March 10, 2023

The Digital Ag Download

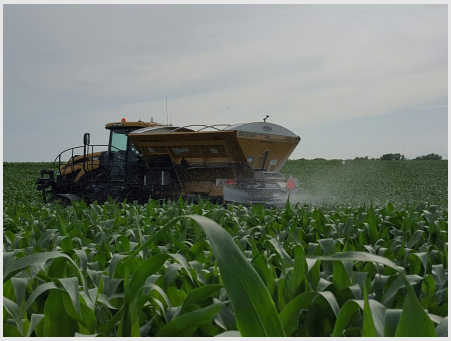
An eNewsletter with research updates, digital ag news, and tech insights for your farm.

Spring Work Edition

The weather is getting warmer and that means spring is almost here. In this edition of the Digital Ag Download, you can find information on the upcoming spring activities including applying fertilizer, spraying, and planting. Keep reading to find checklists, webinars, and eFields studies to get ready for the coming months. For more planting resources, visit the **Digital Ag Precision Seeding** page. Be sure to share this newsletter with anyone who may be interested; we hope you enjoy! – The Ohio State Digital Ag Team

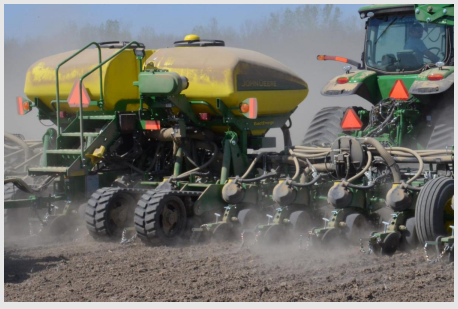
Digital Agriculture at OSU

Spring Checklists



Dry Spreader

- Spinner discs or fins worn or damaged?
- Material build-up on fins and discs?
- Conducted a pan test?
- Is disc speed set correctly and are both discs turning at the same speed?
- Is the setup proper for the type of fertilizer to be applied?
- Is the divider set to properly deliver material onto discs?



Planter

- Check that firmware on the GPS receiver and in-cab display are up-to-date.
- Make sure GPS receiver offsets and planter offsets are correctly set in the display.
- Back-up and archive past years planting data.
- Make sure your differential subscription is paid for the season.
- Look over wiring harnesses and connectors for damage and loose connections.

Stand Evaluation

- Stand Counts - Emerged number of plants meet expected population and pay attention to missing emerged plants.
- Stand Uniformity - Look for differences in plant height and vegetative stages within rows and in adjacent areas; also note difference in plant spacing in corn.
- Seed Depth - Was depth consistent?
- Plant Roots - dig up a few root balls. Clean soil from roots and compare differences in root hairs, size of root mass, and root health.

