

2017 **AGRO** **EXPO**

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OFFICIAL SHOW GUIDE



A SPECIAL SUPPLEMENT TO

Michigan
Farm News

AUGUST 15 & 16, 2017 | ST. JOHNS, MI
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Let's hit your target

From the very beginning, AgroExpo's focus has been to provide growers an effective learning experience.

With that focus in mind during the past year, the show's steering committee discussed how to make the second show better than the first.

We appreciate everyone who came to our inaugural show last year to learn and enjoy the full array of test plots, new technologies, innovations and, perhaps most importantly, new connections with full-time producers, scientists and innovators, and we know that you'll learn even more this year.

The new location is certainly better. Last year's unusually heavy rain cancelled our third day, and the new single-site location has more established infrastructure. This site will be better suited to AgroExpo, especially if bathed in sunshine as we expect.

It's in the heartbeat of our farming operation, adjacent to parking and silage demonstrations. It's a higher and dryer, flatter location with less-dense soil. Overall, it's a more presentable site with better roads, better access to water and power, and closer to all the action. There are more research plots and more field experiences.

We've also cut the show from three days to two, so learning opportunities will be more intense. The speakers are not there to sell you something, but to help you sharpen the tools you already use so well. The field demonstrations are designed to validate and demonstrate new technologies. The vendors are targeted agribusinesses, with products and services designed for professional farmers.

We want you to go home with additional tools, but this is not necessarily about the exhibitors. It's about you, the farmer, in 2017 and how we can provide usable information to make every season more successful on your operation.

For example, at the Ag PhD learning center, you'll get a chance to learn about more than fertilizer and feed. You'll see how the whole management picture affects your plants and how you can roll with the punches thrown your way.

Our hope is that when the sophomore season of AgroExpo ends, you'll continue the conversations and connections that began there. One can never stop learning in this farming business, and we're hoping that on Aug. 15 & 16, you'll be equipped and empowered to hit your targets right the first time.



Albert Bancroft
AgroLiquid Senior Marketing Manager

2017 AGROEXPO STEERING COMMITTEE

Carla Wardin

US Farmers & Ranchers Alliance

Kris Wardin

Evergreen Dairy

Jim Zook

Michigan Corn Growers Association

Dann Bolinger

DuPont Pioneer

Dan Putman

H&S Manufacturing Company

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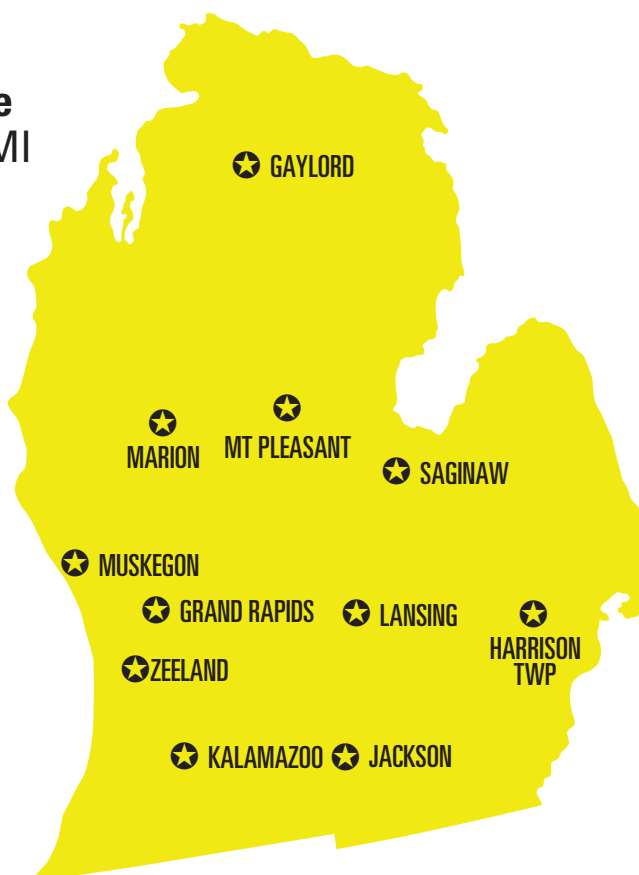
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5026 Rotary Cutter



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New place, renewed focus

As AgroExpo embarks on the second year of what the event's planning committee hopes is a long run serving full-time farmers, it's taken on a renewed focus at a new place.

"The new location is in the heartbeat of our farming operation," said AgroLiquid's Albert Bancroft. "We have better, less-dense soil. It's well-drained and irrigated. It's higher, flatter and overall a more presentable site than last year."

The new show site is located at 5605 North Findlay Road in St. Johns, just northwest of last year's show site. The centrally located parking allows show attendees to simply walk to the silage demonstration area, commercial exhibits and seed plots. Trams will be available for attendees as well.

"We built a good foundation for AgroExpo last year," Bancroft said, "but we've upped the gait for year two. We tightened the crop plot experience. There are more plots and more fields to experience, and we're better prepared for the crowd of supporters. We learned a lot from last year, and we have a good foundation to make this year a great experience."

The location is not as important, however, as the connections farmers can make at the two-day show.

"We want people to network," Bancroft said. "We want farmers to keep talking, make new connections and invigorate old ones. We have some really good speakers who are not selling products, and if we do things well, farmers will leave wanting to learn more. We want to make sure that happens, and with the advantages of the new location, we're confident we can do that."

Directions

Event Address:

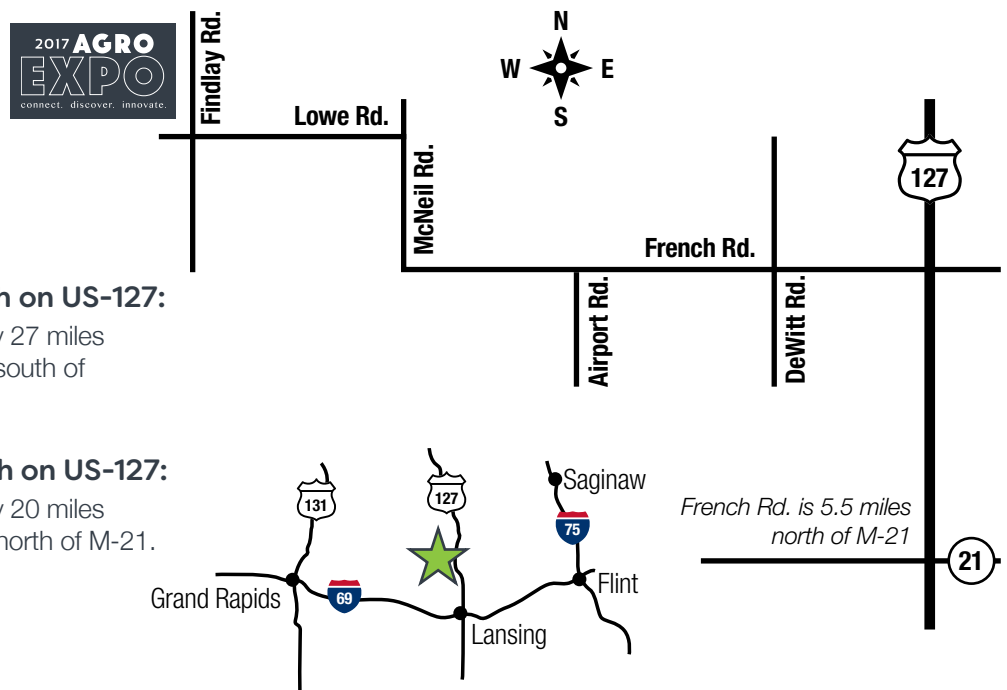
5605 Findlay Road
St. Johns, MI 48879

Coming from the north on US-127:

