

IOWA STATE UNIVERSITY

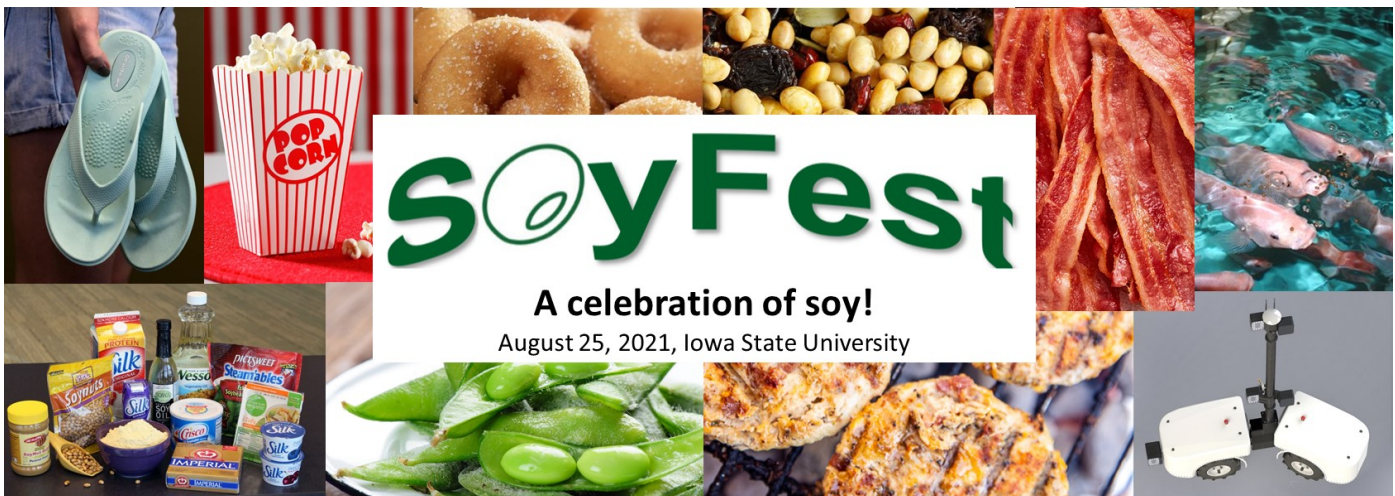
Iowa Soybean Research Center

July 2021 Newsletter

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Visit our website at www.iowasoybeancenter.org

ISRC to Host Inaugural SoyFest August 25



Join us Wednesday, August 25th for [SoyFest!](#) In recognition of August as "Soybean Month" in Iowa and the start of the fall semester at Iowa State University, the ISRC will be hosting its first ever SoyFest. This free, outdoor celebration of all things soy will be held from 10 a.m. to 2 p.m. on central campus south of Parks Library. The event will feature several vendors in tents to resemble a small-town fair and will highlight the importance of soy and its many uses from food to new and innovative products.

While the event is intended as a fun, educational event for Iowa State students, all are welcome to attend. Join us for a free cookout, soy-related snacks, cooking and robotic demonstrations, giveaways, samples, carnival games and a few surprises along the way! Students will be able to enter a free drawing for high-tech prizes and more.

Thank you to the following businesses and student groups contributing to SoyFest!

Cargill, Syngenta, REG, Iowa Soybean Association, Mahalo's Mini Donuts, Wheatsfield, Okabashi Shoes, Iowa Smokehouse, Iowa Turkey Federation, Iowa Food & Family Project, Morning Bell Coffee Roasters, ISU Creamery, Center for Crops Utilization Research, Agricultural Research Service - U.S. Department of Agriculture; and ISU Clubs: Agronomy, Culinary, Dietetics, Food Science, Grill Team and several research labs.

In the event of bad weather, SoyFest will be relocated to Iowa State's Memorial Union.

