

Unpublished
2020 **AGRO**
EXPO
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OFFICIAL SHOW GUIDE



A SPECIAL SUPPLEMENT TO

Michigan
Farm News

AUGUST 11 & 12, 2020 | ST. JOHNS, MI
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Welcome to AgroExpo 2020!

This year's AgroExpo will provide valuable resources for growers to learn and interact with industry professionals. Leading experts will headline our speaker tents as well as demonstrations from the field. Manufacturers are sure to provide a true benefit to the understanding of cover cropping systems.

How important is soil health and sustainability? Balance is the key in the world of soil science and is the leading component to soil sustainability. Soil is alive with microorganisms and plant roots, and together they make up a complex foundation on which we depend upon to grow our crops to a successful yield.

As we manage our farms and the soil we work with daily, we should always consider the effects of our management practices as it relates to soil's ability to support the biology and nutrient load that contribute directly to plant growth and soil microbial activity.

This year we will focus on **cover crops**, an important player in soil sustainability. Cover crops contribute to numerous beneficial activities in the soil ecosystem. Plants and root structures create opportunities for increased biomass that enhance organic matter levels in the soil.

The root structures of cover crops reduce compaction through rooting structures and soil stabilization through secondary rooting activities along with more fibrous root production.

Cover crops also enhance nutrient availability through mineralization and the use of legumes, as they can be a contributor to nitrogen-fixing, while also benefitting your cropping system through reduced leaching losses of nitrates and other nutrients during the off-season periods.

Just like AgroExpo events in the past, we have outstanding representation from all facets of the industry including, but not limited to, seed, fertility, chemical, equipment, and other agribusiness entities.

Our show guide serves as a valuable resource as you walk the grounds. Take time to stop by the exhibitor booths and demonstrations and interact with industry professionals who are here to help you become the best you can be.

The AgroExpo event was developed and designed to be an agronomic tool for growers in our region as well as those who visit from miles outside our geographic area.

Enjoy the couple of days of AgroExpo and take advantage of all the opportunities to **Connect, Discover & Innovate.**

Thank you for all your support,



Jay Eccleton
AgroExpo Show Coordinator

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Getting to AgroExpo

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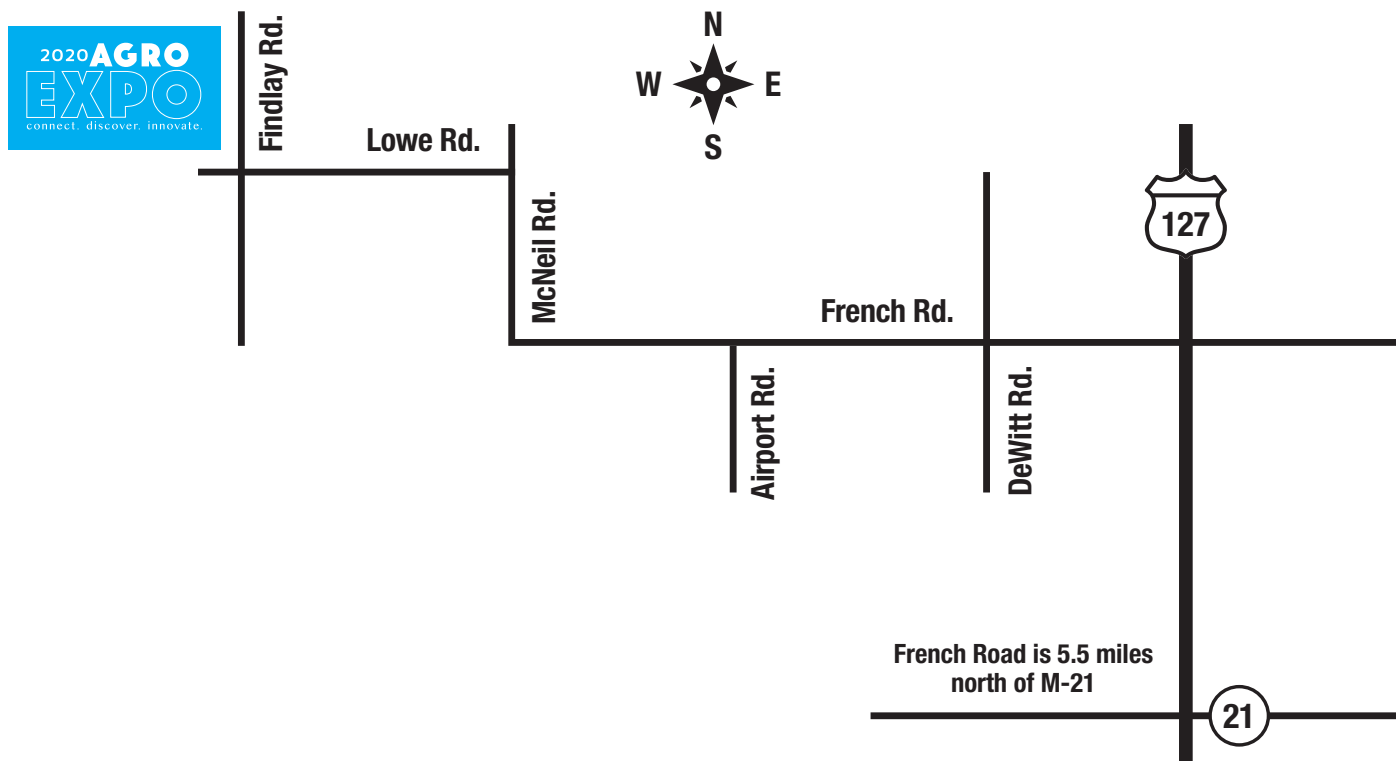
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COMING FROM THE NORTH ON US-127:

French Road is approximately 27 miles south of M-46 and 4 miles south of Uncle Johns Cider Mill.

COMING FROM THE SOUTH ON US-127:

French Road is approximately 20 miles north of I-69 and 5.5 miles north of M-21.



The show will go on!

Safety first at AgroExpo

AGROEXPO ADVISORY COMMITTEE

Planning for the 2020 AgroExpo began the day after the 2019 event ended.

However, since early April, our event team has been working on plans and modifications to safely host the 2020 AgroExpo. The goal all along has been to deliver the same quality experience we strive to provide for Michigan agriculture each year but with a few adjustments.

The good news? The show will go on!

Safety is our top priority, and we have added preventative measures, including additional hand washing and sanitizer stations, and additional housekeeping on flat and frequently-touched surfaces. We are encouraging the use of face masks in congested areas, and will have them available at the entrance gates. We are also encouraging cashless transactions for all food service in an effort to limit touch points.

As we have experienced over the past few months, the situation regarding COVID-19 is ever-changing. Specific details of safety and precautionary measures and any other new changes will be provided to AgroExpo exhibitors and attendees alike as we move forward in the planning process.

There will be signage on the grounds with additional recommendations and instructions. Many factors go into our decisions on how this event proceeds, including ongoing conversations with health care and government partners.

In terms of schedule, we are happy to report that not much is changing. We'll still have our educational speakers and demonstrations. There are hundreds of industry experts on-hand to talk with.

Your friends, neighbors and

fellow farmers are on the grounds during these two days. Please take advantage of these opportunities! We just ask that attendees observe the recommended 6-foot social distance recommended by the Center for Disease Control and Prevention.

We will make all necessary adjustments to minimize the health impacts of COVID-19 at the AgroExpo. However, attendees should know that according to the CDC, there is a risk of exposure to the virus when in a public setting.