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



Tuesday, August 15

8:30 am	Show is open to attendees
9:00 am	Tillage Demonstrations Tillage Area
10:00–10:30 am	Prevalence & Impact of Feedstuff & TMR Variability on Dairy Cattle Silage Area <i>Nathan Hrnicek, Rock River Laboratory, Inc.</i>
10:00–11:00 am	Getting More Out of Every Acre Indoor Booth Barn <i>Jesse Vollmar, FarmLogs</i>
10:30–11:00 am	Managing On-Farm Corn Silage Variability Silage Area <i>Dann Bolinger, DuPont Pioneer</i>
11:00 am	Self-Propelled Forage Harvester Demonstrations Silage Area
12:00–12:30 pm	Challenge Plot Panel Indoor Booth Barn <i>AgroLiquid</i>
1:00 pm	Self-Propelled Forage Harvester Demonstrations Silage Area
2:00–2:30 pm	Wet Chemistry or NIRS? When does it matter? Silage Area <i>Dave Taysom, Dairyland Laboratories</i>
2:00–3:00 pm	Clean, High Octane, Renewable Fuel Indoor Booth Barn <i>Nick Rice, Carbon Green BioEnergy</i>
2:30–3:00 pm	2017 Growing Season Implications to Forages Silage Area <i>Gary Brinkman & Karen Zuver, DuPont Pioneer</i>
4:00 pm	Show Closes

Wednesday, August 16

8:30 am	Show is open to attendees
9:00 am	Tillage Demonstrations Tillage Area
10:00–10:30 am	Prevalence & Impact of Feedstuff & TMR Variability on Dairy Cattle Silage Area <i>Nathan Hrnicek, Rock River Laboratory, Inc.</i>
10:00–11:00am	Manage Soybean Disease to Protect Yield Indoor Booth Barn <i>Dr. Marty Chilvers, Michigan State University Assistant Professor</i>
10:30–11:00 am	Managing On-Farm Corn Silage Variability Silage Area <i>Dann Bolinger, DuPont Pioneer</i>
11:00 am	Self-Propelled Forage Harvester Demonstrations Silage Area
1:00 pm	Self-Propelled Forage Harvester Demonstrations Silage Area
2:00–2:30 pm	Wet Chemistry or NIRS? When does it matter Silage Area <i>Dave Taysom, Dairyland Laboratories</i>
2:30–3:00 pm	2017 Growing Season Implications to Forages Silage Area <i>Gary Brinkman & Karen Zuver, DuPont Pioneer</i>
3:00–4:00 pm	Ag Phd Sirius Radio Program – AIRED LIVE Indoor Booth Barn <i>Darren Hefty, Ag Phd Radio Host</i>
4:00 pm	Show Closes



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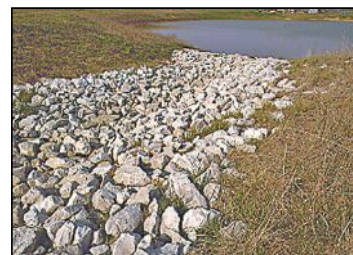
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GUEST SPEAKERS

AUGUST

15

Getting More Out of Every Acre: How to Increase Profitability by Improving Management

10:00 AM – JESSE VOLLMAR, FARMLOGS

Profitability is on your mind. You're being squeezed from every angle. How can you be more efficient? What can you cut back on? How can you increase the return per acre on your corn crop? In this session, Jesse Vollmar will present several ways growers can tap into the latest tools and technologies—everything from weather data and historical crop performance to satellite imagery and information from sensors on equipment—to maximize the effectiveness of every acre.

Challenge Plot Panel – Get The Best ROI For Your Fertilizer Dollar

NOON – CHALLENGE PLOT PANEL

AgroLiquid continuously develops and researches innovative nutrient solutions for growers. But we know those solutions must have practical, economic applications in the field. The AgroExpo challenge plots were designed to put participants' skills to work to produce the best return on fertilizer plots. Competitors will be on-hand to answer questions and explain their rationale for the crop nutrient decisions they made. There are multiple programs, application differences and timing comparisons. It is a great chance to see results and hear explanations to learn how these products fit your management.

CHALLENGE PLOT TEAMS:

Dr. Jerry Wilhm & Burt Henry; Stephanie Zelinko & Austin Benes; Tim Duckert & Bob Baxter; Jeff Brown & Aaron Stahl; Reid Abbott & Rob Marquardt; JW Lemons & Ashley Stickler; John Leif & Stuart Schilling; Nick Bancroft & Kurt Fisher; Galynn Beer & Dan Peterson

Clean, High Octane, Renewable Fuel – Adding Value to Corn Produced on Michigan Farms

2:00 PM – NICK RICE, CARBON GREEN BIOENERGY

Carbon Green BioEnergy will discuss the creation of fuel feed, while examining the benefits and value renewable fuel adds to corn produced on Michigan farms. Carbon Green BioEnergy is a biofuel production company composed of ethanol, distiller's dried grains, corn oil, E15, E85 and ethanol racing blends.



Jesse Vollmar



Dr. Marty Chilvers



Darren Hefty

AUGUST

16

Manage Soybean Disease to Protect Yield

10:00 AM – DR. MARTY CHILVERS, MSU ASSISTANT PROFESSOR

Soybean diseases rob yield from soybean fields every year. Dr. Marty Chilvers will offer suggestions to manage diseases to protect yield, based on his extensive research projects supported by the Michigan Soybean Promotion Committee. His expertise includes the utilization of fungicide seed treatments, changes in Phytophthora issues, Sudden Death Syndrome control options and efforts to outsmart white mold. Bring questions and experience with soybean diseases, as Dr. Chilvers is always eager to address current and relevant disease issues.

