impairment
Dr. Antonio P. Mallarino, Iowa State University

The presentation will review how variable rate application technology combined with appropriate soil sampling can increase phosphorus use efficiency, profits from fertilizer or manure application, and at the same time reduce the risk of phosphorus loss to water resources.

10:15 am & 12:30 pm — Reviving crop canopy sensing for making corn nitrogen fertilizer recommendations
Dr. Newell R. Kitchen, USDA-ARS

Despite the extensive effort devoted to developing tools for making corn N fertilizer recommendations, few investigations have been conducted to compare the performance of these decision tools and find ways to improve them under a wide array of soils and climate conditions. This presentation will share the message coming from research conducted over three growing seasons (2014-2016) as part of public-industry partnership between eight land-grant universities within the US Corn Belt. Yield and soil measurements provided both the measurements needed to generate N recommendations using crop canopy sensing algorithms. Results were also used for making modifications to those algorithms. Performance of these canopy sensing tools was the economic optimal N rate (EONR) at each site. Findings will help guide future development of N fertilizer recommendations that are responsive to soil and weather-driven variability between and within crop production fields.

Concurrent Session II

December 13th — **Starting at 8:00 am**
Room 102 DEF

8:00 am & 1:25 pm — SCN & IDC: Managing soybean cyst nematode and iron deficiency chlorosis
Dr. Seth Naeve, University of Minnesota

As SCN began to spread through the upper Midwest in the '80's and '90's, producers were encouraged to 'Take the Test to Beat the Pest' and soil sample for SCN. Most did and many found SCN. Seed companies began selling adapted resistant lines, and famers happily chose them. Problem solved… in the short term. But, like all biological systems, resistance eventually breaks down. This session will focus on the current SCN situation and managing this pest with today's tools. Iron Deficiency Chlorosis can overlap and interact with SCN. We will discuss managing these maladies individually and concurrently.

8:55 am & 11:10 am — Variable rate seeding of soybean
Dr. Laura Lindsey, Ohio State University

The majority of new planters are capable of variable rate seeding (VRS), or planting different amounts of seed in predetermined zones within a field, based on a "prescription." For VRS to be successful, zones within a field need to be

relatively uniform, and the optimum seeding rate within each zone needs to be identified. In 2017 and 2018, we conducted on-farm research with the objectives of: 1) Identifying uniform management zones, and 2) Identifying the agronomic optimum seeding rate within each zone. This presentation will discuss the results of this research.

10:15 am — Utilizing climate outlooks and other decision tools to improve decision-making in agriculture
Dr. Dennis Todey, USDA-ARS

This talk will focus on climate outlooks and some other decision tools useful for improved decision-making in the Northern Midwest introducing some of the various information and how to interpret tools and outlooks for agricultural decisions. We will also include a climate outlook for the next growing season. We will also introduce more about the USDA Midwest Climate Hub and what it can for agriculture in Minnesota and the Midwest.

12:30 pm — Narrowing yield and nitrogen use efficiency gaps in corn production
Dr. Jeff Coulter, University of Minnesota

Corn yield potential and nitrogen use efficiency depend on many genetic, environmental, and management factors. The difference between potential and achieved levels of yield and nitrogen use efficiency represent gaps that could be narrowed through advances in corn management. In this session, results from recent high-yield experiments from across the Corn Belt will be summarized. In this presentation, emphasis will be placed on discussing 1) the corn yield levels that are possible, 2) how far current production differs from that which is possible, and 3) opportunities for integrating crop and nitrogen management practices to create marked improvements in corn yield and nitrogen use efficiency.

Concurrent Session III

December 13th **Starting at 8:00 am**
Room 211 AB

8:00 am & 12:30 pm — Take control of seed, seedling and root rots of soybean
Dr. James E. Kurle, University of Minnesota

Seed, seedling, and root rots of soybean are a costly challenge to Minnesota soybean growers. Since seed is the single costliest input in soybean production minimizing stand lost to root rots is essential for profitable soybean production. Current seed protection practices emphasize application of seed treatment fungicides or planting of resistant varieties. Seed treatments are effective against either filamentous fungi, Fusarium spp.and Rhizoctonia, or oomycetes, Pythium spp. and Phytophthora sojae. This specificity can be advantageous for a single pathogen but may be problematic when multiple pathogens sensitive to different fungicide modes of action are present. Similarly, single gene resistance can be highly effective if the pathotype infesting a field is correctly identified. The number of P. sojae pathotypes has increased steadily since the first P. sojae resistant varieties were released. Rather than relying on only seed treatments or cultivar resistance, control of root rots requires a package of management practices including P. sojae tolerant soybean varieties, selection of the most effective seed treatment fungicides, and tillage and drainage practices that counteract unfavorable soil conditions.

8:55 am & 10:15 am — Multi-hybrid: logistics and placement realities
Andrew Klopfenstein, Ohio State University

Technology is rapidly changing agricultural production and producers are faced with an increasing number of options and challenges. Today, multi-hybrid/variety seeding has captured the attention of numerous professionals in production agriculture. With the introduction of multi-hybrid seeding technology, farmers are faced with the challenge of generating hybrid-seeding prescriptions to optimize productivity across the soil landscape. While the technology is available for 30 in. and split-row planters, deployment of this technology at planting time is not void of challenges. For central-fill, split row planters challenges include moving seed from the central fill tanks to the mini hoppers on electric drive seed meters for seed of varying sizes, under varying environmental conditions, and for different seed treatments. One of the primary concerns besides the prescription is the management and changes in logistics related to seed delivery to the planter, fertilizer delivery, and seed characteristics. Several companies have launched analytics platforms to help farmers match plant genetics with local soil and terrain conditions. The cost of retrofitting existing planters with multi-hybrid capabilities ranges between $1,800 and $2,000 per row, and many farmers wonder if they can cash flow this investment. Additionally, evaluating the population extremes of both corn and soybeans with soil landscape continues to raise questions. This presentation reports on the logistics of field investigations conducted to evaluate the management of corn hybrids and soybean varieties within the soil landscape for increased profitability. Additionally, we will discuss and report on a set of field investigations conducted to evaluate the use of remote sensing for developing prescriptions to manage the placement of corn hybrids and soybean varieties within the soil landscape for increased profitability.

Educational Tracks

11:10 am — Narrowing yield and nitrogen use efficiency gaps in corn production
Dr. Jeff Coulter, University of Minnesota

Corn yield potential and nitrogen use efficiency depend on many genetic, environmental, and management factors. The difference between potential and achieved levels of yield and nitrogen use efficiency represent gaps that could be narrowed through advances in corn management. In this session, results from recent high-yield experiments from across the Corn Belt will be summarized. In this presentation, emphasis will be placed on discussing 1) the corn yield levels that are possible, 2) how far current production differs from that which is possible, and 3) opportunities for integrating crop and nitrogen management practices to create marked improvements in corn yield and nitrogen use efficiency.

1:25 pm — Utilizing climate outlooks and other decision tools to improve decision-making in agriculture
Dr. Dennis Todey, USDA-ARS

This talk will focus on climate outlooks and some other decision tools useful for improved decision-making in the Northern Midwest introducing some of the various information and how to interpret tools and outlooks for agricultural decisions. We will also include a climate outlook for the next growing season. We will also introduce more about the USDA Midwest Climate Hub and what it can for agriculture in Minnesota and the Midwest.

Concurrent Session IV

December 13th **Starting at 8:00 am**
Room 208 CD

8:00 am & 12:30 pm — Demystifying the benefits and limitations of cover crops use in corn-soybean rotations in Minnesota
Dr. Axel Garcia y Garcia, University of Minnesota

Cover crops provide agronomic benefits and improve soil health; such benefits are species- and site-specific, mainly weather conditions. This is especially important in northern climates like Minnesota, where the short growing season imposes challenges to cover crops use. Can we overcome such challenges? We address in this talk the potential benefits and limitations of cover crops in corn-soybean rotation practices in the region. Results of research conducted across Minnesota using different species of cover crops and different strategies will be presented to discuss issues from fall harvest to spring planting and from spring planting to fall harvest. We will provide research results to questions regarding cover crops effect on yield of corn and soybean when interseeded early in the season. We will discuss the potential of cover crops to reduce nitrate nitrogen in the leachate as well as to return that nitrogen back to the system for the use by the next cash crop. We will discuss the site-specific importance of cover crop type, as well as economic benefits. Last, but not least, we will talk about winter oilseed crops integrated in the corn-soybean rotation, an approach that has been gaining interest because it fits well into our northern climate and because of its potential as a third cash crop while providing ecological services.