ISRC to Host Meals from the Heartland Event

A kickoff event for SoyFest will be held on August 24th when the ISRC hosts Meals from the Heartland from 2:30-4:30 p.m. at the Hansen Agriculture Student Learning Center. Volunteers from Iowa State's College of Agriculture and Life Sciences will help package 20,000 meals, which will be sent to those in need at various locations around the world. [Meals from the Heartland](#) is a non-profit organization working to tackle issues of global hunger and food insecurity locally and internationally.



Empowering people to save starving children

In keeping with the ISRC's focus on soybeans and their importance as being high in protein and meeting key nutritional needs, the ISRC will be packaging soy-protein-based meals. Joel O'Dell with Meals from the Heartland said, "Soy protein is the most life-saving ingredient in our formula." He also mentioned that the majority of the meals packaged at this event likely would go to locations in Central America, Haiti and the Philippines.

The ISRC would like to thank Cargill and Syngenta for providing funding to cover the costs of the soy-protein formula, making this very special SoyFest-related event possible.

ISU Creamery Creates Flavor for SoyFest

Thank you to the [ISU Creamery](#) for taking on the task of creating a new ice cream flavor specifically for SoyFest! The special blend called "SoyFest" features chocolate custard ice cream with soy milk and dark-chocolate-covered roasted soybeans.

After a taste test, ISRC staff can safely say this will be a hit with chocolate ice cream lovers. The creamy, chocolate ice cream is enjoyable on its own, but the satisfying crunch from the chocolate-covered soybeans is what really makes it special.

Join us for SoyFest on August 25th and enjoy a free sample!



UPL Partners with the ISRC

UPL has joined the ISRC as an industry partner. [UPL](#) is the center's 10th industry partner, joining AMVAC, BASF, Bayer, Cornelius Seed, Corteva Agriscience, FMC, GDM, Merschman Seeds and Syngenta.

"UPL is committed to collaborating within the agriculture industry to provide new, innovative solutions that alleviate grower challenges. The Iowa Soybean Research Center shares this commitment, and we are excited to partner with them in delivering innovative research and resources to soybean growers," said Lynn Justesen, UPL Technical Service Lead, Row Crop.

"UPL is an exciting edition to the center's forward-thinking group of industry partners. With a shared focus on sustainability and regenerative agriculture efforts, UPL will be a good fit," said Greg Tylka, director of the Iowa Soybean Research Center and a professor of plant pathology and microbiology at Iowa State.

"We welcome UPL's support of the center and in helping us meet the needs of Iowa's soybean farmers through innovative research toward the goal of maximized farmer profitability through optimized productivity and sustainability," said Ed Anderson, senior director of research for the Iowa Soybean Association and chair of the Iowa Soybean Research Center's Industry Advisory Council.



ISRC Affiliates Receive ISA Research Funding



At left, ISU researcher and ISRC affiliate Danny Singh provides a soybean breeding update to the ISA Supply Committee. At right, ISU's new Plant Pathology and Microbiology and Entomology Chair Steve Harris introduces himself, while ISRC Director Greg Tylka listens.

ISRC staff attended the Iowa Soybean Association's summer Supply Committee meeting on June 30. Greg Tylka, ISRC director, gave an update on the center's activities, Kendall Lamkey, agronomy chair, provided perspective on Iowa State's activities following the pandemic and Steve Harris, new plant pathology and microbiology and entomology chair, introduced himself to the group. ISU researchers who received ISA/check-off funding in 2020 provided updates on their projects, which included ISRC affiliates Prashant Jha, Steve Whitham and Danny Singh.

The ISA Supply Committee also reviewed research proposals for 2021-2022 at the meeting. The following projects were approved for soybean-checkoff contract research funding by the full ISA Board on July 1.