Ag PhD Sirius Radio Program – Aired Live from AgroExpo

3:00 PM – DARREN HEFTY, AG PHD RADIO

The Ag PhD Radio Show is aired live each day on Sirius Radio. Brian and Darren Hefty answer your questions, talk to great guests during Back 40 time, feature a Pest of the Day, have an Ag PhD Mailbag segment, and talk about how to raise better and more profitable crops. They don't talk about grain markets, farm news or the weather, but they do talk about agronomic issues, how to increase yields and how to earn more money on your farm each year.

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Efficiency in grain handling

Efficiency is a goal in agriculture from planting through harvest—growers try to be as effective and productive as possible in all actions. Michigan Ag Commodities (MAC) believes efficiency should continue through the process—until the grower receives the check for their efforts. That's why MAC prides itself on being not only Michigan's largest handler of grain, but the fastest handler of grain as well.

Robert Geers, merchandising manager for MAC attributes this efficiency to flexibility and experience.

"When merchandising with MAC, clients are never locked into going to one elevator or processor," he said. "We are able to send their grain to the best market available due to

our relationships with end users and truckers, and we can focus on finding the best markets available."

Their team of merchandisers is able to center their attention on finding the best markets available at the time a farmer is ready to sell, leaving the farmer to focus on harvesting the best crop possible.

MAC also has the experience to find those markets as well. Founded more than 40 years ago as a trading office, they have established knowledge and relationships in Michigan, Ontario and surrounding states.

"We have a team of merchandisers that have been with MAC for more than 15 years, and they know their local markets and customers' needs, as

many of their customers are neighbors or friends," Geers said.

MAC offers growers options in marketing services.

"We encourage our growers to diversify their marketing with a couple different contracting options, whether it is a flat price toward a contract, a basis contract, hedge to arrive, or an option contract," Geers said.

"We can utilize each of these kinds of contracts delivered to one of our many MAC elevators or on FOB [Free-On-Board] contract, where MAC arranges trucks and picks up the grain from your farm to be delivered to a MAC elevator, or one of the processors or feeders around the state of Michigan."



With a constant eye on market trends and situations potentially impacting Michigan grain markets, Geers explains that with funds maintaining big net short positions, there could be some quick rallies to take advantage of, demand will likely need to be the driver for any real upward shift for grains.

"Michigan exports about 40 percent of their corn to the southeast United States each year by rail to feed the chicken and hog markets in the Carolinas," Geers said.

Marketing and beyond

MAC offers service beyond grain marketing. To help farmers maximize yield potential, MAC has crop specialists that will sit down with a grower to put together an individualized plan to maximize yields and ensure the greatest return on investment.

MAC has quality people and machines in critical positions, poised to offer excellent service with the highest attention paid to quality of work performed. Throughout the years, MAC Agronomy has proven to be knowledgeable, innovative and well equipped. They offer many services:

- Precision Chemical Application
- Premium Plant Food
- Variable Rate Application
- Custom Blending
- GPS Soil Sampling, Gridding, and Scouting
- Application Equipment Rental

Fewer corn acres could mean more demand for Michigan corn.

"We have a lot of growing season to get through yet, but this is something to keep an eye on," Geers said.

Growers interested in merchandising through MAC can contact the Lansing

office at 800-878-8900. A member of MAC's Grain Merchandising team will assist them in setting up an account and begin marketing their grain. You can also find more information at michag.com.

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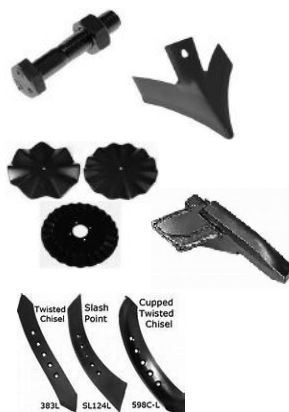
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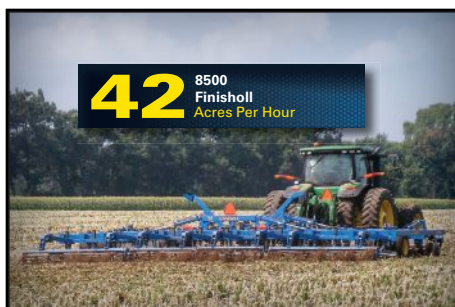
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A new look at selecting seed

Every growing season starts with an important decision, what seed variety to plant and where to plant it.

"Growers attending AgroExpo will have the chance to speak to more than ten seed companies regarding new technology advances, view on-site plots and find solutions to challenges they face on their own farm," said Tim Duckert, agronomy manager at AgroExpo.

Duckert says the AgroExpo has plots planted on each seed company lot so attendees can see first-hand what each company offers and to provide an interactive experience for the farmer.

Steve Gower, Technical Agronomist for DEKALB/Asgrow brands, encourages growers to build a custom crop prescription using the data that is collected on your own farm".

"Climate FieldView helps growers collect, organize and benchmark yield data from their own farm in one easy-to-use digital platform."

"We want to highlight the performance of our products, but we also want to offer solutions that help growers simplify field data management," Grower said.

The fully irrigated seed plots at AgroExpo are strategically placed in the center of the show site so attendees don't have far to walk and can easily access the plethora of varieties.

Duckert encourages growers to spend time exploring the seed plots. "Virtually every seed company will be

at AgroExpo, this is great time to find answers that will help innovate yield on your farm."

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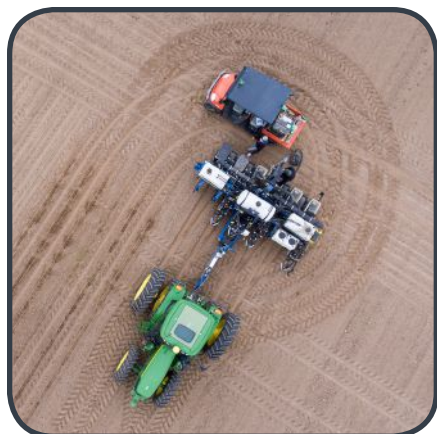
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Boosting your corn silage ROI – chop length and kernel processing

FARM NEWS MEDIA
& DUPONT PIONEER

With the 2017 planting season behind them, most Michigan farmers are now focused on field scouting in the never-ending effort to maximize crop yields. Ironically, many of those same farmers are also settling up their input tab for their 2017 corn crop.

While agronomic management is essential in maximizing yields and return on investment, corn silage producers may miss their maximum ROI—at harvest. Chop length and kernel processing are absolutely essential for corn silage, according to DuPont Pioneer silage experts.

Kernel processing impacts the degree of starch digestion, while setting the theoretical length of chop (TLC) impacts particle length needed for proper rumination. Ensuring good kernel processing starts several weeks prior to harvest.

Make sure the entire chopper is in good condition, especially the chopper knives and the roller mill. Nicked knives and worn shear bars should be replaced to prevent uneven and shaggy chop lengths. The entire length of the roller mill should be checked for wear on the teeth. Uneven wear may prevent narrowing of the roller gap. Hours of operation may allow the outer edges of the rollers to touch, leaving an undesirable gap in the middle.