8:55 am & 10:15 am — Updating an old paradigm: corn growth, development, dry matter and nutrient accumulation and partitioning
Dr. Roger Elmore, University of Nebraska-Lincoln

Corn nutrient and dry matter accumulation charts from the mid- 20th century were the bases for the dominant thinking on seasonal nutrient accumulation and nutrient partitioning into the first decade of the 21st century. That work was based a hybrid released in the 1950's. We relied on 1950's data sources for nearly fifty years! Were these data valid with 21st hybrids? During those five decades, few researchers looked at macro-nutrient accumulation and concentrations and even fewer have looked at secondary, and micronutrients of modern hybrids. Determining nutrient distribution within various parts of the plant as it develops is rare. Were the accumulation charts developed from a double-cross hybrid in the 1950's still accurate for modern hybrids and management systems? This question was the genesis of an 12-year project resulting first in the Extension publication of Corn Growth and Development - Abendroth et al. (2011, Iowa State Univ. Extension) - and then, a M.S. thesis – M.J. Boyer (2013, Iowa State Univ.)- and several publications in Agronomy Journal, (Woli et al., 2016, 2017, 2018, 201?). We set up a comprehensive investigation to answer the question. This presentation attempts to summarize that work.

11:10 am & 1:25 pm — Why do additional restrictions get placed on some crop protection products?
Joshua Stamper, Minnesota Department of Agriculture

What is a Pesticide of Concern? Why do we have BMPs? Isn't following the label enough? Why can't I use isoxaflutol north of I-94? Who cares if a little overspray gets in a ditch? If you have ever asked these questions, this is the session for you.

You will get a fast paced overview of how federal and state laws impact registrants, dealers, farmers, applicators, and the general public. You will understand how state and federal law directs MDA to carry out the rules governing pesticide use.

(continued on next page)

Educational Tracks

You'll learn how agencies develop Best Management Practices, and what happens if those BMP's are not followed or are proven ineffective.

We will also cover the "usual suspects" when it comes to hard to manage chemistry, and how you, as CCA's, applicators, and retailers, can be part of the solution so that we can continue to have a broad, effective suite of crop protection products in the future.

Biographical Sketch

Ignacio A. Ciampitti
Dr. Ignacio A. Ciampitti was born in Buenos Aires City, in Argentina. Currently, he is an Associate Professor and Cropping Systems Specialist at the Department of Agronomy, Kansas State University. His research is connected to understanding the genotype x environment x management practices interaction, including crop physiology, remote sensing and modeling tools. He is also an Associate Editor for Crop Science, editorial board of Field Crops Research. He has recently received the America Society of Agronomy Early Career Award and the Young Crop Scientist Award, Early Career from the Crop Science Society of Agronomy. Dr. Ciampitti received an MS degree in Soil Fertility and Plant Nutrition from the University of Buenos Aires, and a PhD in Crop Physiology and Nutrition from Purdue University.

Jeff Coulter
Jeff Coulter is an extension specialist of corn-based cropping systems at the University of Minnesota. He has a Ph.D. in crop sciences from the University of Illinois. His responsibilities include agronomic extension and research to increase the productivity and efficiency of corn-based cropping systems. His research focuses on addressing current and future challenges through field trials with growers on farms and at university research and outreach centers. Current research is focused on high-yield corn systems and nitrogen management. This serves as the foundation for educational programs for agricultural professionals and growers.

Roger Elmore
Dr. Elmore is a University of Nebraska Extension cropping systems agronomist. He researches and extends information on corn and soybean development and growth, cropping systems and the impacts of cover crops in those systems. His students are farmers and crop consultants and his classrooms are corn and soybean fields.

Fabián Fernández
Dr. Fabián G. Fernández is an Associate Professor in the Department of Soil, Water, and Climate at the University of Minnesota, Twin Cities. He earned his Ph.D. degree from Purdue University and M.S. and B.S. degrees from Brigham Young University. Before joining the University of Minnesota, he was an Assistant Professor at the University of Illinois. The research and extension education programs of Dr. Fernández are focused primarily on crop production and environmental issues related to nutrient management in corn cropping systems. He seeks to identify and implement nitrogen management practices that are sustainable both in terms of minimizing environmental impacts, specifically water quality, and improving crop yields.

Axel Garcia y Garcia
Dr. Axel Garcia y Garcia is an Assistant Professor / Sustainable Cropping Systems Specialist in the Department of Agronomy and Plant Genetics of the University of Minnesota. His research and extension emphasize sustainable cropping practices, primarily in the corn-soybean rotation, including diversification (emerging crops and cover crops), water and nitrogen use and efficiency, and environmental assessment. He has published over 55 peer-review scientific articles, contributed to book chapters, published extension bulletins, and has given extension and scientific presentations at national and international professional meetings. He is active in graduate education advising MS and PhD students. In 2014, Dr. Garcia y Garcia received the Award of Excellence for his contributions to sustainable water use by the U.S. Western Association of Agricultural Experiment Station Directors. His research is supported by the National Science Foundation (NSF/INFEWS), the Minnesota Department of Agriculture (Clean Water Funds), and the Minnesota Corn and Soybean Grower Associations. He serves as Associate Editor for Scientia Agricola – Brazil and is an incoming AE for the Soil Science Society of America Journal, and serves as reviewer of relevant journals in agricultural science. Dr. Garcia y Garcia's research group include postdoctoral research associates, visiting scholars, graduate students, and a field crew.

Biographical Sketch

Jeffrey L. Gunsolus
Dr. Jeffrey L. Gunsolus is a native of Wisconsin. Dr. Gunsolus has B.S. and M.S degrees from Iowa State University and a Ph.D. from North Carolina State University. Since 1986, Dr. Gunsolus has had an active extension and research program in Minnesota that is focused on helping growers' diversify their weed management programs. Dr. Gunsolus has a strong collaborative research program and is currently focusing his research on risk management perspectives of integrated weed management.

Erin Hodgson
Erin Hodgson is originally from North Dakota and received her B.S. (Biology) and M.S. (Entomology) from North Dakota State University. She got her Ph.D. (Entomology) in 2005 from the University of Minnesota where she was one of the first people to research soybean aphid. Erin worked as an extension entomologist for three years at Utah State University before starting at Iowa State University in 2009. Currently, she is an extension entomologist and associate professor at ISU, and works on IPM of field crop insects. Her extension and research programs improve profitability, sustainability and environmental stewardship in agriculture. Erin's current research focus is on soybean aphid, but includes emerging pests like Japanese beetle and soybean gall midge. Find her on Twitter (@erinwhodgson) to keep the conversation going!

Andy Jung
Mr. Jung, Senior Director, Market & Strategic Analysis, joined The Mosaic Company in 2013 to provide analysis supporting the short-term operating and raw materials sourcing decisions of the company, as well as identifying and evaluating long term growth opportunities. His role has expanded to include providing analysis of strategic initiatives, as well as being a member of Mosaic's Commercial Leadership Team. Prior to joining Mosaic, Mr. Jung served as a consultant at CRU for 10 years, where he held various positions, including management of the group's phosphate research program and leading a wide range of strategic consulting assignments across the agriculture, crop nutrient and raw materials sectors around the world. Mr. Jung has a BS in Economics from North Dakota State University and an MS in Applied Economics from Marquette University.

Daniel Kaiser
Daniel Kaiser in an associate professor in the department of Soil, Water, and Climate is the current state extension specialist in soil and plant nutrient management at the University of Minnesota. He received his M.S. and Ph.D. degree from Iowa State University. His current research in Minnesota focuses on developing research and extension programming related to soil testing and fertilizer management for the development of fertilizer guidelines for major field crops in Minnesota.