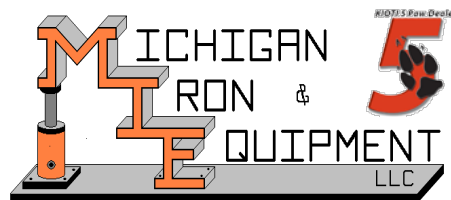
By visiting the AgroExpo, guests voluntarily assume all risks related

to exposure to COVID-19. We will continue to monitor the national, state, and local government warnings in regards to the COVID-19 virus.

With that, strap on your walking boots and enjoy the AgroExpo! We're confident this will be the best year ever in terms of exhibitors, content and opportunities. The bonus this year that we may appreciate more than in the past will be getting to talk to folks face-to-face (safely and from an appropriate distance, of course).

For the most up-to-date COVID-19 information, visit:

theagroexpo.com/connect



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Schedule at a glance

TUESDAY, AUGUST 11

Show Opens.....	8:30 a.m.
Cover Crop Demonstrations* Demo Area	9–10:30 a.m.
Meet the Cover Crop Experts* Cover Crop Area	10:30–11 a.m.
Irrigation Technology* Speaker Tent.....	11:10 a.m.–Noon
SPONSORED BY: MICHIGAN VALLEY IRRIGATION	
Connecting Economy, People, Plants and Animals* Speaker Tent.....	Noon–1 p.m.
SPONSORED BY: PIONEER	
Cover Crops and Soil Health* Speaker Tent	1–1:45 p.m.
SPONSORED BY: THE NATURE CONSERVANCY	
Cover Crop Panel Discussion* Cover Crop Area.....	2:15–3:30 p.m.
Show Closes	4 p.m.

WEDNESDAY, AUGUST 12

Show Opens.....	8:30 a.m.
FFA Tractor Operators Contest FFA Skills Test Area	9 a.m.
FFA Crop Management Contest Judging FFA Challenge Plots.....	9 a.m.
Cover Crop Demonstrations* Demo Area	9–10:30 a.m.
Meet the Cover Crop Experts* Cover Crop Area.....	10:30–11 a.m.
Understanding Climate Change* Speaker Tent	11:10 a.m.–Noon
SPONSORED BY: THE AGROEXPO	
Estate Planning* Speaker Tent.....	Noon–1 p.m.
SPONSORED BY: FRALEIGH LAW	
A Regulatory Update for Industrial Hemp Speaker Tent.....	1–1:45 p.m.
Cover Crop Panel Discussion* Cover Crop Area.....	2:15–3:30 p.m.
Show Closes	4 p.m.

**RUP and/or CCA credits are pending for these sessions.*

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Schedule for Tuesday, August 11

Show Opens

8:30 a.m.

Cover Crop Demonstrations*

9–10:30 a.m. | Demo Area

See the latest cover crop technology available to make your cover crop program as successful as possible. Some companies and tools that will be in action are: Custom Manure Irrigation, OXBO, Mandako, Kuhn Krause, Al's Aerial and inter-seeding demonstrations.

Meet the Cover Crop Experts*

10:30–11 a.m. | Cover Crop Area

Immediately following the demonstrations, the experts will conduct a panel discussion to answer questions about the demos and cover crops on display.

Irrigation Technology*

11:10 a.m.–Noon | Speaker Tent

Clayton Irani, Irrigation Sales, Michigan Valley Irrigation

This session will focus on how you can use irrigation to develop your real estate. The evolution of irrigation technologies has developed in the last 5 years to include soil moisture sensors, cell phone telemetry, satellite imagery, grain bin and well site monitoring and modern machine learning algorithms to transform that information into actionable data. Machine learning and robotics will also be discussed.

SPONSORED BY: MICHIGAN VALLEY IRRIGATION

Connecting Economy, People, Plants and Animals*

Noon–1 p.m. | Speaker Tent

Jason Mauck, CEO, Constant Canopy

Learn how Jason Mauck is rebuilding the agriculture industry “literally from the ground up” on his family farm by proving that extraordinary things can happen when you “work with mother nature instead of dismantling it.” Named by Successful Farming to its “10 Up & Comers in Agriculture” list in 2017, learn how his company, Constant Canopy, is developing cutting-edge farming methods that has allowed him to currently hold the Indiana state record for the highest per acre yield for soybeans and corn yields that surpass most high-test plots.

SPONSORED BY: PIONEER

Cover Crops and Soil Health*

1–1:45 p.m. | Speaker Tent

Blake Vince, No-till farmer, Ontario, Canada

This session will highlight the importance of how soil management affects water quality. It will demonstrate how farmers need to change their focus to financial yield, not physical yield. The presenter will discuss how cover crops can provide numerous financial benefits to farmers and show how his farming practices have allowed him to remain profitable, even with slim profit margins. Data from edge of field research for nutrient loading in tile drainage will also be covered.

SPONSORED BY: THE NATURE CONSERVANCY

Cover Crop Panel Discussion*

2:15–3:30 p.m. | Cover Crop Area

Listen to the experts discuss and answer questions on cover crops.

Show Closes

4 p.m.

**RUP and/or CCA credits are pending for these sessions.*



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Schedule for Wednesday, August 12

Show Opens

8:30 a.m.

FFA Tractor Operators Contest

9 a.m. | FFA Skills Test Area

FFA Crop Management Contest Judging

9 a.m. | FFA Challenge Plots

Cover Crop Demonstrations*

9–10:30 a.m. | Demo Area

See the latest cover crop technology available to make your cover crop program as successful as possible. Some companies and tools that will be in action are: Custom Manure Irrigation, OXBO, Mandako, Kuhn Krause, Al's Aerial and inter-seeding demonstrations.

Meet the Cover Crop Experts*

10:30–11 a.m. | Cover Crop Area

Immediately following the demonstrations, the experts will conduct a panel discussion to answer questions about the demos and cover crops on display.

Understanding Climate Change*

11:10 a.m.–Noon | Speaker Tent

Mark Torregrossa, Meteorologist

Mark will discuss what to expect for the rest of this year and into next, as well as the impact of climate change and how you can use climate change to improve your operation.

SPONSORED BY: THE AGROEXPO

Estate Planning*

Noon–1 p.m. | Speaker Tent

Mike Fraleigh, Attorney at Law, Fraleigh Law

The ag community faces increasing risk due to financial challenges, the changing role of government and agriculture programs, changes in production technology, global competition, complex environmental regulations, an uncertain tax environment, liability exposure, and the list goes on and on.

As part of a family that has been farming for four generations, Fraleigh has a unique understanding of the issues the ag community faces. He will discuss how to go about developing a plan that meets both your business and family goals.

SPONSORED BY: FRALEIGH LAW

A Regulatory Update for Industrial Hemp

1–1:45 p.m. | Speaker Tent

Gina Alessandri, Industrial Hemp Program Director, MDARD

Appointed as the Michigan Department of Agriculture and Rural Development's Industrial Hemp Program Director in July 1, 2019, Alessandri has worked on developing the state's Industrial Hemp Ag Pilot Program while also drafting Michigan's long-term industrial hemp program for federal approval. Hear an update on producer experiences in 2019, and challenges for this new commodity.

Cover Crop Panel Discussion*

2:15–3:30 p.m. | Cover Crop Area

Listen to the experts discuss and answer questions on cover crops.

Show Closes

4 p.m.