Inspect the roller mill after 400 hours of use. The integrity of the working parts and hours of effective use depend on soil type and other environmental factors. Corn grown on sandy soil, where wind is common, results in more wear and tear, shortening roller mill life. Other factors include roller size and the number of teeth per inch. More aggressive

differential speed options will affect the life of the roller mill.

After inspecting the chopper head and roller mill, check the gap setting between the rollers. It should be 1 to 2 mm to ensure it cracks all the kernels. Check using a dime (1.2 mm wide): If there is excess space between the rolls and the dime, tighten the gap. Next, set the TLC at 3/4 inch, which is longer than the typical 3/8 to 1/2 TLC settings for non-processed corn silage.

VARIABLES IMPACTING KERNEL PROCESSING OF CORN SILAGE

All brands of harvesters (with processors) in good working condition can achieve well-processed corn silage, provided users pay attention to the nature of the crop. The grain-to-stover ratio of the crop impacts how much grain goes through the roller mill. The higher the grain content, the greater the need for more aggressive processing.

Sometimes that means shortening the TLC to achieve better kernel processing of high starch corn silage.

Harvest moisture also impacts kernel processing. The lower the moisture, the higher the starch content. As you harvest dryer corn, you can decrease the TLC setting. This may lower effective fiber, but it will ensure adequate packing of the dryer forage in the silo.

If feed roll and roller mill adjustments are not producing expected kernel processing results, inspect the differential speed of the roller mill. The upper roller should run faster than the lower roller. Differences of 10 percent to 15 percent are common.

MONITORS OF PROCESSED CORN SILAGE

Several forage testing laboratories offer a scientifically validated sieving test known as the Ro-Tap system for quantifying corn silage processing. The procedure produces the Corn Silage Processing Score (CSPS)



values based on percent of starch passing through a 4.75 mm sieve, which represents a percentage of total starch in the sample. Here are CSPS interpretation guidelines for the Ro-Tap system used to measure degree of kernel damage in corn silage:

- Less than 50 percent = inadequate
- 50 percent to 70 percent = normal
- 70 percent = optimum

While the CSPS is an excellent test, the hectic corn silage harvest season doesn't permit timely CSPS determinations to make sure the harvested crop has proper KPS and TLC values. Growers can inspect loads coming to the storage structure for kernel damage. They can notify the chopper operator if adjustments are required to improve processing.

Processing effectiveness may

change from field to field and from day to day, so it is important to monitor kernel processing throughout the entire harvest. Samples should be checked at least once daily and whenever the chopper operator switches to a different field.

The Corn Silage Processing Monitoring Cup is a quick, simple on-farm technique to check degree of processing. DuPont Pioneer forage experts around the world use this method. It involves collecting a 1-liter (32 oz.) cup of chopped forage for field analysis.

Spread the collected sample on clean ground and manually sift through the sample, counting all kernels larger than half a kernel. Kernels need to be completely fractured, not just nicked. The guideline is no more than two

whole or half kernels per sample. While dairy operations and chopper operators may agree on another threshold, the count should never exceed four half-to-whole kernels.

The monitoring cup wasn't developed to quantify the degree of kernel processing as accurately as the laboratory Ro-Tap system. However, it can help silage producers adopt a more aggressive CSPS.

Achieving well-processed, high-starch corn silage is a key to higher-quality corn silage. Operations can reduce levels of supplemental grain in the ration and save costs on rations. It makes good business sense to inspect the kernel processor and chopper settings before harvesting to help ensure their corn silage will help them achieve maximum milk production.

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MIXING Compatibility

with Dr. Chris Underwood



Watch at agroliquid.com/mixing
or visit booth P129-P133;P229-P233

The most frequently-asked question I get about our products is, "Does Fertilizer A mix with Fertilizer B?" Sometimes there is a proposed mix they are inquiring about. I even get different agrochemicals thrown into the mix. Before we delve into this topic, let's set some ground rules on what can be described as "compatible:"

1. It mixes into either a clear solution with no solid fallout (ideal) or a suspension where the suspended material can stay suspended for longer than a few days. If the suspensand falls out of solution, it can be easily agitated back into suspension.
2. When mixed, it does not produce any gas such as ammonia or carbon dioxide. Off-gassing like this changes the materials in the mix, and not usually in a good way.
3. It doesn't release tremendous amounts of heat.
4. When mixed, it does not produce a fallout of solids. This could drastically change the analysis of the remaining solution.
5. It can be used in farming equipment without plugging filters, screens, or nozzles.

I can say "yes" to this question at least 75% of the time when it involves AgroLiquid products. We have a compatibility chart for our products available to our customers that shows which of our products can and which cannot be mixed together and approximately how long the compatibility will last.

One reason for our superior compatibility originates with our Flavonol Polymer Technology. Since it acts as a chelant or encapsulation agent, it keeps the different compounds in solution from reacting with each other, resulting in an inert, clean mix. This is not the case with products that use acetates, citrates, or amino acids as their chelating agents.

Another reason is the fact that most of our products have a pH from 6-8, fairly neutral compared to other fertilizer products in the marketplace. Attempting to mix products that are alkaline usually results in either the production of gasses or significant fallout. Care must also be taken with acidic products, especially when being mixed with alkaline products.

I have a couple of suggestions that will help prevent unnecessary headaches: one is to do a jar test. I cannot stress this enough! This is especially true when adding agrochemicals; there are many off-brands that use different additives and carriers that can cause adverse reactions. Always remember that there is a chemical reaction any time you do a jar test, so proceed with care!

If a fertilizer product (AgroLiquid or otherwise) is to be used in fertigation, I also suggest that growers submit water samples to an accredited lab for analysis, specifically for pH, hardness, and bicarbonate. Most alkaline or hard irrigation water will cause fertilizer products to react and gradually create a buildup of fallout in lines and emitters. This can be solved by neutralizing your water with a sulfuric or carboxylic acid injection system.



Caution: This table contains information established by individuals' opinions and is susceptible to interpretation. The information contained in this document has been compiled as a general guideline only and is not to be used as the sole means of determining any compatibility. Neither AgroLiquid nor any other contributors guarantee the accuracy of this information. It is advised that all desired mixes first be jar-tested and all relevant manufacturer/supplier information be consulted.

Product Compatibility Information

■	Tank Safe Storage
■	Short Compatibility Life
■	Application Compatible

Green: Tank Safe Storage is a classification of chemical compatibility wherein the mixed solutions will not react with each other under normal conditions during the general storage period of either component.

Yellow: Short Compatibility Life is a classification of chemical compatibility wherein the mixture is semi-stable to stable past two weeks but not exceeding three months. Consult a professional to determine application protocols.