Newell R. Kitchen
Newell R. Kitchen is a Soil Scientist with USDA ARS and Adjunct Professor at the University of Missouri. He received his B.Sc. degree from Brigham Young University, M.Sc degree from University of Missouri, and his Ph.D. (1990) degree in Crop and Soil Sciences from Colorado State University. He served as the 2011 President of the American Society of Agronomy. He was elected as Fellow for the American Society of Agronomy (2007) and the Soil Science Society of America (2008). Other national/international awards include: Distinguished Service Award for leadership in transformational restructuring of American Society of Agronomy (ASA; 2012), Precision Agriculture Impact Award, ASA (2014), Karl Sprengel Agronomic Research Award for major research accomplishments resulting from basic and applied research in agronomy, ASA (2016); and the PrecisionAg Award of Excellence: Legacy Award (2018). Much of his research focuses on quantifying temporal and spatial variability in crops and soils for timely site-specific management. His research is documented in over 300 technical publications, including 115 peer-reviewed journal articles.

Andrew Klopfenstein
Andrew is a two-time graduate of The Ohio State University with a Master and Bachelor Degree in Agricultural Engineering. Andrew has been at Ohio State for ten years. He is originally from a family farm in in Paulding County Ohio that grows corn and soybeans and custom harvests forage crops. He currently conducts research in the areas of compaction, multi-hybrid corn, multi-variety soybeans, nutrient application, yield sensing and harvest logistics, unmanned aerial systems, autonomous vehicles, and big data. Andrew continues to work with ways to quantify and model the effects of compaction while looking at large axle loads from equipment, pinch row effects from planters, and evaluating planter technologies. Andrew manages field operations, labor, proposals, and projects for Dr. Scott Shearer in these research areas. He also teaches classes in the department of Food, Agricultural and Biological Engineering.

Biographical Sketch

James Kurle
Jim Kurle is an Associate Professor in the Department of Plant Pathology at the University of Minnesota. He has a BA in Biology from Dartmouth College, a BS in Agronomy and PhD in Plant Pathology from the University of Minnesota. Before becoming involved in plant pathology he conducted research into management of soybeans, corn, and small grains. As a postdoc at the University of Wisconsin his research emphasized management of soybean white mold with cultural practices and varietal resistance. He conducts research on integrated management of diseases of soybean using seed treatment fungicides, cultural practices, and plant disease resistance. This research has identified new sources of resistance to sudden death syndrome of soybean, previously unreported Pythium spp. and new Phytophthora pathotypes found in Minnesota. His most recently published research reports the increase in the number and complexity of Phytophthora sojae pathotypes in Minnesota and the more than thirty Pythium spp. found in Minnesota soybean fields.

Laura Lindsey
Dr. Laura Lindsey is the extension state specialist for soybean and small grain production at The Ohio State University. She received her M.S. in Soil Science from OSU, and her PhD in Crop and Soil Sciences from Michigan State University. Her research includes identifying management practices that influence soybean quality and yield; effects of planting dates and starter fertilizer on soybean quality and yield; and wide-row wheat production.

Anthony 'Justin' McMechan
Anthony "Justin" McMechan is an Assistant Professor and Crop Protection and Cropping Systems Specialist located at the Eastern Nebraska Research and Extension Center near Ithaca, NE. In 2016, Justin graduated with a Ph.D. in Entomology and Doctor of Plant Health degree from the University of Nebraska. Both of these degrees were centered around multidisciplinary research and he has made this a fundamental part of his program at UNL. His lab currently focuses on pest and beneficial insects in cover crop systems, evaluating hail damage in row crops, and understanding emerging problems such as ear development issues in com and soybean gall midge. Dr. McMechan utilizes a wide range of technologies in his extension program such as infographics, time-lapse photography and Go-Pro cameras to develop standalone products to reach his clientele and avoid the technical jargon that comes with research.

Antonio P. Mallarino
Dr. Antonio Mallarino is Professor of Agronomy and Nutrient Management Extension Specialist at Iowa State University. His research and extension programs emphasize phosphorus, potassium, lime, and micronutrients management. His work focuses on soil and plant tissue sampling and testing, placement methods, use of precision agriculture technologies, and fertilizer or manure phosphorus management impacts on water quality. He is Fellow of the American Society of Agronomy and the Soil Science Society of America. He was member of teams that developed the Iowa Phosphorus Index and the Iowa Nutrient Export Reduction Strategy.

Dean Malvick
Dr. Dean Malvick is an Extension Specialist and Professor of Plant Pathology at the University of Minnesota in St. Paul. His responsibilities include developing and delivering extension education programs and conducting problem-solving and discovery research focused on the biology and management of soybean and corn diseases. Previously, he was a faculty member with similar responsibilities at the University of Illinois in Urbana, and he worked for several years as a research pathologist for a seed company. Dr. Malvick received an MS degree in Botany and Plant Pathology from Oregon State University, and a PhD in Plant Pathology from the University of Minnesota.

Seth Naeve
Dr. Seth Naeve is a Soybean Agronomist with the University of Minnesota and is an Associate Professor in the Department of Agronomy and Plant Genetics. His effort is split between a soybean production/physiology research project and his soybean extension activities. These activities are centered in the North central region of the US, and more specifically in the state of Minnesota.

Dr. Naeve's research program focuses on development of novel strategies for the efficient production of high quality soybean. His research effort is split between analyzing genetic, environmental, and cultural effects on soybean seed quality (oil, protein, fatty acid, amino acid, and carbohydrate composition) and researching management strategies to maximize production efficiencies.

Seth was raised on a corn and soybean farm in Northern Iowa, and received his Bachelor's degree in Biology and PhD in Agronomy (Crop Production and Physiology) from Iowa State University.

Biographical Sketch

Michael D.K. Owen
Micheal D.K. Owen is a University Professor Emeritus. He was an Associate Chair in the Agronomy Department and a Weed Management Extension Specialist at Iowa State University. He received a PhD from the University of Illinois and was at Iowa State University beginning in 1982. Owen is an adjunct professor at Escuela Agricola Panamericana in Zamorano, Honduras and at Michigan Technological University in Houghton, MI. He also taught a PhD program in sustainable tropical agriculture at the University of Costa Rica. Owen has directed more than 50 graduate students including 17 Ph.D. candidates and authored more than 100 peer-reviewed journal papers. Owen was a co-author of the National Research Council report "The Impact of Genetically Engineered Crops on Farm Sustainability in the United States" released in 2010. He led a research project that investigated herbicide-resistant weeds, resistance genetics and the ecological and economic implications of herbicide-resistant weeds. Owen also investigated the social and economic aspects of farmer decisions concerning IPM and the management of herbicide-resistant weeds.

Kenneth Ostlie
Dr. Ken Ostlie is a Professor and Extension Entomologist in the Department of Entomology at the University of Minnesota. Over the last 32 years, Ken has focused his extension and research efforts on the ecology and management of corn and soybean insects. He started out as an innocent farm boy on the prairies of western Minnesota near Montevideo. Whatever the reason, his path led him to a B.A. in biology and mathematics at Luther College in Decorah, IA (1976), a M.S. in ecology at Utah State in Logan, UT (1980) where finally the dark side of entomology lured him to Iowa State where he completed a Ph.D. in 1984. Crop insects present dynamic management challenges, even to new technologies like Bt corn. Ken meets that challenge with creative, on-farm research, and crafting practical management solutions with farmers, their agricultural advisors, and their suppliers in mind.

Paulo Pagliari
My research is focused on gaining a better understanding of the relationship between soil fertility status and soil biological processes and how this interaction affects crop yield on both conventional and organic cropping systems. Among the elements essential for life, carbon, nitrogen, phosphorus and sulfur are the main nutrients in soils which the availability is influenced by microbial activity. One of my current research projects aims at understanding better this relationship between nutrient availability and microbial activity by using enzymes as surrogates for microbial activity. In another project, I am looking at increasing crop diversity to improve soil health in vegetable production under organic high tunnels. Also, I have an extension appointment where I extend new information generated by research conducted to Southwest Minnesota stakeholders.