**RUP and/or CCA credits are pending for these sessions.*

AGROEXPO 2020 GUEST SPEAKERS



JASON MAUCK

Jason Mauck is obsessed with narrowing the gaps of agriculture. An apostle of relay cropping, Mauck is blazing a new path using cash and cover crops in unison. The maverick grower is uncovering clues and running wide-open toward greater farming efficiency.

Mauck works 3,000 acres of corn, soybeans and wheat, in addition to 25,000 hogs per year. His company, Constant Canopy, is developing cutting edge farming methods and currently holds the Indiana state record for the highest yield per acre for soybeans and has developed scalable systems for corn yields that surpass most high-test plots.



MIKE FRALEIGH

Mike was raised on a family farm in Sanilac County, Michigan, and has been meeting the legal needs of Michigan farmers for over 15 years. His practice specialty includes farm and ranch business structure, succession planning and estate planning as well as special needs trusts.

He is a member of the American Bar Association, Wealth Counsel, and the State Bar of Michigan and a participant in several sections including Estate Planning & Administration for Business Owners, Farmers & Ranchers; Business Investment Entities, Partnerships, LLC's and Corporations; Elder Law & Disability Rights; and Probate and Estate Planning.



BLAKE VINCE

Blake Vince is a fifth-generation farmer and Canadian Nuffield Scholar from Merlin, Ontario, Canada. He and his father grow corn, soybeans, and winter wheat on 1,200 acres, and their farm management practices are centered on soil health. Considered no-till pioneers in their corner of Canada, Vince feels fortunate to have been taught the merits of no till farming.

Knowing that soil is not an infinite resource, Vince has been using a multi-species cover crop blend to protect the soil for future generations. His practices are in stark contrast with others in Southwestern Ontario where more farmers are reverting back to conventional tillage.

2020 AGRO EXPO

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Who, What, When, Why, Where?

There is a lot to experience at the 2020 AgroExpo.
Make sure you don't miss anything!



WHERE TO START

Be sure to stop at the Information Tent! The folks in that tent will have a packet of information for you, as well as any new information on COVID-19 precautionary measures. Plus, this is a great time to identify where you are, and where all the AgroExpo attractions are located.

GUEST SPEAKERS

With a focus on cover crops, we've got quite a lineup this year. Blake Vince is a Canadian farmer specializing in no-till, cover crops, and soil health.

Jason Mauck is CEO of Constant Canopy, which aims to use cash and cover crops in unison and developing cutting edge farming methods.

Attorney Mike Fraleigh will be discussing strategies to meet your business and family goals amidst unprecedented challenges posed by COVID-19, changing markets, confusing government programs, liability exposure, financial strain, and market and structural changes.

CCA and RUP credits are available for attendees of these sessions. Make sure you don't miss these outstanding speakers!

FIELD DEMOS

Who doesn't appreciate in-field experiences and demonstrations? There are several planned throughout the AgroExpo to provide hands-on opportunities to see how these new technologies can be incorporated into a management strategy.

This year's demonstrations focus on cover crop strategies and include an aerial seeding and interseeding demonstration. Watch for the yellow plane from AI's Aerial Spraying!



TRADE SHOW

New equipment, technology and information — you can find it all in the trade show area of the AgroExpo. A record number of vendors are bringing their best people and newest methods, advancements and technology to the AgroExpo. You get to see it all in one place!



NETWORK

An opportunity to come together with others in the ag industry. We've been waiting for this for months! While respecting the six-foot social distance for safety, we encourage you to sit down near someone new at lunch, strike up a conversation during the demos, take advantage of the ideas and experiences of other attendees and exhibitors. These connections and interactions could be your most valuable takeaway from the AgroExpo.



Michigan agriculture has a lot to show off. Make the most of this opportunity to appreciate everything our industry has to offer, and in one place, at the 2020 AgroExpo.

MEALS

Good eats! We have all kinds. Food trucks are located on the AgroExpo grounds. Follow the signage to locate your favorite ... or sample something at each truck as you make your way around the show.

Expecting the unexpected

AGROLIQUID

In agriculture, we are used to dealing with uncertainty. Weather, markets, the uniqueness of our geography are factors in making crop input decisions.

Trade wars and tariffs, along with Market Facilitation Programs (MFPs), have been harder to predict and factor into decisions and have caused some frustration. But we've persevered.

Then entered COVID 19. All of these things have ramped up uncertainty for the 2020 growing season.

THE WEIGHT OF UNCERTAINTY

With all of the financial news being reported, a great deal of uncertainty exists. This can cause farmers to enter survival mode and want to scale back costs to a minimum.

Emotionally charged decisions may override rational business decisions. While there isn't room for frivolous spending, a nitrogen-only program — which is considered a survival decision — isn't the answer either.

AgroLiquid aims to add value through guidance from trusted advisors.

Someone who is a step removed from the weight of uncertainty; someone who can provide insights to help fight off the risk-averse tendencies that creep in with unanticipated risk.

AgroLiquid has personnel that ranks at the top of the industry when it comes to making recommendations and matching fertilizer needs to expectations and economic conditions. The AgroLiquid team can help in a couple of ways:

1. We have a culture of constant improvement to elevate our skills for times like this, and
2. We want the farmer to be able to emerge from the uncertainty as an entity that will be on-going ... surviving and producing profits for years to come.

As a result, it is in our best interest to make fertilizer recommendations that are in the grower's best interest. We are



used to balancing the expense of crop nutrition with expected revenue, which accounts for current risk.

HAVING THE RIGHT TOOLS

AgroLiquid has the benefit of offering a full line of crop nutrients that are geared for production and fully backed by research. Our uniquely chelated nutrients use Flavonol Polymer Technology to release slowly and directly to plants, so they are used more efficiently.

This means plants use more nutrients, with less soil tie-up and runoff. AgroLiquid's fertilizer products can be blended based on crop and soil needs. This enables us to take a look at your operation, your soils and cropping system, and make a recommendation

that will efficiently and economically help meet your goals, especially in times of uncertainty.

YOUR AGROLIQUID TEAM

As you manage through this season and prepare for next, make sure that the irrational behavior occurring around you doesn't lead to a bunch of ill-advised decisions. More surprises may be lurking, but we will emerge.

Outside guidance on crop nutrition from the AgroLiquid team can help buffer emotions as you navigate this growing season and next. AgroLiquid can add value that extends beyond the nutrients we manufacture. Incorporate outside opinions from a variety of experts to make rational, business decisions in an environment that is loaded with emotion.

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AGROEXPO 2020 GUEST SPEAKER

CLAYTON IRANI

Growing up on a farm in central Michigan, Clayton Irani is a farmer at heart. During his six-year career at Michigan Valley Irrigation, Irani has worked and been involved in multiple aspects of the operation.

He worked on the build crew, functioned as a service tech and participated in project layout and design before he started his sales career. Acquiring hands on experience at these various stages of many irrigation projects has given him a unique perspective and solid understanding of his projects from start to finish.

Irani assists producers to maximize their yields by developing farmland with irrigation projects from start to finish, including power infrastructure and water permission, as well as efficient and effective design. His knowledge of irrigation encompasses designing, building, servicing, and financing.

He's worked with many reputable partners in the ag industry including Consumers Energy, Tri-County Electric, Trayer Water Wells, MI DEQ, Valmont Industries, and many others. Irani helps growers and landowners increase opportunities, land values, yields, and margins.