Blue: Application Compatible is a classification of chemical compatibility made to allow for flexibility in tightly managed situations. This chemical compatibility stage classifies mixed solutions that have either a slow or time delayed reaction of one day to two weeks. Consult a professional and understand these mixtures are for immediate, same-day applications only. These mixtures are not recommended.

	AccessS	Boron	Copper	C-Tech	eNhanse	FASE 1	FASE 2	FASE 3	FERTIRAIN	GROWRIGHT	High-Mac-N	Iron	Kalibrate- / K	LIBERATECa	Micro 500	Micro 600	Magnesium	Manganese	Moly	NResponse	Primagro N	Primagro P	Pro-Germinator	S-Calate	Sure-K	Zinc
AccessS	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Boron	Yellow	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Copper	Blue	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
C-Tech	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
eNhanse	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
FASE 1	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
FASE 2	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
FASE 3	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
FERTIRAIN	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
GROWRIGHT	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
High-Mac-N	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Iron	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Kalibrate- / K	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
LIBERATECa	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Micro 500	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Micro 600	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Magnesium	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Manganese	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Moly	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
NResponse	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Primagro N	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Primagro P	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Pro-Germinator	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
S-Calate	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Sure-K	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green
Zinc	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green	Green

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AGROEXPO SITE MAP

▲ WELCOME TENTS

..... ■ TRAM ROUTES

■ RESTROOMS

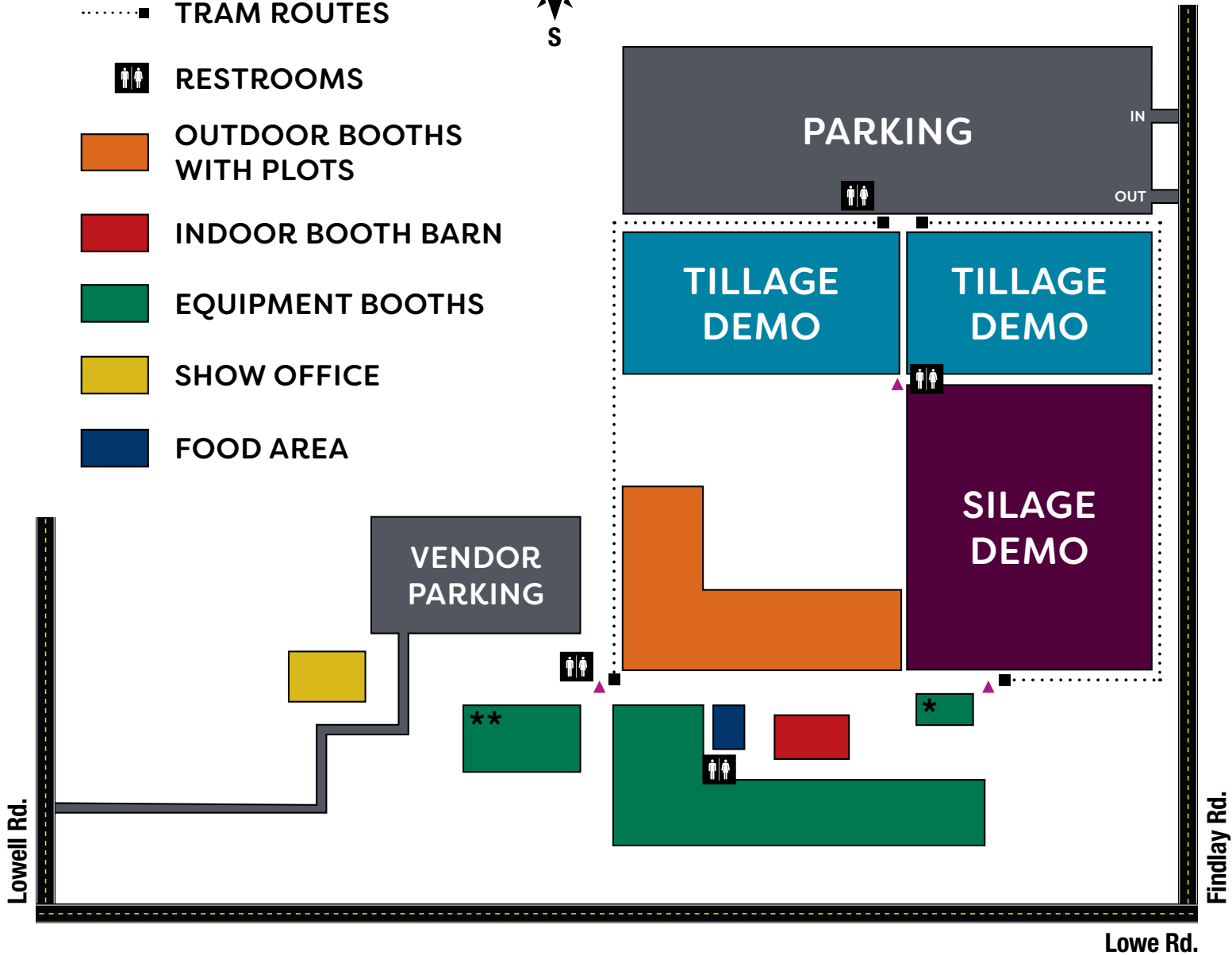
■ OUTDOOR BOOTHS WITH PLOTS

■ INDOOR BOOTH BARN

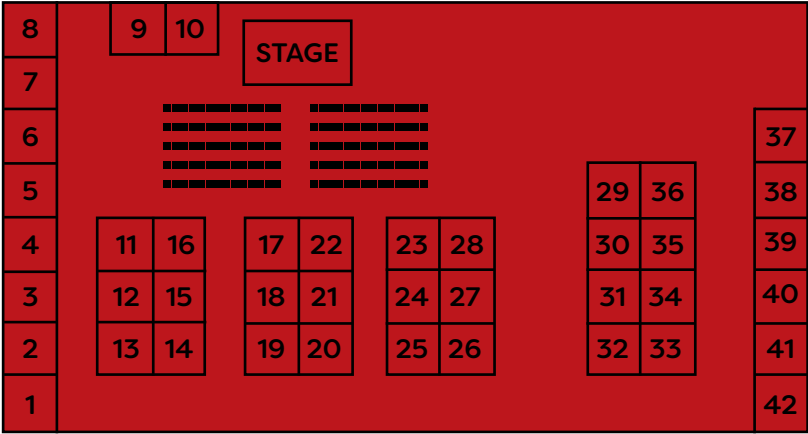
■ EQUIPMENT BOOTHS

■ SHOW OFFICE

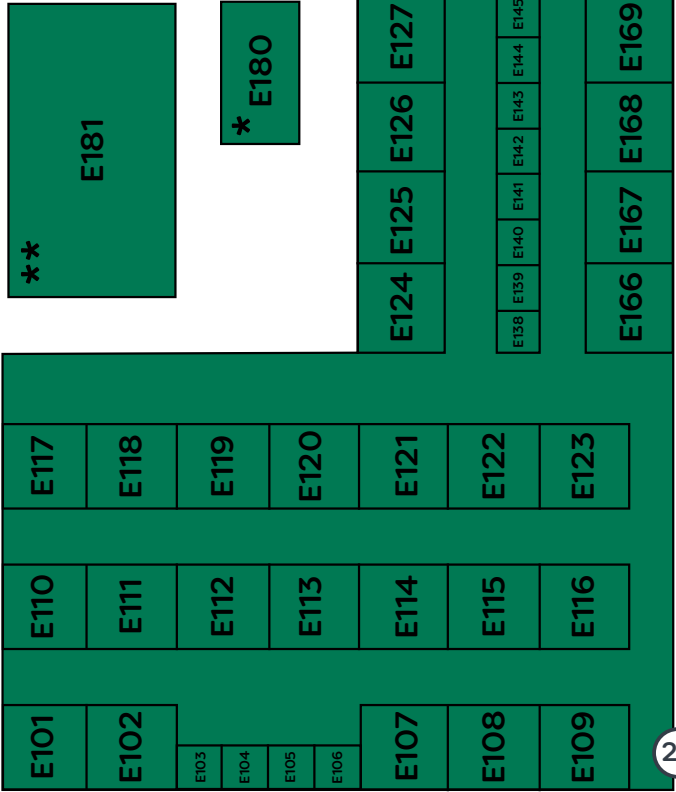
■ FOOD AREA



INDOOR BOOTH BARN



EQUIPMENT BOOTHS



OUTDOOR BOOTHS WITH PLOTS

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LEGEND:

Soybeans
Corn
Other

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Why I really started FarmLogs



JESSE VOLLMAR
CO-FOUNDER & CEO OF FARMLOGS

Nearly all of my memories as a kid involve growing up on my family's farm in Michigan. I was a farm kid, and it was our way of life.

After studying Computer Information Systems in college, I saw how the Internet and advancements in computing were radically changing our world.

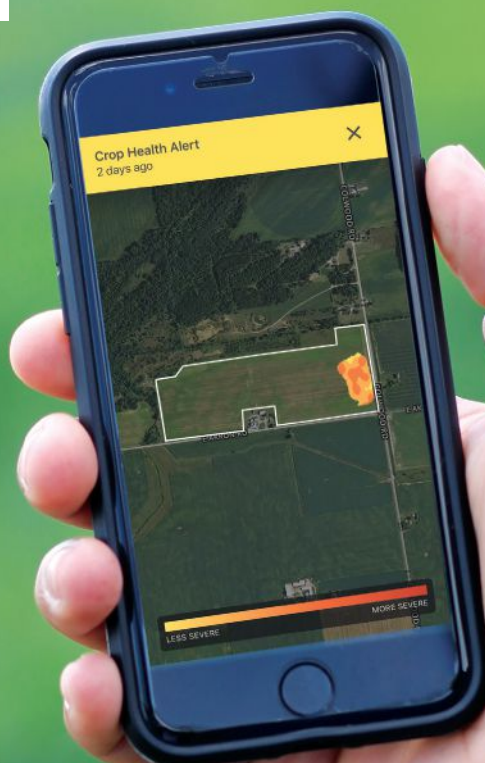
When I went home to the farm, I found that the technology was clumsy and difficult to use. I was left with a burning thought that I just couldn't get out of my mind: the future of farming needed to be better, faster.

When I was in Silicon Valley, it quickly became clear to me that America had changed so much in the last 100 years that most people no longer had any clue what modern day farming was. This misunderstanding had left a big, gaping hole in a massively important space and the one that I cared about most—farming.

If your family's livelihood depends on running a successful farm like mine does, then we are looking forward to introducing our technology and how it can help.

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"Farmers are open and eager to finding ways to improve their business," said Jesse Vollmar, CEO and co-founder of FarmLogs.

With more than 73-million acres now managed through this innovative farm management software, farmers recognize the value in taking raw data generated on their operation and turning it into something meaningful to be used in decision-making.

"We are automating record-keeping, making documenting easier and giving farmers more information," Vollmar said. "We want to reduce the time farmers spend at a desk organizing

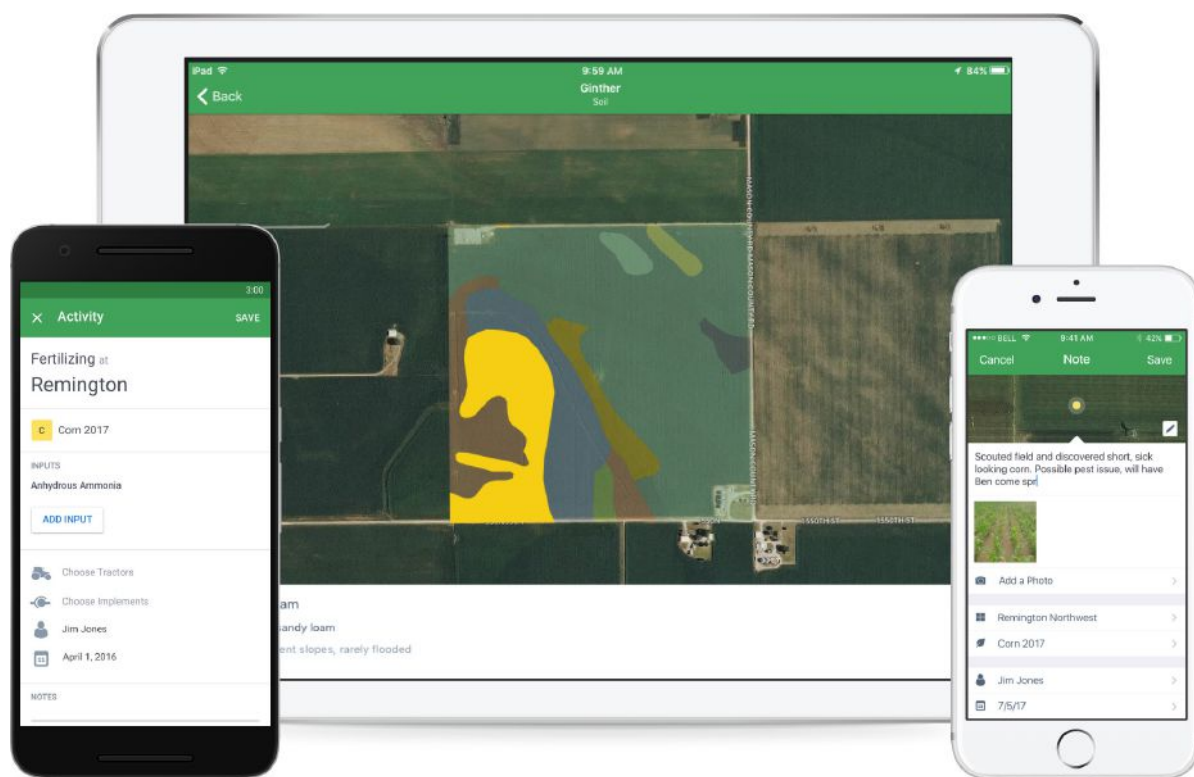
data, allowing them more time to spend on what they love."

