



THEY CIRCLED THE WAGONS FOR FIELD DAYS

Researchers shared trial results at Hancock and Langlade County agricultural research stations

By Joe Kertzman, managing editor, *Badger Common'Tater*

Held exactly one week apart, the Hancock Agricultural Research Station (HARS) and Antigo/Langlade County Agricultural Research Station (LARS) field days drew nice crowds, July 11 and 18, respectively.

With the University of Wisconsin (UW) potato and vegetable research program highly respected across the country, the field days provide an excellent opportunity to share findings and results from ongoing

trials occurring at the stations. The HARS Field Day kicked off with a welcome and introductions from two UW-Extension specialists, Guolong Liang and Natasha Paris, the latter of whom says her job is to help farmers increase sustainability and profitability. Liang is a water quality specialist. They introduced Steven Hall, a new UW-Madison assistant professor and Extension specialist whose work in

the Central Sands is related to farm-scale nitrate leaching, capturing nitrates, scaling up measurements, and tying up extra nitrogen. Hall wore a T-Shirt reading "Stop Treating the Soil Like Dirt." UW Storage Research Facility Manager Amber Walker gave an update on recent hires and infrastructure overhauls before sending wagonloads of field day attendees off to the research



Above: The 2024 Hancock Agricultural Research Station Field Day, July 11, was well attended, with two wagonloads of visitors taken to fields to see firsthand the results of potato trials.

Left: Kicking off the HARS Field Day, UW-Extension specialists Guolong Liang (left) and Natasha Paris (center) introduced Steven Hall, a new UW-Madison assistant professor and extension specialist whose work in the Central Sands is related to farm-scale nitrate leaching, capturing nitrates, scaling up measurements, and tying up extra nitrogen. Hall wore a T-Shirt reading "Stop Treating the Soil Like Dirt."



Left and Above: After Wisconsin Seed Potato Certification Program (WSPCP) Associate Director Brooke Babler presented updates on planting, inspections and direct tuber testing, Antigo Field Day attendees were transported via wagon to the research plots.

plots for presentations.

UW-Madison Associate Professor Yi Wang, Department of Plant and Agroecosystem Sciences, provided a fascinating presentation on “Using Precision Agriculture Techniques in Vegetable Crop Production,” particularly in the areas of artificial intelligence, and hyper- and multi-spectral imaging.

Attendees enjoyed seeing a 100-pound robot that Wang’s team acquired this year that is the perfect size for scouting snap bean and green pea fields. She outfitted the droid with orange Crocs™ so its lower

appendages would’t damage the soil, and even while wearing shoes, it can hop and turn.

Wang also set up a tent at the research station so people could see a live demonstration on the newest in drone operation and imaging, including three-dimensional imaging of underground crops like beets, potatoes and sweet potatoes.

NITROGEN OPTIMIZATION

Monica Schauer, a researcher in Dr. Matt Ruark’s UW-Madison Nutrient Cycling and Agroecosystems Lab, presented preliminary results from

continued on pg. 18



HARS Field Day attendees enjoyed seeing a 100-pound robot that Yi Wang (right) and her team acquired this year and is the perfect size for scouting snap bean and green pea fields. She outfitted the droid with orange Crocs™ so its lower appendages won’t damage the soil. Even wearing Crocs, it hops and turns.

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continued from pg. 17

the Nitrogen Optimization Pilot Program (NOPP).

Launched a year ago, the grant program is funded by the Wisconsin Department of Agriculture, Trade, and Consumer Protection and encourages growers to conduct on-farm research pertaining to the use of commercial nitrogen fertilizer.

Over 100 partners are working to update and improve nitrogen recommendations on 77 fields using three nitrogen rates and fertigation timings, and one plot with no nitrogen applied for each trial. The McCain Foods NOPP has two sites in Coloma and Plover.

Maria Caraza-Harter, a scientist and drone operator working with Dr. Jeff Endelman in the UW-Madison Department of Potato Breeding & Genetics, gave an update on the 177 breeding lines being trialed in Wisconsin, Minnesota and Michigan.

Of those, a yellow-skinned variety, purple potato and fingerling are ready for commercialization.

Dr. Russ Groves, UW-Madison Department of Entomology, provided information on insect management in potato and processing vegetables,



explaining that the pest population arrived early in 2024 and took hold.