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\$64,000



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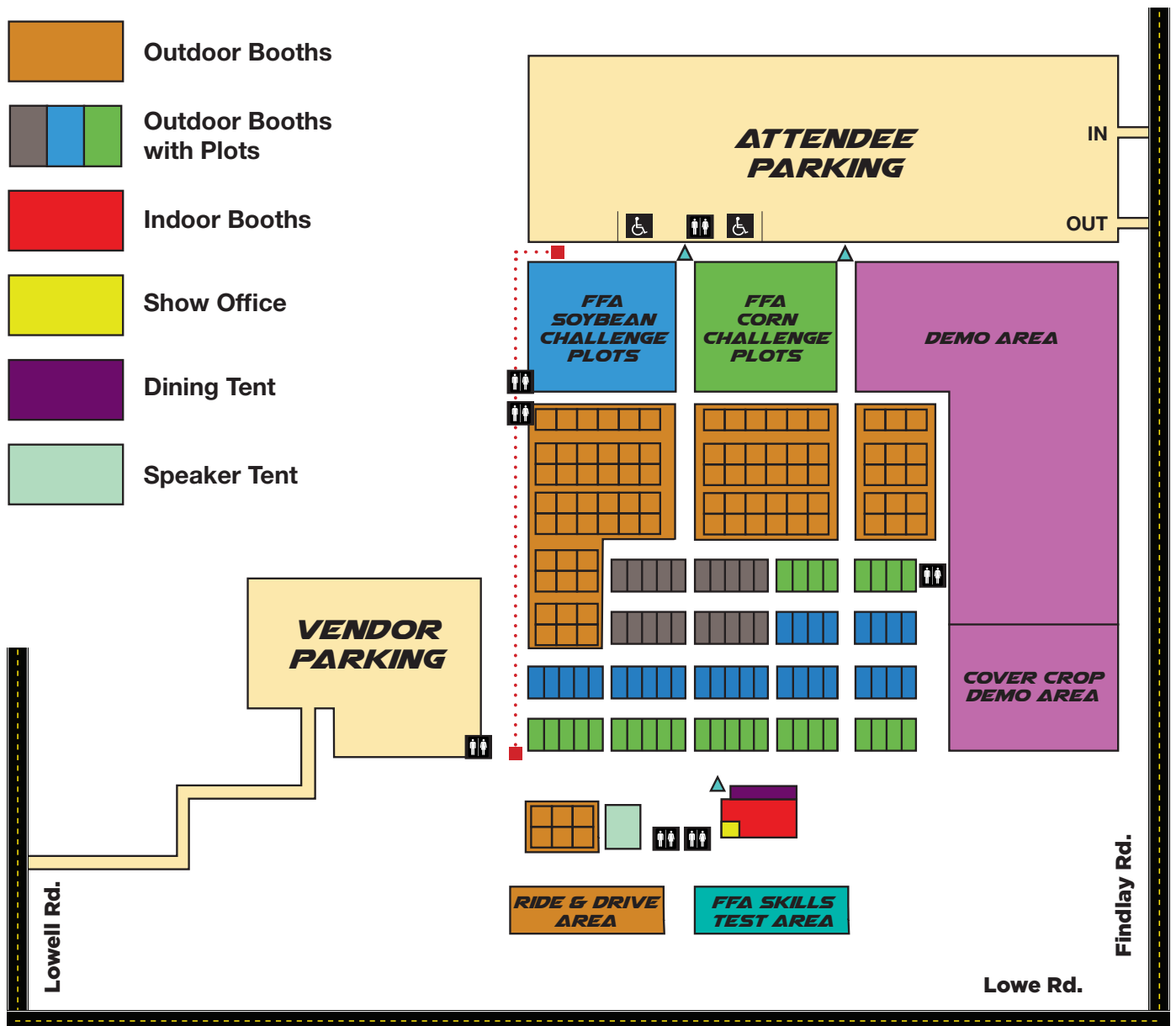
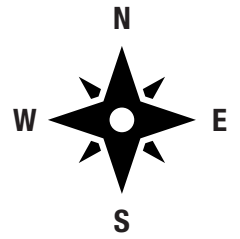




Map at a glance

LEGEND

-  Welcome Tents
-  Tram Route
-  Outdoor Booths
-  Outdoor Booths with Plots
-  Indoor Booths
-  Show Office
-  Dining Tent
-  Speaker Tent



Exhibitors List

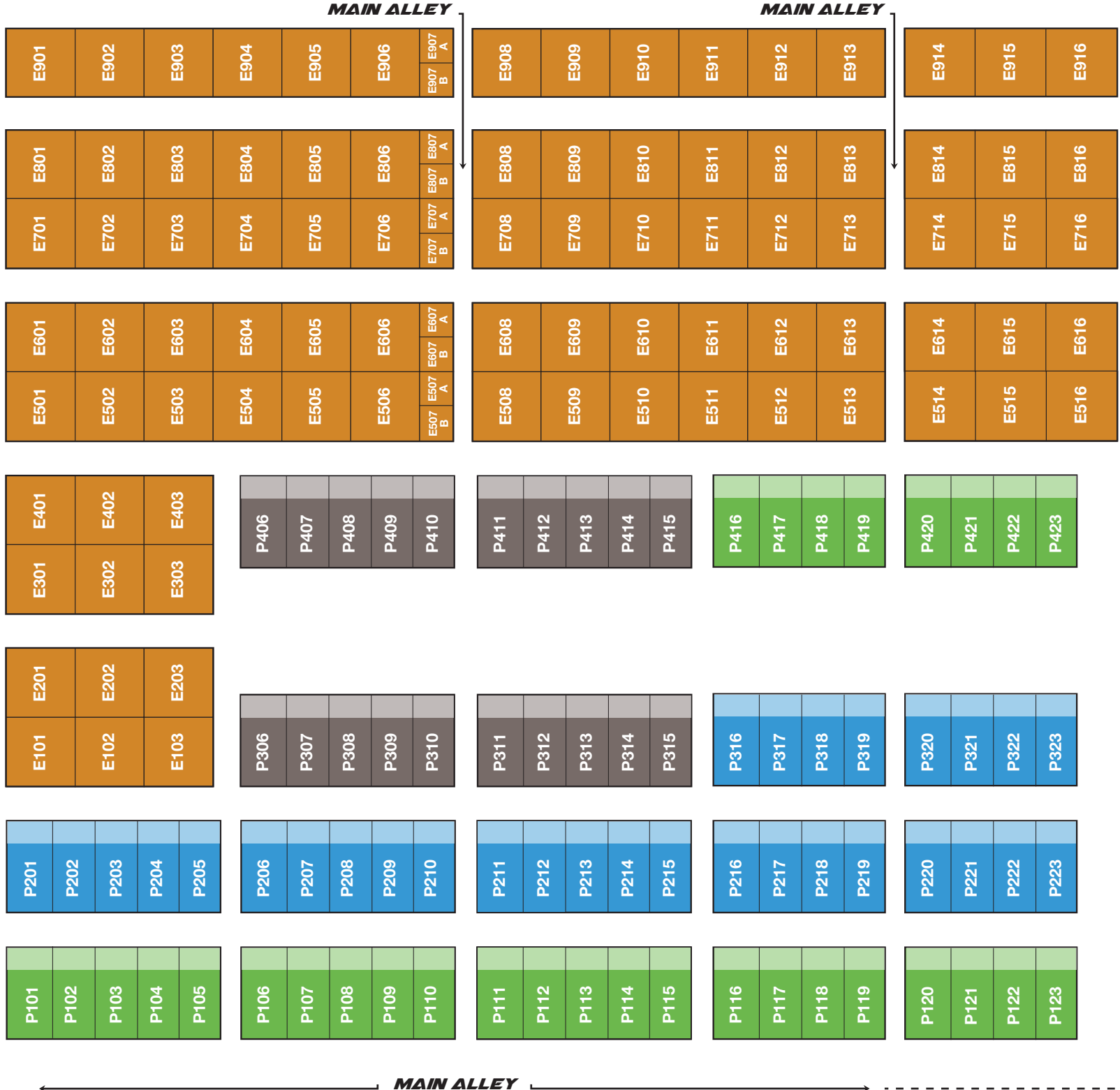
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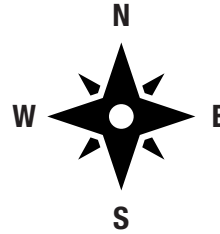
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Detailed map