Growing up on his family's farm in Michigan, Vollmar was always eager to go to the farm shop—not so much because of the tractors and equipment, but because the family's only computer was there. The terminal that provided real-time weather and news fascinated him. That early interest in computers led Vollmar to a career designing software while still in high school. In 2010, Vollmar recognized that the pace of innovation in agriculture was not keeping up with that of technology. Most of the farmers

in his community relied on the same clunky, expensive technology from a decade before.

"Nobody was trying to build software for farming," Vollmar said. "I saw potential for this industry—it was something I care a lot about. I was at the intersection of two domains: the cutting edge of software design and what could be the cutting edge of farming."

With the advancements of technology on the farm, growers are managing a lot of data. From data generated on-farm, to data the world has access to—like satellite images—there is more





information available than ever before. The question becomes how to create value with this information.

“We are here to make sure growers are empowered,” Vollmar said. “We wake up every single day thinking about how we can help farmers, how we can make them more profitable.”

One of the tools FarmLogs offers is powerful, simple-to-use field monitoring technology. The software can notify farmers when it detects yield threats, automatically log activities, and give users instant access to field-specific

data including rainfall, soil composition maps, growing degree day (GDD) accumulation and yield maps.

FarmLogs is continuously innovating their software options to be as effective as possible on the farm.

“If you partner with us, we listen,” Vollmar said. “We’re taking feedback from farmers all across the country.”

FarmLogs is completely independent—they partner directly with farmers.

“We don’t have any connection to farm inputs,” Vollmar said. “Any data you input to FarmLogs is yours. We keep it secure.”

In fact, FarmLogs uses best practices and secure infrastructure to protect the data on their platform, and farmers can choose who has access to their data.

“We never share private data,” Vollmar said. “But if our farmers want to share with an agronomist, for example, they can do that—but never without the farmer initiating it.”

Since its inception in 2011, FarmLogs has become a robust

farm management platform. They offer technology to help monitor and respond to the factors that impact crop performance. While sophisticated in capability and design, Vollmar says there is really no learning curve to using the software, as they have kept the user-experience at the core of their software design.

“It’s really easy-to-use and streamlined—one of our most common remarks is that users are pleasantly surprised at how easy the app is to use,” Vollmar said.

With this user-friendly, comprehensive software; a complete knowledge base of instructional videos and guides; and 24-hour support available via phone, text or email, FarmLogs enjoys a 97 percent customer satisfaction rating.

The free FarmLogs Standard app includes rainfall tracking, field data explorer, scouting and notes, activity tracking, soil composition maps and yield importer. It is available at farmlogs.com.



Big, bad choppers

Do you like the sound of massive forage harvesters revving their engines?

If so, you won't want to miss the impressive line-up of forage harvesting equipment and side-by-side demonstrations all centrally located at AgroExpo.

According to AgroExpo committee member Tim Rogers, attendees can expect to see the leading manufacturers of forage harvesting equipment and watch the harvesters chop corn silage both days of the show starting at 11:00 am.

"We are excited to move the demonstration to be front and center at the new show site. When attendees arrive, the first thing they will see is a line of massive forage harvesters," Rogers said.

Representatives from forage handling equipment will be on hand to answer questions as well.

Dan Tarkowski of Meyer Manufacturing said he's looking forward to being at AgroExpo again and offering producers an opportunity to see equipment in a live setting coupled with outstanding education components to increase yield.



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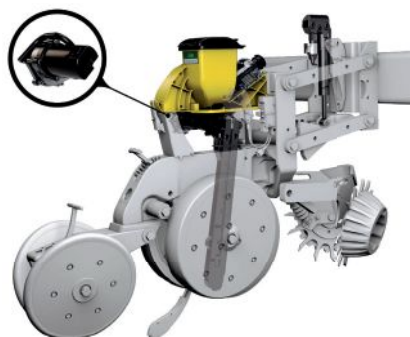
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SPECIAL GUEST DARREN HEFTY

AgPhD Host



Darren Hefty, along with his brother Brian, is the co-host of Ag PhD TV, which has aired a brand new show every week for more than 18 years. Ag PhD is the number one agronomy show in the U.S. today, and is seen in several foreign countries as well. In July 2013, Brian and Darren also launched Ag PhD Radio, a live hour-long call-in show airing weekdays at 2 p.m. CDT on Rural Radio SiriusXM Channel 147.

Darren is a farmer, agronomist, and father of four. Brian and Darren are focused on how to help you increase yields, make more money on the farm, and leave the land and environment in better condition for future generations.

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SPECIAL GUEST
JESSE VOLLMAR

FarmLogs CEO & Co-Founder



Jesse Vollmar is co-founder and CEO of FarmLogs, the leading data science company focused on helping farmers make their fields more profitable. A pioneer in digital farm management, he launched FarmLogs in 2012 out of Silicon Valley's prestigious Y Combinator to transform the oldest and most important industry in the world with cutting-edge software and data science. In less than three years, Vollmar has grown the company to more than \$20 billion in crops under management and has raised \$15 million in capital. Today, more than 25 percent of U.S. row crop farms utilize FarmLogs.

Vollmar grew up on his family's fifth-generation farm in Michigan and graduated from Saginaw Valley State University.

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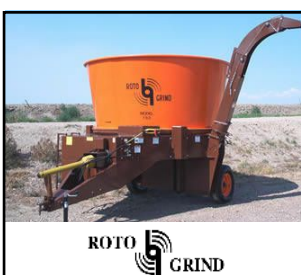
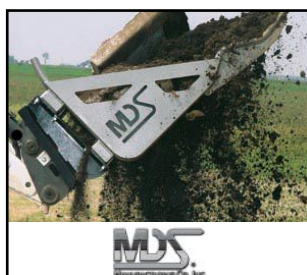
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SPECIAL GUEST

MARTY CHILVERS

*Assistant Professor, MSU
Extension, Agriculture and
Agribusiness Institute*



Martin Chilvers studied at the University of Tasmania, receiving his Bachelors in Ag Science and his Ph.D. He then went to Washington State University to complete his Postdoc. His area of expertise is in fungal biology, epidemiology, fungal genetics, host-pathogen interactions, diseases of field and vegetable crops, and nucleic methods of pathogen detection. His current program is working on Soybean sudden death syndrome and Sclerotinia white mold. His program is particularly interested in utilizing genomic resources and nuclide acid detection technologies to improve our understanding of fungal biology, disease etiology and epidemiology.