“Some aphid species that are migrant have now overwintered here,” Dr. Groves said. “It was a mild winter with one week of below-zero temperatures and 10 inches of snow on the ground. There was no frost in the ground.”

“We’ve seen the green peach aphid colonizing in the southern half of the state since June,” he added, “and we’re between the first and second generations of Colorado potato beetles.”

Above: At the Antigo Field Day, UW Storage Research Facility Manager Amber Walker discussed her fresh market potato variety trial and an R-Leaf trial that pulls nitrogen from the air.

Below: During the HARS Field Day, Monica Schauer, a researcher in Dr. Matt Ruark’s UW-Madison Nutrient Cycling and Agroecosystems Lab, presented preliminary results from a Nitrogen Optimization Pilot Program.

UW-Madison Soil Extension Specialist Francisco Arriaga and Ph.D. student Carl Betz gave a rundown on “Challenges and Opportunities for Measuring Neonicotinoid and Nitrate



Load Losses from Potato Production in Sandy Soil.”

CHEMICAL LEACHING

The object of their study is to track water and neonicotinoid and other chemical leaching and movement through the sandy soil profile.

Jed Colquhoun, professor, UW-Madison Department of Horticulture, is an outreach specialist and Wisconsin Integrated Pest Management (IPM) program director. His presentation at the HARS Field Day entailed water quality and weed management research updates.

Regarding the wet 2024 growing season, Colquhoun remarked, “If you want to learn about herbicide solubility, this is the year. Some diluted, leached herbicides didn’t provide weed control.”

“We have a lot of huge potatoes sitting high in the hills,” he added, “and weeds pushing through. Growers might have to desiccate twice.”



At the Antigo Field Day, LARS Station Manager Kevin Gallenberg said, “This year was a little challenging as far as rain goes and low spots in the field. Nutrient runoff is a little bit of an issue.”

Dr. Amanda Gevens, chair, professor and Extension specialist in the UW-Madison Department of Plant Pathology, provided disease and research updates in potatoes and vegetables.

“This season has been generally hot

and wet. Visiting fields this last week, there are a lot of bacterial diseases happening,” Dr. Gevens noted. “Heat and humidity push disease risk.”

“We’ve seen pectobacterium in potato, and copper is the only true

continued on pg. 20

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continued from pg. 19



bactericide. We're taking a lot of calls and photos," she said. "So far, we're not aware of any late blight of potato or tomato in Wisconsin."

The HARS Field Day concluded with a social hour at the outdoor pavilion and a grilled chicken dinner with sweet corn, potato salad, and refreshments provided by the Associate Division of the Wisconsin Potato & Vegetable Growers Association (WPVGA).

GRILLED CHICKEN & SWEET CORN

Brady Patoka, who works for Jay-Mar, Inc. and sits on the Associate Division Board, volunteered to grill the chicken and sweet corn.

LARS Station Manager Kevin Gallenberg welcomed visitors to the Antigo Field Day, thanking the Wisconsin Potato Industry Board, WPVGA Associate Division, Wisconsin Seed Potato Improvement Association, Insight FS, Quinlan's

Left: Maria Caraza-Harter, a scientist and drone operator working with Dr. Jeff Endelman in the UW-Madison Department of Potato Breeding & Genetics, provided HARS Field Day attendees with an update on the 177 breeding lines being trialed in Wisconsin, Minnesota and Michigan.

Right: Rob Jarek from Timac Agro discussed the company's next generation agronomy tools at the Antigo Field Day.

Equipment, Riesterer & Schnell, and Langlade County for continued



UW-Madison Soil Extension Specialist Francisco Arriaga (right) and Ph.D. student Carl Betz gave HARS Field Day visitors a rundown on "Challenges and Opportunities for Measuring Neonicotinoid and Nitrate Load Losses from Potato Production in Sandy Soil." Arriaga and Betz hold up a trap that they position 24 inches deep in the soil to capture leaching neonics and other chemicals carried by water.

20 BC'T September



During his LARS Field Day presentation, Dr. Russ Groves, UW-Madison Department of Entomology, said it's been an interesting year with the absence of winter and that, "We've had 40-50% more beetles in the Central Sands, volunteers like nobody's business."



donations and support.

“This year was a little challenging as far as rain goes and low spots in the field,” he said. “Nutrient runoff is a little bit of an issue.”