Jean Payne
Jean is the President of the Illinois Fertilizer & Chemical Association. She has been with IFCA since 1998 and has served as President since 2004. She is involved in the management of the IFCA including oversight of regulatory and legislative issues that impact the industry as well as programs to provide leadership on nutrient and agrichemical stewardship. Jean received a B.A. in English from Illinois State University. She has served on the Board of Directors for the Ag Retailers Association, The Fertilizer Institute, the Mid America Crop Life Association, the American Agronomic Stewardship Alliance and the Asmark Institute. She lives in Bloomington, IL with her husband Rae.

Thomas Peters
Thomas J. Peters is the Extension sugarbeet agronomist and weed control specialist at NDSU and the University of Minnesota, supporting farmers that grow sugarbeet in Minnesota, North Dakota and eastern Montana. His interests are weed management in the crop sequence and its contribution to a field-based weed control strategy in sugarbeet. Peters joined NDSU and the University of Minnesota in February 2014 after retiring from Monsanto Co., St. Louis, MO. Tom is a Minnesota native and received his B.S. degree in Agronomy and Soil Science at the University of Minnesota, a M.S. degree from University of Nebraska and Ph.D. from North Dakota State University.

Bruce Potter
Bruce Potter received a B.S. and M.S in Entomology from the University of Minnesota. Since 1997, he has served as an Extension Integrated Pest Management (IPM) specialist at the University of Minnesota Southwest Research and Outreach Center near Lamberton, MN. His current research and Extension efforts focus on the management of pests of corn and soybean. In addition to contributing to research and extension articles, he has published a growing-season SW MN IPM newsletter since 1999.

Joshua Stamper
Joshua Stamper was raised on a small, diversified farm in NW North Carolina. He has a BS in Agriculture from Berea College in Kentucky and a MS in Agronomy from Kansas State University. Joshua was a farm manager, agronomist, scientist, and extension agent and extension specialist before assuming the role as Pesticide and Fertilizer Management Division Director for the Minnesota Department of Agriculture. He is constantly asking his staff, "how do we make this suck less?"

Biographical Sketch

Michael Stebbins
Michael Stebbins is the director of external engagement for the Council for Biotechnology Information (CBI). Raised on a fruit farm just outside Buffalo, N.Y, he has been in Washington, D.C. for more than 20 years working on a variety of issues in the medical, science, and technology fields. His first job in D.C. was working as an assistant for the editor of the editorial page at The Washington Post. From there, he moved to another media company, Gannett, where he worked for its corporate giving program, including overseeing its matching gifts program.

In 1999, Michael started at the Foundation for Biomedical Research (FBR), which educates the public about the importance of animal research to both animal and human health. At FBR, his main responsibilities were public communications and management of the foundation's social media efforts, where he gained valuable experience working with biomedical research experts within industry, academia, government, nonprofits and trade associations. His connections within the scientific community helped him to land a job at CBI in 2016. CBI's main initiative is the GMO Answers campaign, which he manages along with Ketchum. His background in agriculture, science communications, public engagement and crisis response makes him uniquely positioned as an expert in his field.

He started his education at the College of William and Mary on an Army ROTC scholarship and finished up at Cornell University, with a focus on science.

Dennis Todey
Dr. Dennis Todey is the Director of the USDA Midwest Climate Hub in Ames. IA. The hub supports climate and agriculture issues in an eight state region covering most of the Corn Belt delivering actionable climate information for agriculture throughout the region. He was previously the state climatologist South Dakota and Associate Professor at South Dakota State University and a frequent speaker at ag events in Minnesota. He has worked on regional collaboration of climate services in the Missouri River Basin and Midwest for over a decade in conjunction with NOAA, Regional Climate Centers, state climatologists and state extension. He was the president of the American Association of State Climatologists from 2010 to 2012.

Greg "Boss" Wooldridge
Greg "Boss" Wooldridge is the only commanding officer to lead The Blue Angels for three separate tours. He was first selected because of his demonstrated ability to build teams where communication, trust and teamwork took precedence over rank and status. His heart-driven approach proved a perfect match for the Blue Angel's culture of excellence, and he was called back to lead two more teams through times of difficult transition. Since his success with the Blues, Greg has been inspired to share his methods in order to empower individuals and teams on their journey toward High Performance.

From the very start of his career in the Navy, Greg was immersed in the building of great teams. In flight candidate school, he learned from the camaraderie of his class an emotion that elevated individuals by first elevating the performance of the team. Later, acting as a commander of a carrier squadron, Greg discovered that teams which drive toward something greater than themselves unlock an ability to perform at extreme levels.

And finally, when he was selected as the commanding officer of the Blue Angels, The Navy's—and the world's—premiere flight demonstration squadron, Greg Wooldridge experienced what it was like to take one's dreams and beliefs on an upward spiral, into the beyond.

Ice Breaker Reception

Exhibit Hall D Show Floor
Tuesday, December 11th
5:00 PM to 6:30 PM

Drink tickets can be purchased at the registration counter. Complimentary hors d'oeuvres, soft drinks, cash bar, and $1 beer.

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Schedule at a Glance
Tuesday, December 11, 2018

REGISTRATION OPENS AT 8:00 AM IN EXHIBIT HALL D

	MCPR PLENARY SESSION ROOM 102 DEF	PESTICIDE APPLICATOR RECERTIFICATION ROOM 103 ABC	TECHNICAL SERVICE PROVIDER TRAINING 208 CD	MINNESOTA DEPARTMENT OF AG UPDATE 211 AB	TRADE SHOW EXHIBIT HALL D
10:00			**NRCS Nutrient Management, IPM Guidance, and CSP Enhancements** *Carissa Spencer, Jeff King, Lance Smith and Shannon Carpenter - USDA-NRCS*	**2018 Anhydrous Ammonia Bulk Storage Tank & Equipment Inspection Tool Kit & Program Updates** *Ed Kaiser, Jeff Lorentz, and Jane Boerboom - MDA*	
11:00					
12:00			**LUNCH** (ONLY FOR THOSE REGISTERED FOR TECHNICAL SERVICE PROVIDER TRAINING)		
			NRCS Nutrient Management, IPM Guidance, and CSP Enhancements Continued		
1:00	**Structural Changes in the Global Market for Fertilizers** *Andy Jung* *The Mosaic Company* CEU=NM				
2:00	**High Performance!** *Greg"Boss" Wooldridge* *Former U.S. Navy Blue Angels*	**Update on Neonicotinoid Seed Treatments** *Trisha Leaf - MDA*			
2:30	CEU=PD	**Seed Treatment Update**			
2:45	**OMG GMO? Get to Know GMOs**	*John Wells* *SeedCare Institute*			
3:00	*Michael Stebbins* *Council for Biotechnology Information*	**Spilled Seed and Wildlife**			**Exhibit Hall Opens**
3:30	CEU=PD	*Charlotte Roy - DNR*			
4:30					**MCPR Annual Meeting**
5:00					**Ice Breaker Reception**
6:30					**Exhibit Hall Closes**

Schedule at a Glance
Wednesday, December 12, 2018

REGISTRATION OPENS AT 7:00 AM IN EXHIBIT HALL D

	PESTICIDE APPLICATOR RECERTIFICATION ROOM 103 ABC	GENERAL SESSION CROP PEST MANAGEMENT SHORT COURSE ROOM 102 DEF	TRADE SHOW EXHIBIT HALL D
8:00	**Licensing and Certification** Lauren Werner-Foley, MDA	8:00 **#IPM: How do we build resilient, sustainable pest management crop systems?** Erin Hodgson, Iowa State University CEU=PM	
8:30	**Glyphosate risk communication** Natalie Hoidal, UMN		**Exhibit Hall Opens**
9:00	**Driftwatch** Larry Van Lieshout, MDA	8:55 **Are we serious about stewardship?** Jean Payne, Illinois Fertilizer & Chemical Association CEU=PD	
9:25	BREAK	BREAK	
9:40	**Respirators** Natalie Hoidal, UMN	9:55 **Is there an opportunity for managing herbicide-resistant weeds by neighbors working together?** Michael Owen, Iowa State University CEU=PM	
10:10	**Patrol your pesticides case studies** Jared Goplen, UMN Bruce Potter, UMN		
11:00	**BREAK AND OPPORTUNITY TO VISIT EXHIBIT FLOOR**		
12:00	**LUNCH IN EXHIBIT HALL D**		