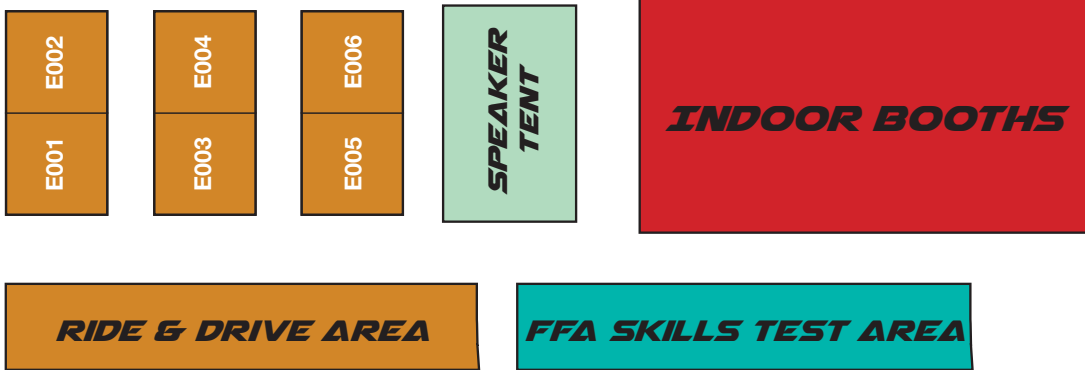


LEGEND

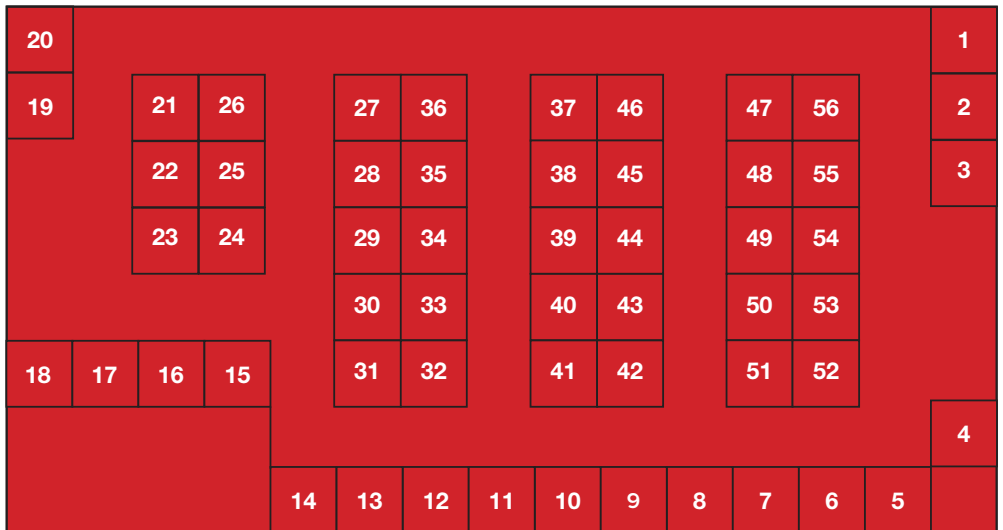
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← MAIN ALLEY →



Close-up of Indoor Booths



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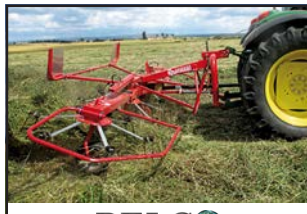
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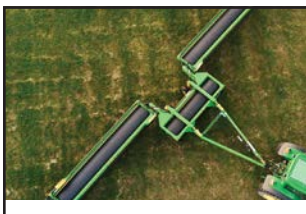
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FFA students learn firsthand management decisions at AgroExpo

FARM NEWS MEDIA

As you walk in to the AgroExpo grounds you may see a little blue and gold, so be sure to stop and visit the FFA students near the entrance as they will be happy to discuss their 2020 crop management plots.

Approximately 15 FFA Chapters from across mid-Michigan participated in this year's contest. The Crop Management Challenge is a competition for FFA chapters to enter and expand their agronomy skills. Contestants compete with other chapters to make sound agronomic, marketing and environmental decisions in a demonstration plot of corn and soybeans.

"We wanted the younger generation involved with the show and we thought what better way than to create a corn and soybean plot and have FFA Chapters create fertility programs to see who could grow the best crops," said Tim Duckert, research agronomist at the NCRS for AgroLiquid.

"This year we added soybeans along with corn to allow more chapters to participate. We have added more

options for students to decide like what type of tillage they would prefer on their plot. The students make all decisions from selecting the tillage practice all the way to marketing the crop," Duckert said.

Contestants in the challenge are judged on yield, economics and presentations/responses to the judges' questions.

First-place winners will receive a plaque, traveling trophy and \$1,000; second-place winners will receive a plaque and \$500; and third-place winners will receive a plaque and \$250.

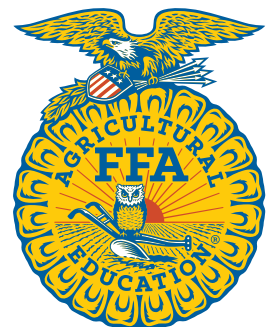
"It's a way for students to get hands-on experiences on topics that we are discussing in class while making management decisions. Students learn about the thought process that farmers have to go through when they are deciding what seed varieties and what products to use on their plots," said Tracey Hoffman, Ovid-Elsie agriscience teacher and FFA Advisor.

Hoffman says her chapter has over 100 FFA members, but many students do not have farm backgrounds so

this is great opportunity for students to learn firsthand experiences and to develop relationships for career exploration with seed and chemical representatives, agronomist and other agri-business professionals.

The FFA chapters involved in the competition will be expected to attend the AgroExpo and occupy a tent by their plot area. There, participants will explain their challenge plot decisions and provide a final report based on yield data after the harvest.

"At the end of this competition the students have to explain the 'why', it's easy to go thru the process but to explain 'why' they made the specific management decisions really shows their depth of understanding which is what we are hoping to get out of this competition for our youth," Hoffman said.



Thank you, Sponsors

Thank you to the following businesses and organizations that sponsored the 2nd annual Michigan FFA Crop Management Contest.

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Cover Crops 101: Getting started with the basics

MSU EXTENSION; MIDWEST COVER CROP COUNCIL; FARM NEWS MEDIA

PLANTING

Cover crop seed application is as important as commercial seed application and the method used will affect seed germination rate and stand quality. Using equipment that allows accurate application at the correct rate will save money and help ensure enough cover. Since cover crop seed sizes and weights vary, it is important to match equipment to both the seed and management practice.