James Spychalla of Kohm & Spychalla, LLC addressed field day attendees, telling them about a coordinated effort to form a producer-led watershed group in Antigo.

Wisconsin Seed Potato Certification Program (WSPCP) Associate Director Brooke Babler announced Gallenberg as having joined the program and gave an update on planting and inspections.

“It’s no surprise that we’re seeing PVY,” she stated, “leading to some down-classifications. Like last year, about 9,500 acres of seed potatoes have been submitted for certification.”

Babler said the WSPCP is working with other states to get them up to speed and collaborate direct tuber testing, with no other states at this time allowed to use direct tuber testing as their post-harvest test.

Walker also attended the Antigo Field Day and discussed her variety trial at LARS.

FRESH MARKET POTATOES

“The WPVGA freed up funding for us to look at fresh market material generated in partnership with Dr. Endelman on potato varieties that will work for growers up here,” she

said. “We have purples and yellows that did well at Hancock last year. We’re also doing an R-Leaf trial that pulls nitrogen from the air.”

Rob Jarek from Timac Agro discussed the company’s next generation

Left: UW-Madison Department of Horticulture Professor Jed Colquhoun’s presentation at the HARS Field Day entailed water quality and weed management research updates.

Right: UW Extension Regional Crops & Soils Educator Scott Reuss led a weed identification session for Antigo Field Day attendees.

continued on pg. 22



Dr. Amanda Gevens, chair, professor and Extension specialist in the UW-Madison Department of Plant Pathology, gave disease and research updates in potatoes and vegetables at the HARS Field Day.

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continued from pg. 21



agronomy tools such as DUO MAXX® that bonds to fertilizer and holds nutrients, not allowing them to leach. Another Timac Agro product, FERTILEADER GOLD®, was trialed on potatoes that showed no symptoms of PVY in grow-out.

Dr. Gevens gave disease updates, saying 2024 saw an earlier startup in spore production for early blight, in mid-June, and that she was anticipating lesions on the field.

“When moving sprays up earlier,

we’re seeing better control,” Gevens noted. “When you manage early, you’re doing yourself a favor.”

She gave an overview of a pink rot study at HARS, white mold studies, and variety trials with industry partners.

“We do have a common scab nursery here on this farm, and will be taking advantage of that next year,” Dr. Gevens stated.

During his LARS Field Day presentation, Dr. Groves said it’s been

Above: Antigo Field day attendees walked through a Potato Virus Y (PVY) Initiative field where treated and untreated varieties of potatoes showed varying symptoms of the virus. The PVY plots are set up as part of a Specialty Crop Research Initiative through the National Institute of Food and Agriculture (NIFA), and the trials have been conducted at LARS for a few years.

an interesting year with the absence of winter and that, “We’ve had 40-50% more beetles in the Central Sands, volunteers like nobody’s business. A mass of adult beetles moved from corn fields to potato fields.”

“Another insect I fear has done well this year is the green peach aphid,” Groves remarked, and then, pointing to a suction trap at LARS, continued, “We captured our first green peach aphid in that trap on May 25. It could have been from elsewhere, but I don’t think so. I think they overwintered here.”

COLONIZING SPECIES

“If you have colonizing species in the field, you should do something about it now,” he added.

Groves also discussed figuring out a way to manage without neonicotinoids (if they someday become regulated), which he estimates provide half to two-thirds

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of in-season protection against aphids.

UW Extension Regional Crops & Soils Educator Scott Reuss led a weed identification session for field day attendees.

“Knowing what you’re dealing with or killing is important,” Reuss said. “Is the weed an annual, biannual or perennial?” He then held up examples of each from a variety of weeds he had gathered and brought with him to LARS.

“Identification—that’s where scouting comes into play,” he said, “preventing weeds from taking root.”

Field day attendees then exited the wagons to walk a Potato Virus Y Initiative field where treated and untreated varieties of potatoes show varying symptoms of the virus. Recombinant strains don’t show as many symptoms, making it difficult to see PVY in potato.



UW-Madison Associate Professor Yi Wang set up a tent at HARS so people could see a live demonstration on the newest in drone operation and imaging.

The PVY plots were set up as part of a Specialty Crop Research Initiative through the National Institute of Food and Agriculture (NIFA), and the trials have been conducted at LARS for a few years.

Following the presentations, food and refreshments were provided by Insight FS and the WPVGA Associate Division at East City Park in Antigo. **BC'T**



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