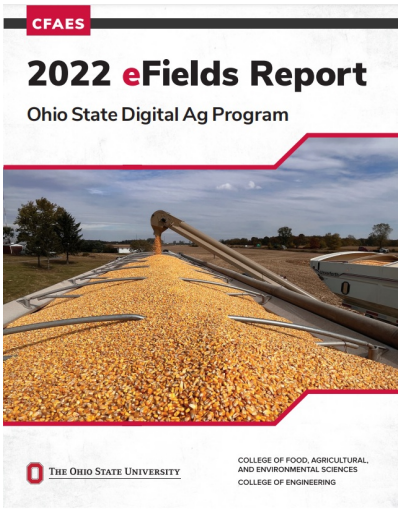
Featured Studies

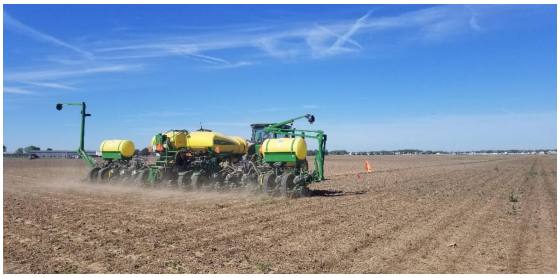
eFields

connecting science to fields

2022 eFields Report

eFields Knowledge Exchange



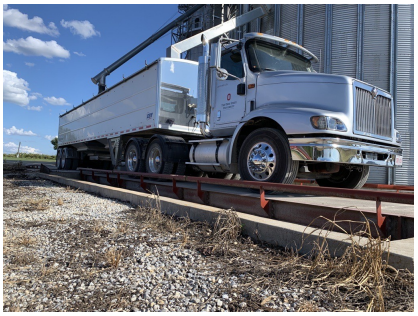


Speed Planting

Four planting speeds were randomized and replicated four times across the field. There was no difference among the treatments observed across the field. Moisture was adequate, and stands were as expected. To learn more, see page 126-127 of the 2022 eFields Report.

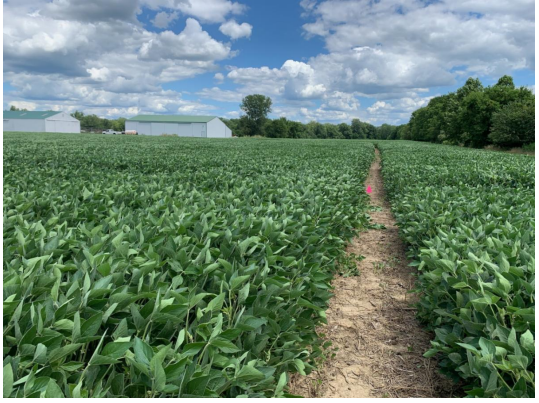
Corn Seeding Rate

This study found that significant yield differences existed with the 36,000, 44,000, and 44,000 treatments generating the highest yield. As expected, the 28,000 treatment produced the lowest yield of 235 acres.To learn more, see page 120-121 of the 2022 eFields Report.