SEEDING METHODS

Start by choosing a cover crop and a method for its application (see specific cover crop information sheets for recommendations). Some methods and equipment might include:

Broadcasting by air: Cover crops can be applied from a broadcast seeder mounted on an airplane. This practice works well for larger seeds like rye and wheat but is not recommended for small clover or grass seeds.



Cover crops can be applied from a broadcast seeder mounted on an airplane. This practice works well for larger seeds like rye and wheat but is not recommended for small clover or grass seeds. | Photo by Dairyland Aviation

Broadcasting by air allows for the over-seeding of an existing crop or planting when soils are too wet for ground seeding, although seed germination might be slower, and a higher seeding rate may be needed.

Broadcasting by ground: This is the most popular and accurate seeding method and may be done using spinners, drop tubes or air pressure. The most critical factor is accurately metering seed before it is spread. Make sure the seeding pattern is appropriate for complete and even ground cover. Different seeds have varying spread patterns based on their respective weights, and heavier seeds spread further than lighter seeds. This can cause difficulties when heavier and lighter seed mixtures are applied. Broadcast seeders may be mounted on ATV's, tractors, tillage tools or other implements.

Incorporation: Cover crop seeds produce better stands with shallow soil incorporation. Excellent results can be obtained by combining broadcast seeding with a cultivator or other incorporating tillage tools. The combination chosen depends on when seeding takes place and what management practices are in effect.

Most cover crop seeds are very small and do not need much soil cover, just good seed-to-soil contact.

Drilling: This is another good cover crop establishment method, as most drills are equipped with a legume/grass seed box. Drilling works well for metering small seeds (use the standard drill box for larger seeds) and gives good placement and seed-to-soil contact. Drilling can be especially successful in no-till management systems.

There are many variations on these methods. Watch different equipment in action on farms and at farm shows. Every piece of equipment is different, and individual farm needs depend on the management system in use.

Here are a few helpful hints

- No matter what seeding equipment is used, an agitator in the seed box is essential when using grass seeds. The agitator prevents bridging and keeps seeds flowing uniformly.
- A slower-turning metering unit and a larger feed-out opening reduce seed grinding and cracking.

SEEDER CALIBRATION

Accurate seeding equipment

»CONTINUED ON PAGE 31



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»CONTINUED FROM PAGE 30

calibration is essential for applying cover crop seeds. Calibrate a seeder each time a different type of seed is used and routinely during the season. Use the following steps as a guide to calibrating a broadcast seeder:

1. Determine the desired application rate (in pounds per acre).
2. Fill the seeder.
3. Determine the spread width. The spread width will be smaller than the actual width the seeds are spread. Allow for enough overlap so a consistent pattern is achieved.
4. Set the seeder opening on the desired setting.
5. Catch the seed being applied for one minute. Be sure to stay away from all moving parts.
6. Determine the area that would have been seeded (if actually

moving) using the following formula: length (in feet) of area seeded (tractor speed converted to distance traveled in one minute X spread width (in feet) ÷ 43,560 = acres seeded).

7. Divide the volume collected (in pounds) by the area seeded to obtain the actual seeder output in pounds per acre.
8. Make adjustments to tractor speed and/or seeder setting and repeat steps 5-7 to change application rate to the desired value.

PLANTING TIMES

Frost-seeding: Seeding a cover crop into an established crop in late winter to very early spring. *Example: Seeding red clover into wheat in March.*

Interseeding: To prolong the cover crop growing season it is sometimes possible to plant a cover crop into

the growing cash crop. Careful consideration needs to be made regarding the stage of the cash crop, cover crop species selection, and environmental conditions.

Consult an experienced cover crop user to prevent issues such as cash crop yield loss (due to competition), reduced harvest efficiency, and failed cover crop establishment (due to reduced light penetration through the cash crop canopy and moisture stress). *Examples: crimson clover seeded into corn at the V6 corn stage and annual ryegrass flown onto seed corn in late August in south-west Michigan.*

Pre- or Post-season seeding:

Cover crops can be planted early in the growing season before late-season vegetables or field crops (e.g. dry bean) or after cash crop harvest. *Example: Cereal rye following potato harvest.*

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OXBO spreaders in the spotlight at AgroExpo

FARM NEWS MEDIA

Visitors to AgroExpo will have a chance to kick the tires on the all-new Oxbo 4103 high flotation spreader. More importantly, according to company representative Andrew Ennis, interested producers will be able to test drive the unit as part of the field demos.

The 4103 offers the only three-wheel drive chassis on the market, says Ennis. The three-wheel design also provides for the ultimate steering experience, a tight turning radius and the most maneuverable design available.

The chassis is constructed of high-quality bent steel with components bolted on for more durability carrying up to 15 ton of product. The spreader is outfitted with a Claas cab and offers auto-steer capabilities.

The 4103 Oxbo spreader comes equipped with the industry-leading New Leader box single or multi-bin with G4500 G4 Edge spreader with on-board weighing system, which will be on display at the show.

The versatility of the spreader box, said Ennis, is appealing and practical. "This box has the ability to spread lime,

fertilizer, poultry litter, compost, and as well as cover crops, so adaptability in terms of product application, offers tremendous value," he said.

The Oxbo 4103 can also be equipped with both dry and liquid systems and used for fertilizer or manure applications. Other box options include the New Leader, or the Oxbo 409 or 304 stainless steel box options.

Other features include:

- High flotation chassis
- All-wheel drive
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- 4-point air and hydraulic cab suspension
- ZF CVT transmission, with a maximum transport speed of 40 mph
- Powerful 5-cylinder 9.3 L Scania engine rated at 400 horsepower
- High capacity, side-by-side cooling with a reversing fan
- Full range of factory installed precision options

- Choice of New Leader and Tebbe applicators, or our LNMS, Liquid Nutrient Management System
- Michelin 1050/50 R32 front and rear tires

"Oxbo has been one of the leading distributors of application equipment for over two decades," Ennis said. "As the distributor, manufacturer and supporter of our own branded spreaders, Oxbo has the flexibility to take care of our customers and develop products based on their needs."

According to Ennis, each customer has different needs and purposes for his or her operation, which is why the flexibility in design and offering more choices to fit the needs of a wider range of customers is a high priority for Oxbo.

"With the unique chassis design of our 4103, we provide the most flexibility in application products," Ennis said. "Oxbo equips each machine with a variety of applicators for liquid or dry products and factory installed precision options from Ag Leader or Raven, allows our customers to map "As Applied" data for liquid and dry fertilizer applications."

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A grower has a multitude of products to choose from when planning for a successful crop, including products they’ve used for years that provide plant protection and fertility solutions. They also have options on the latest entries to the marketplace, offering new technology to assist growers in reaching increased yield goals.

What’s the key enabling the grower to make sound decisions on product selection? **Research.**

Since 1994, the North Central Research Station (NCRS) annually establishes over a thousand replicated research plots to evaluate crop inputs for their effect on plant growth and yield. Field experiments are established using scientific procedures to meet protocol objectives.

This includes product comparisons against conventional standards, application rate development, performance on different crops, evaluations of experimental products and eventual development into new products, performance testing of a wide variety of fertilizer application technologies, product training for growers and sales staff, plus many additional tasks.

Over the last 18 months, the NCRS has an increased focus on independent contract research and demonstration for agricultural companies, including seed, chemical, and plant nutrient suppliers.