Erin Hodgson, entomology: "Aphids and Midges - Something Old and Something New in Iowa Soybean"

Prashant Jha, agronomy: "Chaff Lining: A Harvest Weed Seed Control Technology for Mitigating Herbicide Resistance and Grain Contamination in Iowa Soybean"

Leonor Leandro, plant pathology and microbiology: "Investigating the Use of Nano-encapsulated Seed Treatments for Improved Management of Soybean Sudden Death Syndrome"

Mark Licht, agronomy: "Iowa Contributions to Amplifying Extension Impact: Agronomists Collaboratively Delivering Soybean Best Management Practices"

Daren Mueller, plant pathology and microbiology: "Evaluating Foliar Fungicides and Monitoring for Fungicide Resistance"

Matt O'Neal, entomology: "Finding Pyrethroid-resistant Aphids Before it is Too Late"

Alison Robertson, plant pathology and microbiology: "Under Pressure: The Role of Partial Resistance in Soybean on Pathotype Diversity in *Phytophthora sojae*"

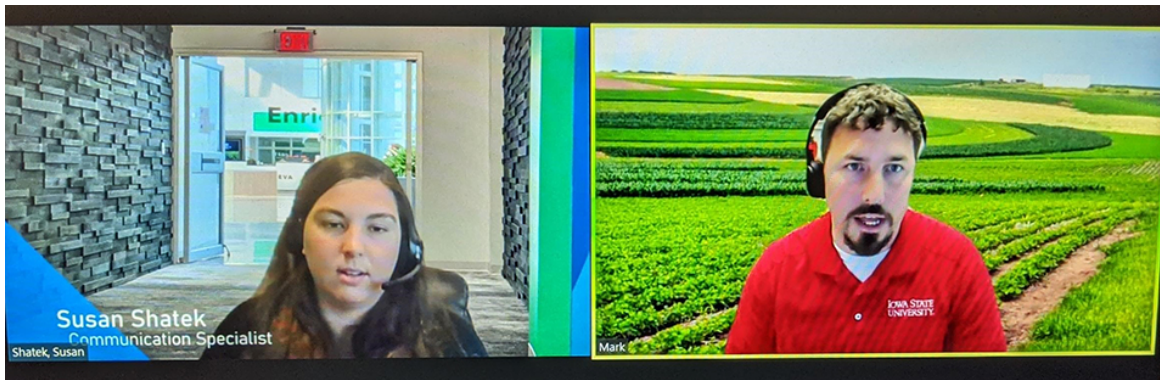
Danny Singh, agronomy: "Breeding High Yielding Soybean Cultivars for Iowa Farmers"

Michelle Soupir, agricultural and biosystems engineering: "Integrated Agricultural Systems to Promote Soil Health and Environmental Resilience"

Greg Tylka, plant pathology and microbiology: "Evaluating SCN-resistant Soybean Varieties and Nematode-protectant Treatments to Increase Profitability for Iowa Soybean Farmers"

Each project will be entered into the [National Soybean Checkoff Research Database](#) where readers can find information about project researchers, budget, objectives, experimental plan, semi-annual progress report and final results including how farmers will benefit from the work.

ISRC Hosts Virtual Tours with Corteva Agriscience



Susan Shatek, Corteva and ISRC affiliate Mark Licht, agronomy, ISU host one of six Corteva virtual tours.

Each year, the ISRC hosts in-person field tours for Iowa State graduate students, postdocs, staff and faculty in agriculture and biosystems engineering, agronomy, entomology and plant pathology and microbiology. Since in-person events were not possible in 2020 and spring 2021 due to the pandemic, ISRC and [Corteva Agriscience](#) staff put their heads together and came up with the idea to host a series of live, virtual tours in May and June. Corteva created a series of videos focusing on their areas of research while highlighting their state-of-the-art research facilities, making the virtual tours possible.

Each session covered different topics and featured Corteva's facilities in Johnston, IA, and Indianapolis, IN, including Corteva's greenhouse complex and genotyping lab, insectary, pathology/diagnostic lab and seed propagation lab and growth chambers.

Iowa State cropping systems expert and ISRC affiliate Mark Licht and Corteva's Susan Shatek hosted the tours while Corteva researchers joined in at the end of each session to answer questions and to share information. Thank you to Corteva Agriscience for making this tour series possible!