	CONCURRENT SESSION I ROOM 103 ABC	CONCURRENT SESSION II ROOM 211 AB	CONCURRENT SESSION III ROOM 102 DEF	CONCURRENT SESSION IV ROOM 208 CD	
1:00	**Invasive diseases: Current and future threats to corn and soybean production?** Dean Malvick University of Minnesota CEU=PM	**Adventures with Insect Management: 2018 Insights - 2019 Outlook** Kenneth Ostlie University of Minnesota CEU=PM	**Hogtied by pigweed - How will agriculturalists retake control?** Thomas Peters North Dakota State University CEU=PM	**Contribution of plant density to corn yield gain in North America** Ignacio Ciampitti Kansas State University CEU=CM	
1:55	**When is crop pest management a team sport?** Bruce Potter University of Minnesota CEU=PM	**Invasive diseases: Current and future threats to corn and soybean production?** Dean Malvick University of Minnesota CEU=PM	**Contribution of plant density to corn yield gain in North America** Ignacio Ciampitti Kansas State University CEU=CM	**Soybean gall midge: Overview, observations and management strategies for an emerging pest of soybeans** Justin McMechan University of Nebraska CEU=PM	
2:45	**BREAK**				
3:15	**Herbicide resistance - What a tangled web we weave** Jeffrey Gunsolus University of Minnesota CEU=PM	**When is crop pest management a team sport?** Bruce Potter University of Minnesota CEU=PM	**Soybean gall midge: Overview, observations and management strategies for an emerging pest of soybeans** Justin McMechan University of Nebraska CEU=PM	**Making informed decisions on specialty fertilizer products** Daniel Kaiser & Paulo Pagliari University of Minnesota CEU=NM	
4:10	**Adventures with Insect Management: 2018 Insights - 2019 Outlook** Kenneth Ostlie University of Minnesota CEU=PM	**Herbicide resistance - What a tangled web we weave** Jeffrey Gunsolus University of Minnesota CEU=PM	**Making informed decisions on specialty fertilizer products** Daniel Kaiser & Paulo Pagliari University of Minnesota CEU=NM	**Hogtied by pigweed - How will agriculturalists retake control?** Thomas Peters North Dakota State University CEU=PM	
5:00	**END**				**Exhibit Hall Closes**

Schedule at a Glance
Thursday, December 13, 2018

REGISTRATION OPENS AT 7:00 A.M. IN EXHIBIT HALL D					
	CONCURRENT SESSION I ROOM 103 ABC	**CONCURRENT SESSION II ROOM 102 DEF**	**CONCURRENT SESSION III ROOM 211 AB**	**CONCURRENT SESSION IV ROOM 208 CD**	**TRADE SHOW EXHIBIT HALL D**
8:00	**Take control by using sound management of urea** Fabian Fernandez University of Minnesota CEU=NM	**SCN & IDC: Managing soybean cyst nematode and iron deficiency chlorosis** Seth Naeve University of Minnesota CEU=CM	**Take control of seed, seedling and root rots of soybean** James Kurle University of Minnesota CEU=PM	**Demystifying the benefits and limitations of cover crops use in corn-soybean rotations in Minnesota** Axel Garcia University of Minnesota CEU=SW	**EXHIBIT HALL OPENS**
8:55	**Using variable rate application to increase phosphorus use efficiency and minimize water quality impairment** Antonio Mallarino Iowa State University CEU=SW	**Variable rate seeding of soybean** Laura Lindsey Ohio State University CEU=CM	**Multi-hybrid: logistics and placement realities** Andrew Klopfenstein Ohio State University CEU=CM	**Updating an old paradigm: corn growth, development, dry matter and nutrient accumulation and partioning** Roger Elmore University of Nebraska CEU=NW	
9:45	**BREAK**				
10:15	**Reviving crop canopy sensing for making corn nitrogen fertilizer recommendations** Newell Kitchen USDA-ARS CEU=NM	**Utilizing climate outlooks and other decision tools to improve decision-making in agriculture** Dennis Todey USDA-ARS CEU=CM	**Multi-hybrid: logistics and placement realities** Andrew Klopfenstein Ohio State University CEU=CM	**Updating an old paradigm: corn growth, development, dry matter and nutrient accumulation and partioning** Roger Elmore University of Nebraska CEU=NM	**EXHIBIT HALL CLOSES**
11:10	**Using variable rate application to increase phosphorus use efficiency and minimize water quality impairment** Antonio Mallarino Iowa State University CEU=SW	**Variable rate seeding of soybean** Laura Lindsey Ohio State University CEU=CM	**Narrowing yield and nitrogen use efficiency gaps in corn production** Jeff Coulter University of Minnesota CEU=CM	**Why do additional restrictions get placed on some crop protection products?** Joshua Stamper MN Dept of Ag CEU=SW	
12:00	**LUNCH IN LOBBY AREA BETWEEN ROOMS 102 AND 103**				
12:30	**Reviving crop canopy sensing for making corn nitrogen fertilizer recommendations** Newell Kitchen USDA-ARS CEU=NM	**Narrowing yield and nitrogen use efficiency gaps in corn production** Jeff Coulter University of Minnesota CEU=CM	**Take control of seed, seedling and root rots of soybean** James Kurle University of Minnesota CEU=PM	**Demystifying the benefits and limitations of cover crops use in corn-soybean rotations in Minnesota** Axel Garcia University of Minnesota CEU=SW	
1:25	**Take control by using sound management of urea** Fabian Fernandez University of Minnesota CEU=NM	**SCN & IDC: Managing soybean cyst nematode and iron deficiency chlorosis** Seth Naeve University of Minnesota CEU=CM	**Utilizing climate outlooks and other decision tools to improve decision-making in agriculture** Dennis Todey USDA-ARS CEU=CM	**Why do additional restrictions get placed on some crop protection products?** Joshua Stamper MN Dept of Ag CEU=SW	
2:20	**END**				

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Web: www.calciumproducts.com
Calcium Products manufactures and sells pelletized 98G limestone and SO4 pelletized gypsum. Having been in business for 30 years, with recent staff additions, plant upgrades and improvements have continued to provide retailers in Minnesota.

CapstanAG
Booth: 424
P: 785-232-4477 ext. 363
Email: mthimmesch@capstanag.com
Web: www.capstanag.com
PinPoint II, SharpShooter with Rate Sync, N-Ject LF, N-Ject NH3, Seed-Squirter, N-Vision.

Changing Times, LLC
Booth: 133
P: 605-878-3611
Email: tracy@ctapplicators.com
Web: www.ctapplicators.com
CT Dry Applicators & CT Liquid Applicators

CHS Agronomy
Booth: 330/332
P: 651-355-5285
Email: chris.johnson@chsinc.com
Web: www.chsinc.com
CHS is a diversified Fortune 100 company providing grain, food and energy resources to business and consumers. CHS Agronomy division supplies and markets Nitrogen, Phosphate, Potash products throughout the United States. Its corporate office is located in Inver Grove Heights, MN. Contact Kevin Doyle at 651-355-5382 or kevin.doyle@chsinc.com

2018 Exhibitors

Compass Minerals
Booth: 321
P: 800-551-8216
Web: www.Compassminerals.com
Compass Minerals Plant Nutrition, a business division of Compass Minerals, develops and manufactures a diverse and global portfolio of innovative essential plant nutrition solutions. The company mines, manufactures and formulates the highest-quality ingredients to maximize plant health and performance - above and below ground. Through extensive research and development, they deliver products to tackle adverse conditions so that the result is healthier, higher-quality plants and yields across every acre.

Continental NH3 Products
Booth: 432
P: 214-741-6081
Email: judd@continentalnh3.com
Web: www.continentalnh3.com
We manufacture a complete line of valves, fittings, meters and distribution devices for storage and application of anhydrous ammonia.