To best support our customers, our research is carefully documented throughout the growing season, and data are compiled into a comprehensive report for our customers to evaluate the findings of the specific research study.



As we set up research trials, we look for solutions that relate to: nutrient fate; application technology; ground and surface water quality; crop protection; crop genetics field evaluations; as well as other agronomic evaluations.

With over a thousand acres of farmland on 14 different farms, NCRS offers research opportunities on a variety of crops, soil conditions, soil types, as well as dryland or irrigated field situations. NCRS also studies advancements in technology including tillage, application equipment, yield monitoring, GPS technology, and precision planting tools and pumping systems.

The professional team of agronomists and support staff are fully capable of establishing nearly any type of research or demonstration trial you may have of interest. We welcome the opportunity to discuss with you the placement of specific research trial, demo plots, equipment test, field days or any type of promotional needs that you may have for a future growing season.

Lastly, NCRS can provide a venue for a company training event, grower meeting, or just an industry update meeting that your company may desire. We are fully equipped with people movers, audio and video technology to meet your needs for indoor meetings and presentations to groups. Feel free to contact us with any further questions or inquiries that you may have.

As you visit AgroExpo, please feel free to take an opportunity to walk the property and visit our research plots to see first-hand how we concentrate on the science of growing crops in detail to determine the best combinations of inputs to fit the need.

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P406 & P407

Mandako Cover Crop Crimpers – built on experience

FARM NEWS MEDIA

The Mandako Cover Crop Crimper, built on the foundation of the company's proven land roller design, has gained in popularity as more producers begin integrating cover crops into their overall cropping plans.

From the legendary smooth drum rollers used to deal with rocks and improved seed-to-soil contact, to the Stubble Cruncher for managing crop residue, to the Cover Crop Crimper, producers have the option of using the same frame for three different applications.

Mandako's Cover Crop Crimper is an easy and effective choice in a variety of conditions. Using 3-inch blades on 7-inch spacings in a chevron style pattern welded to the unit's 36-inch diameter drum allows the machine to run smoother across the ground while kicking up less dirt when operating.

Available in widths ranging from the 8-foot "Mini" unit to the 3-section, 40-foot model, all units are built on a 4-by-8 frame tubing, with rollers attached via 3-inch shafts and 3-inch heavy-duty bearings.



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Unverferth rolls out cover crop seeder option

FARM NEWS MEDIA

Unverferth Manufacturing's mounted cover crop seeder for its Rolling Harrow soil conditioner provides time-saving, one-pass planting of these profit-enhancing crops. Cover crops are proven to increase available nutrients, water and organic matter and reduce soil erosion over the winter months, providing a great start for the next season's crop.

With time being limited during the peak fall cover-crop planting season, the new cover crop seeder option provides economical one-pass planting and incorporation with the Rolling Harrow soil conditioner by itself, or combined with a lead tillage tool for enhanced residue sizing and tillage.

The cover crop seeder features hydraulic-powered air delivery for covering a larger area with greater productivity. The chevron-shaped, roller-style meter provides continuous flow of most every cover crop seed for an even stand.

Application rate is determined by tractor speed and an electric-over-hydraulic meter setting. Operations can

easily be monitored with unit-mounted lights indicating air pressure, seed level and seed flow. Seed delivery pauses when the Rolling Harrow soil conditioner is raised or with convenient cab-mounted foot switch.

Additional features include a 40.5-cubic-foot hopper capacity, side-mounted windows for easily monitoring contents, ladder and platform for easy filling and weather-tight roll tarp with ground-level operation. It is available in producer's choice of implement-

matching red or green.

The new cover crop seeder is available with new Rolling Harrow 1245 and 1245D models with flat- or stack-folding designs up to 37 feet and can easily be mounted to most of these previous models in those sizes.

Growers can check with their nearest Unverferth dealer or visit umequip.com for complete details on the entire lineup of Rolling Harrow soil conditioners and the cover crop seeding option.



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**AGROEXPO 2020
GUEST SPEAKER**

MARK TORREGROSSA

Mark Torregrossa has been a meteorologist for over 30 years. He graduated from Northern Illinois University with a Bachelor of Science in Meteorology in 1989. He started his career working for a meteorology consulting company in Chicago, forecasting for utility companies, nuclear power plants, trucking companies, radio stations and newspapers.

His first television job was in Cedar Rapids, Iowa, where he learned that farmers are an important group for a meteorologist to get to know. Then he moved to Traverse City. After three years in Traverse City, he moved to the Saginaw, Bay City, Midland, Flint television market and worked at WNEM TV-5 and WEYI NBC-25.

In the early 2000s, he formed farmerweather.com and began to specialize in agricultural weather. Torregrossa provides a subscription service for daily dedicated-to-farming weather forecasts. You can sign up for the service by talking to Torregrossa personally.

He received Michigan Farm Bureau's Agricultural Communicator of the Year in 2007. As MLive.com's chief meteorologist, his in-depth weather reports and can be found every morning on the MLive Facebook page. He is also a seed representative for Dairyland Seed and Partners Seed.



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MAC – Adapting to change since 1976

MICHIGAN AGRICULTURAL COMMODITIES INC

The rest of the world may have ground to a halt during the COVID-19 pandemic, but agriculture didn't miss a beat. And Michigan Agricultural Commodities Inc has been marching in lockstep with its grower-customers, says MAC Merchandising Manager Robert Geers.

“While the Coronavirus is new, adapting to the marketplace and customer needs are nothing new at MAC,” Geers said. “MAC has been adapting to changes and challenges for 44 years.”

CONTINUOUS COMMUNICATION

Contact and communication have been a priority for MAC as they help growers navigate an environment of declining demand, ethanol plants closing, and other fall-outs from stay-at-home orders. The priority has been to remind growers that MAC continues to receive and ship grain, and their experienced staff of grain merchandisers continues to be available by several means of communication.

Geers said MAC has been unknowingly preparing for social distancing for several years, as they have focused on making communication simple and easy for growers.

“Adding ACH payments for grain and increasing email and text communication versus in-person meetings are just the beginning of MAC's expanded communication investment,” Geers explains. “We have also added mobile technology in the form of a MAC app that allows a grower to view contract balances, deferred pricing (DP) balances, prepaids, tickets, settlements and even sign contracts from a mobile device.”

According to Geers the investments have created quality service, without the necessity of meeting in-person — and all were made pre-Coronavirus. Since the onset of COVID-19, MAC has



focused on having experts available to help identify and utilize programs applicable to a grower's situation, which can be crucial during a black swan event such as the Corona virus.

“We have done our best to be proactive in understanding and sharing with growers new USDA programs that provide funds to them for losses suffered as a result of COVID-19.”

ADAPTING TO CHANGE

Although no one can be sure how the world is going to emerge from the current pandemic, being flexible and able to adapt to change and the needs in the agriculture environment will be critical to agribusinesses and growers — an area where MAC shines, according to Geers.

“Our team is one of the most experienced in the state, so we can identify changes and adapt early,” he said. “Our team's foresight helped MAC to recognize changes and demand in the market, such as adding specialty crops, including dry beans, IP soybeans, non-gmo soybeans and most recently organic corn, to the list of crops MAC handles.”

MAC has also responded to increased production by investing in

bigger, faster grain pits and adding inbound and outbound scales, with a goal of getting growers unloaded and back on the road in 15 minutes or less.

STAYING SAFE — ALWAYS

Safety has always been a priority at MAC, so while COVID-19 requires new safety precautions, the concept is not entirely “new” to the MAC team.