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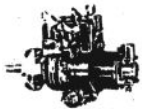
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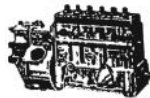


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Hired into the ethanol plant in 2007 as a production operator, Nick has held various roles including fermentation, distillation, welder, fabricator and onsite engineer. In 2015 Nick expanded his role into marketing where he led the charge of Carbon Green BioEnergy E85's marketing launch "YellowHose – Michigan's Lowest Gas Prices." Nick later developed the American Ethanol Late Model Tour to educate the fans, drivers, engine builders and people within the performance industry on the many benefits of ethanol. His continuous efforts help educate consumers on the positive impact ethanol fuel has here in Michigan.

Go underground for a closer look

Farmers spend a lot of time looking at crops above the ground, but a 100-foot-long root pit will offer the opportunity to see what is going on below the soil surface at different stages of growth, and also discuss how that soil structure can be sustained and improved.

"The Ag PhD Learning Center coupled with products from AgroLiquid, FMC Agricultural Solutions and Farmers Edge farm management company will give growers a closer look at corn at various stages of growth, and between with no applied fertilizer, five gallons, and 10 gallons in-furrow," said Jerry Wilhm, senior research manager at AgroLiquid.

Crops planted in the Ag PhD Learning Center plots are corn, soybeans, sugarbeets and sunflowers. As always, AgroLiquid began with a soil test. The new AgroExpo site features sandy soil that is low in phosphorous (P), potassium (K) and micronutrients—a real fertility challenge. Corn, soybean, sunflower and sugarbeet plots will show product options to address all crop nutrient needs.

Learning Center plots also feature treatments of FMC insecticides applied in combination with fertilizers. The ability to tank mix these components is critical to economically applying crop protection and needed nutrition in a timely way.



"Problems at planting can break a crop before it ever gets started," Wilhm said. "The Planter Issues plot demonstrates some common planting

problems. See if you can decipher the difference between depth issues, skips, improper fertilizer rate and other planter-time issues in this plot."

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The Michigan Agricultural Mediation Program (MAMP) helps resolve disputes between producers and their lenders, creditors or the USDA agencies with which they work. The program provides trained mediators to help the parties to a dispute communicate effectively about the issues and possible options for resolution. Its goal is to help the parties resolve disputes quickly and save time and money by avoiding a hearing.

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Finding the right irrigation system

The amount of water a farm can get will vary from year to year. While agriculture is often at the mercy of Mother Nature, some farms choose to remove the water variable by utilizing irrigation. Tony Belcher of Koviack Irrigation & Farm Services explains that variable is more than just total rainfall for the year.

“The key is the time frame, more than the total amount for the year,” Belcher said. “A crop has a 2-3 week time period where yield loss is exponential if there is no rain.”

Belcher added that irrigation systems are being utilized for much more

than just water. Fertilizer, pesticides, fungicides and other crop protection components are being delivered through irrigation systems. The key is deciding what type of system is right for an operation. Options for irrigation systems include center pivot irrigation, linear irrigation, drip tape irrigation and subsurface drip tape irrigation—but there is much more to understanding irrigation best management practices and water conservation than simply picking a system.

Center pivot or corner pivot systems can be seen across the United States; they run from a single point and rotate

around the field, up to 360-degree circles. Some problems that come with pivot irrigation systems are that edges and corners are missed, and the uniformity is low throughout the field. If a field is irregularly shaped, a center pivot system may not be the best choice. Center pivot systems have been a popular choice for farms because of the low cost compared to other irrigation systems and the high re-sell value. They can be suited to variable rate, as the rotation can be sped up or slowed down, often through a remote pivot management system. These systems are also well suited to



chemigation and applying herbicides.

Linear systems can be found on some fields at the North Central Research Station (NCRS); it moves front to back on a rectangular field. Compared to pivot systems, the linear systems deliver consistent irrigation to the crops. However, your run can have issues where there are no shut off points, so you cannot zone water a field. Similarly to pivot systems, there are tire tracks in the field and obstruction issues to consider as well.

Drip tape lays across the ground, next to the plants. The drip tape can be customized by zones. Size, emitter spacing, flow rate and material thickness can be adjusted to meet the irrigation needs of a specific crop. Water and nutrients can be delivered directly to the roots of the plant. However, drip tape must be installed and removed every season.

Subsurface drip system is the latest addition to the NCRS. The system is installed 18 inches deep. With subsurface drip systems, you are committed to no till or minimal tillage because of the risk of destroying the drip system. Similarly to drip tape irrigation systems, you can water by zone and the water and nutrients are delivered directly to the plant root zone. Unlike drip tape systems, it is not required to reinstall every year.

The irrigation systems available to farmers today have made it easier than ever to water and provide nutrients and crop protection to crops. With all types of irrigation systems, the economics will be site-specific. Visit the representatives from the various irrigation companies at AgroExpo about your irrigation needs, as well as to find out more about the subsurface system at the NCRS.



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SUN 9:30am on KAAL (ABC), Austin

SUN 10:30am on KEYC (CBS), Mankato

MONTANA

SUN 5:30am on KULR (NBC), Billings

SUN 10:00am on KFBB (ABC), Great Falls

SUN 10:00am on KHBB (ABC), Helena

NEBRASKA

SUN 6:30am on KLKN (ABC), Lincoln

SAT & SUN 7:30am on NCN, Norfolk

SAT & SUN 7:30am on NCN, Columbus

SAT & SUN 7:30am on NCN, Beatrice

NORTH DAKOTA

SAT & SUN 6:30am on KXMB (CBS), Bismarck

SAT & SUN 5:30am on KXMA (CBS), Dickinson

SUN 7:30am on WDAY (ABC), Fargo

SUN 9:00am on KVLV (NBC), Fargo

SUN 10:35pm on KXJB (CBS), Fargo

SAT & SUN 6:30am on KXMC (CBS), Minot

SAT & SUN 6:30am on KXMD (CBS), Williston

SOUTH DAKOTA

SAT 5:00pm on KQME-2 (MeTV), Lead

SAT 5:00pm on KHME-2 (MeTV), Rapid City

SUN 5:30am on KSFY (ABC), Sioux Falls

SUN 9:30am on KDLT (NBC), Sioux Falls

SUN 10:00pm on KTTW (FOX), Sioux Falls

WASHINGTON

SUN 7:30am on KFFX (FOX), Tri-Cities

SUN 7:30am on KCYU (FOX), Yakima

WYOMING

SAT 5:00pm on KSGW-2 (MeTV), Sheridan

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