Corteva Agriscience
Booth: 301/303/400/402
P: 507-381-1550
Email: nntrygestad@dow.com
Web: www.dowagro.com
Corteva Agriscience™, the agriculture division of DowDuPont™, is the only major agriscience company completely dedicated to agriculture. By combining the strengths of DuPont Pioneer, DuPont Crop Protection and Dow AgroSciences, we've harnessed agriculture's brightest minds and expertise gained over two centuries of scientific achievement.

Davis Equipment Corporation
Booth: N
P: 800-736-3525
Email: jfunkhouser@davisequip.com
Web: www.davisequip.com
Davis Equipment is a distributor of dry, liquid and NH3 fertilizer application blending and handling equipment. We represent AGCO/Willmar, Dalton Ag Products, Case/DMI, B & B Wagons, Doyle Equipment Mfg., InterSystems Fertilizer Equipment, and related parts and accessories.

DTN/The Progressive Farmer
Booth: 113
P: 402-399-6466
Email: teri.thiele@dtn.com
Web: www.dtn.com
From private portals to customized websites to desktop trading tools and fully-integrated solutions, they help agribusiness improve purchasing decisions, reduce cost and build customer loyalty.

EFC Systems
Booth: 204
P: 615-864-8503
Email: mmoore@efcsystems.com
Web: www.efcsystems.com
EFC Systems has delivered comprehensive Enterprise Resource Planning as well as Precision/Field Data Management solutions to agricultural retailers for more than 25 years. Our solutions support advanced farming practices that enables seamless data connectivity among growers and their agricultural service providers. Visit www.efcsystems.com for more information.

FarmChem
Booth: 304
P: 641-903-1457
Email: chad.simonson@farmchem.com
Web: www.farmchem.com
FarmChem offers liquid handling equipment for liquid fertilizers and chemicals, fiberglass tanks, stainless steel tanks, poly tanks, mini bulk equipment, plant design & automation, seed handling equipment, seed treaters, seed conveyers, seed bins, seed tenders, DEF equipment and petroleum equipment.

FMC Corp
Booth: C
P: 507-460-2108
Email: beth.stoll@fmc.com
Web: www.fmccrop.com
FMC Corporation is a diversified chemical company serving agricultural, industrial and consumer markets globally with innovative solutions, applications and quality products.

Gypsoil Brand Gypsum
Booth: 227
P: 312-784-0300
Email: events@gypsoil.com
Web: www.gypsoil.com
GYPSOIL is the leading supplier of gypsum to agriculture. GYPSOIL BLENDABLE pelleted gypsum is a highly economical and convenient way to add sulfur as part of a dry fertilizer blend.

Heartland Tank Companies
Booth: 327
P: 303-773-3230
Email: bhasselbring@heartlandtankservices.com
Web: www.heartlandtankcompanies.com
Providers of high quality fabrication and erection of API-650 above ground storage tanks; internal, flexible PVC containment liners for large above ground storage tanks; and API-653 certified tank inspections.

Helena Agri Enterprises LLC
Booth: 221/223
P: 507-537-1677
Email: wiesend@helenaagri.com
Web: www.helenaagri.com
Please stop by our booth to talk about value-added products and service, to add revenue to your bottom line.

J&D Construction, Inc.
Booth: 212
P: 320-368-0960
Email: glen@jdconstinc.com
Web: www.jdconstinc.com
J&D Construction Inc. will design and construct a fertilizer, AG-Chemical and seed warehouse to your needs for the future. We provide a turn-key service from design, engineered services and construction of the facility with on-site management.

J.C. Ramsdell Enviro Services, Inc.
Booth: 226
P: 605-997-3706
Email: kelley.ramsdell@jcramsdell.net
Web: www.jcramsdell.com
Design and installation of secondary containment. Assistance with Department of Ag permitting.

Kahler Automation
Booth: 430
P: 507-235-6648
Email: ejbeek@kahlerautomation.com
Web: www.kahlerautomation.com
Kahler Automation designs control systems for bulk material handling of grain, chemicals, fertilizer, minerals and more. These automated systems provide the ability to run your facility with ease and accuracy.

Kibble Equipment
Booth: E
P: 507-451-4054
Email: dave.baack@kibbleeq.com
Web: www.kibbleeq.com
John Deere sprayers, spreaders & commercial application equipment.

Marcus Construction
Booth: 210
P: 320-222-6616
Email: randy@marcusconstruction.com
Web: www.marcusconstruction.com
Marcus Construction creates efficient agronomy centers for the agribusiness industry through the design and construction of bulk dry fertilizer storage and fertilizer blending facilities, inland and river fertilizer terminals, liquid fertilizer storage, chemical and seed warehouses and flat grain storage buildings.

Mathiowetz Construction
Booth: 117
P: 507-794-6953
Email: bradommodt@mathiowetzconst.com
Web: www.mathiowetzconst.com
Site work, excavation, drainage, aggregates.

MicroSource
Booth: 306
P: 308-325-2442
Email: larry.grote@microsourcellc.com
Web: www.microsourcellc.com
Manufacturer and seller of nitrogen stabilizers, low salt starters, liquid and dry micronutrients.

Midwest Laboratories, Inc.
Booth: 420
P: 402-334-7770
Email: getinfo@midwestlabs.com
Web: www.midwestlabs.com
Midwest Laboratories provides the agricultural industry with a comprehensive testing and analytical services team, industry specialized account managers and over 40 years of experience to deliver fast, personalized and reliable results through advanced technology and industry-leading customer service. Stop and see Jim Fasching - jfasching@midwestlabs.com

Minnesota State Patrol
Booth: 108
P: 218-396-0866
Email: eric.sundby@state.mn.us
Web: www.msp.dps.mn.gov
Commercial vehicle enforcement.

2018 Exhibitors

MN Dept of Agriculture - Pesticide & Fertilizer Management Division
Booth: 100/102
P: 651-201-6322
Email: jen.schaust@state.mn.us
Web: www.mda.state.mn.us
The Pesticide & Fertilizer Management Division (PFMD) of the Minnesota Department of Agriculture (MDA) is responsible for most aspects of pesticide and fertilizer use in Minnesota to ensure the integrity of our food supply. PFMD oversees licensure and certification related to agricultural chemical use and performs inspections to ensure public safety. In support of the MDA mission, the division administers water resource protection programs to improve the health of our environment, and provides services to instill regulatory consistency in support of a strong agricultural economy.

MN/DOT Office of Freight & Commercial Vehicles Operations
Booth: 108
P: 651-366-4348
Email: jim.fox@state.mn.us
The mission of the office of Freight and Commercial Vehicle Operations is to advance highway safety by working with providers of commercial transportation to improve and enhance the safety of their operations.

Mosaic Company
Booth: D
P: 612-965-1252
Email: kevin.bachmeier@mosaicco.com
Web: www.mosaicco.com
Manufacturers of phosphate and potash fertilizers including the microEssentials, Aspire and K-Mag product lines. Kevin Bachmeier: 612.965.1252, Kyle Kraska: 763.592.9923. Savage, MN warehouse: 952-895-1260.

Murray Equipment, Inc.
Booth: 127
P: 260-484-0382
Email: kmcclung@murrayequipment.com
Web: www.murrayequipment.com
Murray Equipment is a supplier and manufacture of liquid handling equipment. Specializing in fertilizer and chemical system design. Contact Kurt McClung at kmcclung@murrayequipment.com

MVTL
Booth: 404
P: 507-766-3319
Email: bwilliams@mvtl.com
Web: www.mvtl.com
MVTL, Inc. is a full-service laboratory specializing in agriculture, environmental, feed, food science, and energy. Our agricultural services offer approved methods for complete analysis methods and guidelines for soil, plant, manure, compost, SCN, lime, and fertilizer. Special chemistry packages for most environmental and engineering parameters on request.

NACHURS
Booth: 307
P: 740-382-5701 x258
Email: ruebelb@nachurs.com
Web: www.nachurs.com
NACHURS, proudly celebrating over 70 years in the industry, is the nation's leading manufacturer/marketer of high quality, true solution liquid fertilizer serving the needs of North American farmers since 1946. Contact Kevin Crandall at 320-424-1358 or crandallk@nachurs.com.