“Our teams are used to safety guidelines, PPE, and general precautions,” Geers said. “We've added practices to ensure a continued safe environment, in light of information as it becomes available.”

Geers said MAC will continue to put safeguards into practice, with advice from professionals and governmental bodies.

“We'd like to return to ‘normal’ as much as anyone, but we are also fully prepared to maintain a safe environment and continue operations in the ‘new normal’ as long as necessary,” he said.

“Bottom line, MAC is ready and able to support its grower-customers,” Geers continued. “As it says on our website, ‘MAC was here yesterday, is here today, and will continue to be here tomorrow — long beyond the duration of this pandemic.’”



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Kuhn Krause Excelerator doubles down with cover crop attachment

FARM NEWS MEDIA

Cover crops can offer a variety of benefits such as sequestering nutrients, limiting soil erosion, improving soil structure and inhibiting weed emergence. However, finding the time to plant a cover crop right after harvest can be a challenge, and an extra pass over the fields is generally undesirable.

The KUHN Krause CCX 9000 Series cover crop seeders are designed to be used in conjunction with the KUHN Krause Excelerator ranging in width from 11 to 34 feet giving you the opportunity to seed a cover crop while simultaneously using a vertical tillage operation to manage residue and prepare it for break-down over winter.

KUHN Krause offers three CCX 9000 models, including a 17-, 27- or 35-bushel hopper, with a basic mounting frame, allowing customers to mount the cover crop seeder to machines of their choosing.

The attachment relies on electric drive metering unit features a unique dual-spline system meaning there are

no components to add or remove when changing between small and large seed types or when switching between rates. A built-in implement switch stops and starts the metering unit automatically as the Excelerator is lifted in and out of work.

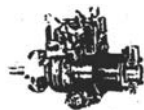
Small seed splines are used to reduce the volume of the metering unit when working with small seeds at low rates. They are engaged or disengaged without adding or removing any components from the

metering unit, and the Quantron S-2 indicates their requirement during the calibration process.

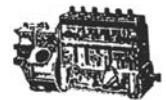
The CCX 9000ACC is equipped with the Quantron S-2 control system with a 5.5-inch color screen and diffusers, and utilizes existing tractor speed indication or offers an optional tractor wheel speed sensor.

The Quantron S-2 terminal guides the operator through the calibration

»CONTINUED ON PAGE 41



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»CONTINUED FROM PAGE 40

process and is completed in minutes. Simply enter the seed type, target rate and forward speed. The Quantron S-2 provides the setting for the metering unit and indicates whether the small seed splines are necessary or not.

The Quantron S-2 will indicate the maximum and minimum seed rates and forward speed possible with the given metering unit setting. Up to 60 sets of calibration data can be saved for future reference.

During calibration, seed is metered through the calibration door and into the seed collection bag supplied with the machine. The calibration door is opened and closed without using any wrenches and is equipped with a sensor to prevent the operator from beginning seeding without having first closed it.

The quantity of seed collected is weighed and the weight is entered into the Quantron S-2. The system then provides the operator the final calibration setting.

Seed is split precisely between outlets using an air drill style divider head to ensure excellent repartition of seed across the width of the machine. Outlet hoses are mounted between the Star Wheel treaders and 24/7® conditioning reels on the Excelerator.

Easily adjust the seed diffuser angle with the “wrenchless” design. Aim diffusers forward toward the Star Wheel treaders for deeper seed placement or rearward toward the 24/7® conditioning reel for shallower seed placement.

This system features a hydraulically driven fan, with speed adjusted to suit seed type by adjusting the oil flow from the tractor.

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AGROEXPO 2020 GUEST SPEAKER

GINA ALESSANDRI

Gina Alessandri was appointed as the Michigan Department of Agriculture and Rural Development's Industrial Hemp Program Director effective July 1, 2019. In that role, Alessandri has worked on developing the state's Industrial Hemp Ag Pilot Program launched in April 2019, while also drafting Michigan's long-term industrial hemp program for federal approval. She previously served as MDARD's Pesticide and Plant Pest Management Division Director and has been part of the MDARD team for 34 years.



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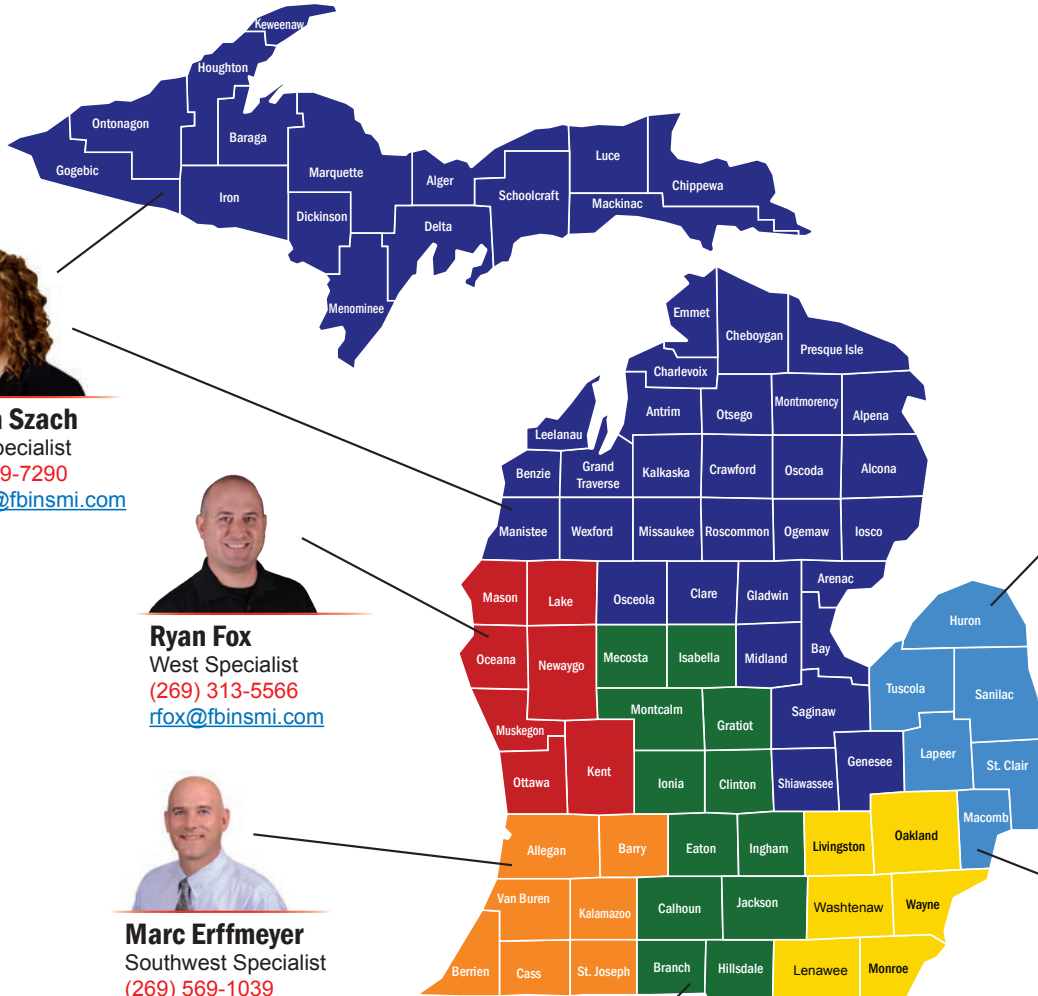
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