COALESCE Group Includes ISRC Affiliates

A group of researchers applying and integrating layers of technologies through an effort called COALESCE (COntext Aware LEarning for Sustainable CybEr-agricultural systems) were recently awarded a five-year, \$7 million Cyber-Physical Systems Frontier award jointly funded by the National Science Foundation and the U.S. Department of Agriculture's National Institute of Food and Agriculture. The COALESCE team is led by Soumik Sarkar and includes Baskar Ganapathysubramanian, (both mechanical engineering), and ISRC affiliates Danny Singh and Arti Singh, agronomy, Daren Mueller, plant pathology and Peter Kyveryga, Iowa Soybean Association.



Rather than tending fields by the hundreds of acres, farmers could one day tend each and every plant with the help of machine learning, robots and other technologies. [Read more.](#)

ISA/ISU Researchers Form Strategic Initiative



At left, Roger Wolf, ISA, speaks with Lisa Schulte Moore, ISU, during April's strategic initiative meeting. At right, ISU researchers Gwyn Beattie, Matt O'Neal and Greg Tylka discuss ideas.

In April, researchers from the Iowa Soybean Association met with a diverse group of researchers from Iowa State (including the ISRC and its affiliates) to discuss the creation of a three-year Strategic Initiative between the two entities. The initiative would provide opportunities for research collaboration and leveraging of funding and would lead to longer-range research opportunities that cover many areas with outcomes that would directly benefit farmers. Roger Wolf, director of the ISA's Research Center for Farming Innovation said, "This is a tremendous opportunity to formalize an even broader relationship between the ISA and ISU. ISU is the important piece when it comes to data and science information."

Many topics were discussed at the brainstorming session. Lisa Schulte Moore, professor of natural resource ecology and management, suggested research focusing on integrating crops and livestock systems and sustainability. Matt Helmers, professor of agriculture and biosystems engineering, talked about water management and supplemental irrigation (water fed from on-farm ponds). With the projection for wetter springs/drier summers, what would the water quality benefits (yield potential) be, how would it be managed and is it financially feasible? Theo Gunther, ISA's senior research program development coordinator, stressed the need for on-farm research on microbiomes, "Farmers are looking to understand changes to microbiome and what it means for disease suppression and effect on yields." Additional research areas mentioned included multi-trait seeding mixes, investing in habitat improvement and species recovery, opportunities to suppress disease, diversified cropping systems and manure management encouraging farmers to shift to coupling practices instead of using just one approach.

Ultimately, the group decided an integrated systems approach encompassing agronomics and conservation with overarching analytics for data-driven decision tool development options in the 'regenerative ag' areas has greatest potential to bring unique value to researchers and farmers. Possible projects may include the areas of prairie strips, manure management, irrigation, nutrient and habitat enrichment, precision conservation, profitability, more pasture-based systems, prairie and diversification of land use. Next steps include the development of a project plan by the ISA.

ISRC Affiliates Participate in ISU Extension Field Days

Each year ISU Extension hosts field days for farmers and agronomists at several ISU Research Farms around the state. On June 23, Iowa State researchers and ISRC affiliates participated in a field day at Iowa State's Northern Research and Demonstration Farm near Kanawha.

A broad range of crop production and management topics were discussed, highlighting the importance of research in agriculture. Dean of Agriculture and Life Sciences Dan Robison started the day by highlighting the need for research and extension facilities at Iowa State's outlying farms, after which farmers and industry participants were taken to different field locations to hear research updates on soybean-related topics. Antonio Mallarino provided insight on the micronutrient needs of soybean production in north central Iowa; Daren Mueller offered advice on managing white mold in soybean production; and Greg Tylka sounded the alarm on soybean cyst nematode (SCN) resistance.



Clockwise from top left: Antonio Mallarino, Greg Tylka and Daren Mueller speak on soybean-related topics during an ISU Extension field day in Kanawha.

Additionally, the following Iowa State faculty and staff addressed the importance for research in these areas: Erin Hodgson, insect pest management; Mark Licht, crop management; Matt Helmers, ag drainage and water quality needs; and Ryan Bergman, precision agriculture.



ISU weed scientist Prashant Jha speaks to a field day group in a patch of marestail or horseweed.