Norstar Industries Ltd.
Booth: 224
P: 204-746-8200
Email: curtis@norstarmfg.com
Web: www.norstarindustries.ca
Norstar Industries offers a full line of fertilizer handling conveyance equipment for your needs including Bucket Elevators, Conveyors, Metering Augers and more. We also offer a full line of Mill Accessories to help keep your facility running at optimal performance. With over 15 years of experience in the material handling industry our team is able to help you maximize your efficiency.

North Star Scale, Inc.
Booth: 248
P: 507-639-6647
Email: northstarscales@gmail.com
Web: www.northstarscale.com
North Star Scale offers our customers a complete line of weighing systems, calibration and construction services. Serving Southern Minnesota and the surrounding states. Locations in Mapleton, MN and Ormsby, MN.

Novid Inc.
Booth: 406
P: 204-746-6843
Email: Joel@novid.ca
Web: www.novid.ca
Novid Inc. manufactures stainless steel liquid storage tanks and dry hopper bins specifically designed for the safe storage of fertilizers, chemicals and grain. Novid's products are a long-term storage solution with the lowest long-term costs on the market.

Nutrien
Booth: 105/107
P: 712-253-6509
Email: kyle.ortegren@nutrien.com
Web: www.nutrien.com
Nutrien is the leading provider of all three nutrients growers need to produce healthier, more abundant crops.

Precision Tank
Booth: 111
P: 217-452-7228
Email: brobbins@precisiontank.com
Web: www.precisiontank.com
Precision Tank has been a leader in ag tanks since 1965. PT Purchase A&B Welding - now Precision Liquid Construction in 2015 - PLC designs & builds liquid fertilizer terminals, offering turnkey solutions to include API 650 tanks.

Proagrica
Booth: 323
P: 405-377-5334
Email: kendra.cox@proagrica.com
Web: www.proagrica.com
Proagrica is the trusted partner for global agriculture. Through our integrated network, workflow solutions and actionable insights, our customers are better connected to make more informed decisions, growing productivity and profitability.

Ranco Fertiservice Inc.
Booth: 331
P: 712-283-2525
Email: info@ranco.org
Web: www.ranco.org
Ranco Fertiservice manufacturers dry fertilizer blending and handling equipment. High quality and time-proven construction sets us apart from our competitors. Contact Todd Kraft in sales.

Raven Industries
Booth: 434/436
P: 605-336-2750
Email: Meagan.Huisman@ravenind.com
Web: www.ravenprecision.com
Raven Applied Technology delivers impactful technology to growers and custom applicators around the world. From field computers to sprayer and planter controls, GPS guidance steering systems, and wireless technology, Raven provides precision agriculture products designed to reduce operating costs and improve yields.

Raven Industries
Booth: 436
P: 605-336-2750
Email: Meagan.Huisman@ravenind.com
Web: www.ravenprecision.com
Raven Applied Technology delivers impactful technology to growers and custom applicators around the world. From field computers to sprayer and planter controls, GPS guidance steering systems, and wireless technology, Raven provides precision agriculture products designed to reduce operating costs and improve yields.

Razor Tracking
Booth: 337
P: 701-429-4991
Email: matt@razortracking.com
Web: www.razortracking.com
Razor Tracking gives real-time fleet optimization, asset management and dispatching on one screen.

RBR Enterprise
Booth: I
P: 320-587-4030
Email: plenz@agsystemsonline.com
Web: www.rbrenterprise.com
Stop at our booth and see the all new RBR floater. See the video what this machine can do either post or pre. Comes with a New Leader spinner box or CASE IH Flex Air.

RD Mechanical
Booth: 131
P: 507-383-9043
Email: rondevries66@hotmail.com
Web: www.rd-mechanical.com
Chemical/Fertilizer Piping installer. Custom Built Catwalks, Custom Welding and Piping Modifications Repair.

Ridgewater College
Booth: 110
P: 320-222-5274
Email: curt.yoose@ridgewater.edu
Web: www.ridgewater.edu
Stop by our booth and we can talk about how you can get paid to send students through our program. Ridgewater College, Willmar, MN 1-800-722-1151

Rosen's, Inc.
Booth: 322/324/326
P: 507-238-4201
Email: ksunblad@riw2000.com
Web: www.aginfotoday.com
Rosen's Inc. markets, sells and distributes basic agricultural chemicals and the Medallion quality adjuvants. Warehouses are staffed with knowledgeable sales people and strategically located throughout the Midwest.

2018 Exhibitors

Sackett Waconia
Booth: 206
P: 952-442-4450
Email: troyw@sackettwaconia.com
Web: www.sackettwaconia.com
Manufacturers of high quality dry fertilizer blending and material handling systems.

Simonsen Mfg. Co.
Booth: L
P: 712-445-2211
Email: jon@simonsen-industries.com
Web: www.simonsen-industries.com
Simonsen's manufactures pull spreaders, tender bodies, spreader bodies for trucks and floatation vehicles, bulk feed bodies.

Software Solutions Integrated, LLC
Booth: 325
P: 217-774-2105
Email: sales@agvance.net
Web: www.agvance.net
SSI provides integrated software solutions for ag retailers. Agvance is a windows-based system used throughout the U.S. and Canada. Applications for mapping, field planning, blending, invoicing, inventory, regulatory compliance, propane, motor fuel, grain, patronage and full accounting are included within the Agvance suite of products.

SOILMAP
Booth: 305
P: 515-835-0550
Email: polmstead@soilmap.com
Web: www.soilmap.com
SOILMAP is a complete agronomy solution that features Dispatch, Accounting Interface, Scouting, RX Creation, Flat Rate Batch creation along with much more. SOILMAP software allows you to plan (chemicals, fertilizers, seed), crate cost comparisons, acquire history reports and determine blendsheets. Other capabilities include soil-type books, seed population maps and farm maps. We are currently integrated with a number of accounting programs to facilitate greater accuracy and efficiency with the accounting program you utilize. We are also integrated with Murray, Ranco, Junge and Kahler automated blenders. With this integration we are able to return product Actuals into accounting.

Squibb Taylor Inc.
Booth: 234
P: 214-357-4591
Email: Path@squibbtaylor.com
Web: www.squibbtaylor.com
NH3 valves, NH3 hoses, and NH3 safety equipment.

Stueve Construction Company
Booth: 335
P: 515-295-3110
Email: sanderson@stueve.com
Web: www.stueve.com
Industry leader with 60 years of experience in dry fertilizer storage construction. Our busines focus is specialized in the construction of new plants, additions and remodeling existing plants. We feature "exclusive" In-House Structural Engineering, expericed "on-site" job foremen, detail orientated prject managers and knowldgeable staff in finding building solutions that fit your budget and scope. We are at booth 335!

Syngenta Crop Protection
Booth: 205/207
P: 507-227-3934
Email: brett.heronimus@syngenta.com
Web: www.syngenta.com
Syngenta is a world leading agriculture company with more than 25,000 employees in 90 countries. Through worldwide class science, global reach and commitment to our customers, our goal is to increase crop productivity, protect the environment and improve health and quality of life. For more information about Syngenta, go to www.syngenta.com or contact: Brett Heronimus at 507-227-3934 or brett.heronimus@syngenta.com

Take Action - United Soybean Board
Booth: 225
P: 314-449-2638
Email: gracie.weinzierl@osbornbarr.com
Web: www.iwilltakeaction.com
Take Action is an industry-wide partnership between university experts, commodity organizations, and crop protection providers to manage herbicide, fungicide, and insecticide resistance. Brought to you by the soy checkoff.

The Andersons Plant Nutrients
Booth: 231/233
P: 712-454-6274
Email: Janet_tondreau@andersonsinc.com
Web: www.andersonsinc.com
Nutra-Flo PureGrade Low-Salt Liquid Starter & Foliar Plant Fertilizer along with a full line of micronutrients.