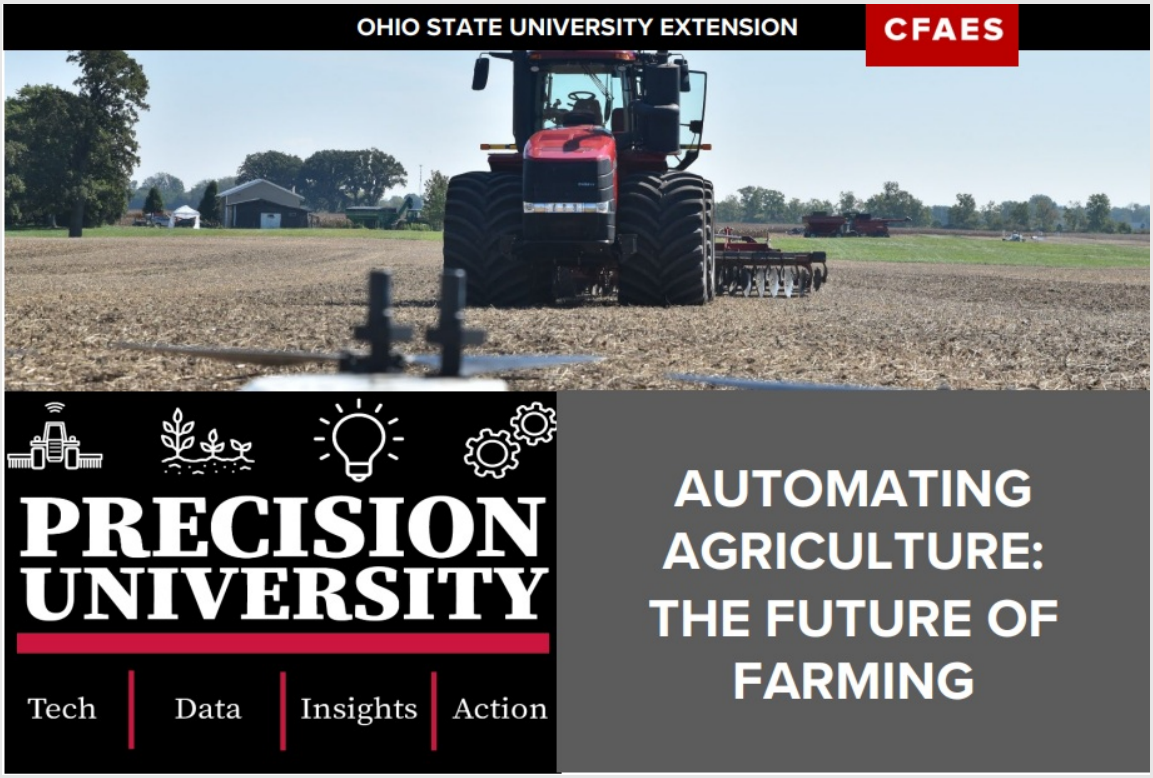
Soybean Planting Date

Soybeans were planted on four different dates with the first three having the same seeding rate of 180,000 seeds per acre and the last planting date having a seeding rate of 200,000 seeds per acre. The yields were highest for the first two planting

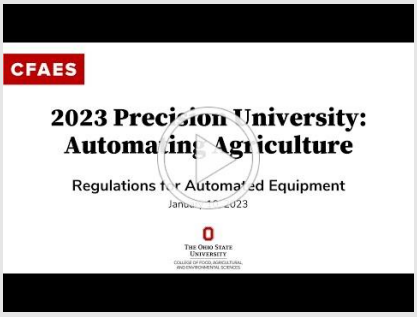


dates, with a significant difference found between the third and the fourth planting date. To learn more, see page 170-171 of the 2022 eFields Report.

2023 Precision U: Automating Agriculture: The Future of Farming



Did you miss this year's Precision University webinar series? Check out the recordings here. These webinars provided an excellent overview of various aspects of making autonomous farm machinery available and successfully implemented on Ohio Farms. If interested in autonomy, we encourage you to watch these recorded webinars.

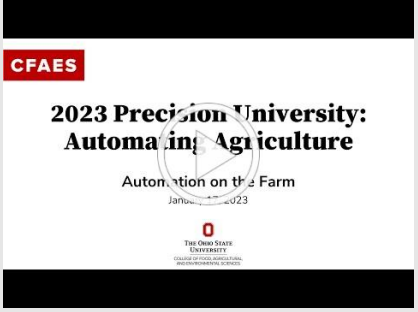


Regulations for Autonomous Equipment

Hear from Nick Hegemier (Managing Director, Infrastructure DriveOhio) and John Welsh (Aviation Safety Inspector, Airworthiness, Federal Aviation Administration / FAA) as they discussed the rules and regulations related to the adoption of autonomous equipment on farms in Ohio.

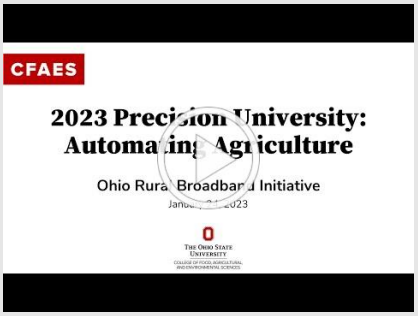
Video Link

Automation on the Farm



Listen as farmers Charlie Troxell and Luke Harbage from South Charleston discussed with Dr. John Fulton from Ohio State University where autonomy could fit into their row crop operations and their interest in adopting this technology.

Video Link



Ohio Rural Broadband Initiative

This webinar featured Jonathan Spendlove (John Deere), Dr. Scott Shearer (OSU), Matt Aultman (Darke County Commissioner), and Steven Strickland (Director, Partnerships and Channels, Ericsson Inc.) discussing the needs and challenges related to connectivity and rural broadband access in Ohio.

Video Link

Like this Newsletter? Help us share it!

Help grow the popularity of "The Digital Ag Download" by sharing with growers, extension folks, and anyone interested in your neck of the woods! Just tell them to sign up and send them this link to go straight to our sign-up page:

go.osu.edu/DigitalAgDownload

CONTACT US

digitalag@osu.edu

Department of Food, Agricultural and Biological Engineering
Agricultural Engineering Building
590 Woody Hayes Drive, Columbus, OH 43210
Phone: 614-292-6131
Fax: 614-292-9448