On July 8, ISU's agronomy department held a Weed Science Field Day at Curtiss Farm near Ames featuring ISU researcher and ISRC affiliate Prashant Jha. He gave advice for managing herbicide-resistant weeds, including resistance screening and cereal rye termination.

Jha and his research staff highlighted the growing problem of weed resistance to herbicide treatments. In working to find alternative solutions to herbicide resistance, Jha and his research team have been trying different methods of containing weed seed at harvest, such as using a chaff lining to catch weed seeds and a combine attachment called a seed destructor, which destroys weed seeds by grinding them into a fine powder.

Researcher Spotlight: Erin Hodgson

ISRC affiliate Erin Hodgson is a professor of entomology at Iowa State with extension and research responsibilities in corn and soybean. She is focused on improving corn and soybean production by using integrated pest management tactics to protect yield and increase overall farmer profits.

Most recently, Iowans may know her as the state's go-to person for soybean gall midge – a new insect that is currently impacting the western half of Iowa and several surrounding states. She works closely with researchers involved with the [Soybean Gall Midge Alert Network](#).

Current research projects on gall midge that Hodgson's involved in include evaluating management tools, like chemical and cultural control tactics. This summer will start the second year of a large germplasm screening to assess soybean genetics for tolerance to soybean gall midge larvae.

Aside from gall midge, Hodgson leads several ISA-funded projects for soybean aphid, the most common soybean insect pest in Iowa and the north central region. She evaluates new insecticides and helps to monitor for pyrethroid resistance in northern Iowa counties. In addition, she has ongoing research projects for Japanese beetle, bean leaf beetle and aphids in corn. She also helps monitor emerging field crop pests and invasive insect species.

Hodgson started working in the Department of Entomology at Iowa State University in 2009. Originally from North Dakota, she graduated with BS degrees in biology and in botany and an MS in entomology from North Dakota State University and a PhD in entomology from the University of Minnesota.

In 2020, Hodgson received the Iowa State University Award for Distinguished Service in Extension and Outreach.



Erin Hodgson from video: [Where to Find Soybean Gall Midge](#).

Get to Know IAC Farmer Rep: Steve McGrew



Steve McGrew, photo by Joseph Hopper, Iowa Soybean Association

Steve McGrew is one of three Iowa soybean farmer representatives serving on the ISRC's Industry Advisory Council. The council serves to identify research needs in the areas of soybean production and protection for the center. Farmer representatives serve three-year terms on the council and provide input on what research topics are of importance from the soybean farmer perspective.

McGrew is a fourth generation farmer and farms with his three brothers and nephew near Emerson in southwest Iowa. The McGrews are deeply committed to conservation practices and they have experimented with cover crops in their no-till corn and soybean rotation for several years. "I think that terraces and no-till do a lot to help slow erosion. Adding a cover crop can especially take it to a sustainable level," according to McGrew.

Of his time serving as a farmer representative on the Industry Advisory Council, McGrew said, "I have enjoyed being a part of the decision making process to decide which research areas are funded. It really is a grass roots effort to determine projects that will help our state's farmers. I am interested in hearing about different ideas that can be funded to help us farm more profitably. There is a lot to learn."

McGrew is a member of Practical Farmers of Iowa and the Iowa Farm Bureau in which he volunteers on the legislative committee. He has been involved in on-farm research opportunities with the Iowa Soybean

Association. McGrew is a graduate of Iowa State University.

ISRC Affiliate Faculty Receive Award/Promotion



Steve Whitham



Peter Kyveryga

The ISRC would like to congratulate the following research affiliates. Steve Whitham, a professor of plant pathology and microbiology was selected for the Regents Award for Faculty Excellence. Peter Kyveryga was promoted to affiliate associate professor of agronomy. He is also a senior research scientist – analytics for the Iowa Soybean Association.

Upcoming Events

- Wed. at noon - [Weekly Iowa Learning Farms Webinars](#)
- Wed., August 25, 2021, ISU Campus, Ames, IA - [SoyFest](#)



Special thanks to Dr. Keith and Virginia Smith for providing funding to make this newsletter possible.



Have a newsletter idea or wish to subscribe? Email us at ISRC@iastate.edu