Taranis Inc.
Booth: 153
P: 320-894-3838
Email: matt@taranis.ag
Web: www.taranis.ag
Taranis is an international precision ag-tech startup that offers a full stack solution for high precision aerial surveillance imagery to pre-emptively avert crop yield loss due to insects, crop disease, weeds and nutrient deficiencies. The Taranis platform helps service providers, land managers, and producers monitor their fields, make informed decisions and then act on them.

University of Minnesota Extension
Booth: 112/114
P: 612-625-4743
Email: trothman@umn.edu
Web: www.extension.umn.edu
An opportunity to become acquainted with some of the 2018 University of Minnesota Extension programs for crop production and pick-up results of various applied research projects.

Valent USA LLC
Booth: 135
P: 763-205-6895
Email: trevor.dale@valent.com
Web: www.valet.com
Valent USA Corp. develops and markets products that protect crops, enhance yields, improve food quality, beautify the environment and safeguard public health. Our products contribute greatly to the quality of life Americans enjoy.

Van Diest Supply Company
Booth: 125
P: 515-832-8641
Email: joel.abbott@vdsc.com
Web: www.vdsc.com
Distributor and manufacturer of agricultural chemicals. Cornbelt Product Line.

Verdesian Life Sciences
Booth: 137
P: 320-979-2084
Email: rich.janssen@vlsci.com
Web: www.visci.com
Verdesian Life Science is a nutrient effiency technology company. Our technologies raise yields and increase nutrient effiency in crops while improving soil health and water quality.

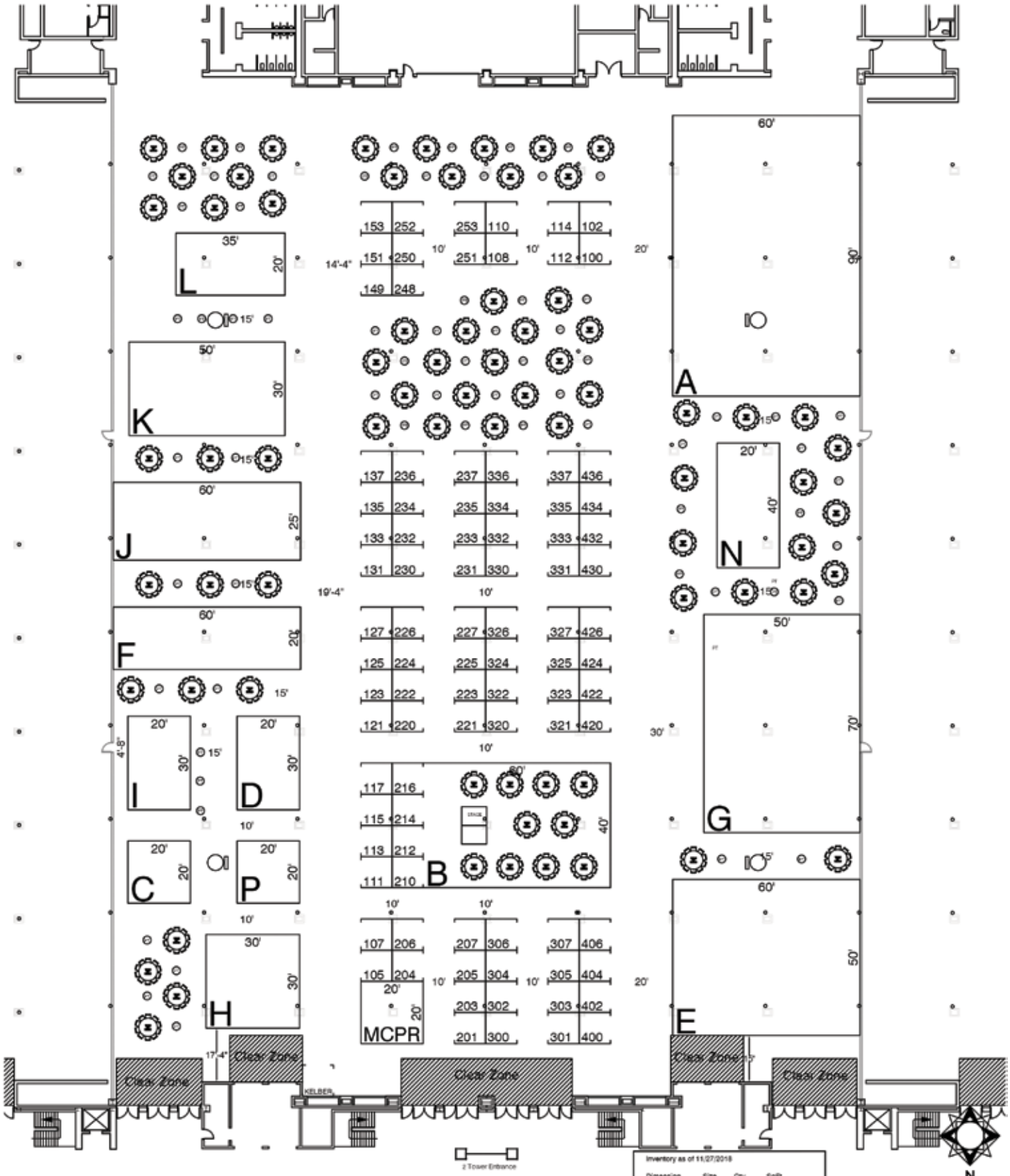
Vive Crop Protection
Booth: 333
P: 888-760-0187
Email: products@vivecrop.com
Web: www.vivecrop.com
Vive Crop Protection makes trusted products cutting edge. Vive allows proven actives to be used in new ways, for excellent mixing and performance. Talk to us about AZteroid FC, Bifender FC and Custom Blend opportunities.

West Central Distribution, LLC
Booth: P
P: 320-231-9622
Email: tphillips@wcdst.com
Web: www.wcdst.com
West Central is a distributor of crop protection products, adjuvants and micronutrients, as well as a reseller of crop nutrients.

Willmar Fabrication, LLC
Booth: 121/123/220/222
P: 877-332-2551
Email: julie.dreier@willmarfab.com
Web: www.willmarfab.com
Willmar Fabrication, LLC manufactures Redball®; spray-hoods to help control spray drift and resistant weeds. We also offer Redball®; Spray Monitors and the Reservoir Tillage 850 to help farmers optimize use of water in their fields.

Winfield United
Booth: 235/237/334/336
P: 920-366-3466
Email: vpmichalski@landolakes.com
Web: www.winfieldunited.com
Winfield United is a member owned distribution company offering crop protection products, seed (including the Croplan brand), and ag technology tools and other services.

Ziegler Cat
Booth: A
P: 800-352-2812
Email: https://www.zieglercat.com/contact
Web: www.zieglercat.com
Caterpillar Compact Construction equipment.



Inventory as of 11/27/2018

Dimension	Size	Qty	SqFt
10'x10'	100	91	9,100
20'x20'	400	3	1,200
20'x30'	600	2	1,200
20'x35'	700	1	700
20'x40'	800	1	800
30'x30'	900	1	900
20'x60'	1,200	1	1,200
25'x60'	1,500	1	1,500
30'x50'	1,500	1	1,500
40'x60'	2,400	1	2,400
50'x60'	3,000	1	3,000
50'x70'	3,500	1	3,500
60'x90'	5,400	1	5,400
Totals:		106	32,400

Disclaimer
Every effort has been made to ensure the accuracy of the information within this floor plan. However, no warranties are made with respect to this floor plan. If the location of building columns, utilities or other building components is a consideration in the construction of an exhibit, it is the sole responsibility of the exhibitor to physically inspect the facility to verify all dimensions and locations.

COREXPO
Exposition Services
2110 Old Hwy 8 NW
New Brighton, MN 55112
Phone: 651-917-2632
Fax: 651-917-2658
Web: Corexpo.com

MN Crop Production Retailers (MCPR)

Show Date: 12/11- 12/13, 2018		Account Executive: Dwayne Hendricks
Facility: Mpls. Convention Center		Drawn By: Brad Stulc
Room: Hall D		Revision Date: 11/27/2018
Show ID: 9999	Job #: 11436	Revision # 11