

# IOWA STATE UNIVERSITY<sup>®</sup>

## Iowa Soybean Research Center

### July 2022 Newsletter

Vol. 14

## Soybean Centers Coordination Group Meets in Illinois

Members of the Soybean Centers Coordination Group (SCCG) met at the Illinois Soybean Association offices in Bloomington, Illinois in May to discuss research priorities and opportunities. Illinois, Indiana, Iowa, Minnesota, Missouri and Ohio were represented at the meeting as well as the US Soybean Research Collaborative (USSRC).

Ed Anderson of the Iowa Soybean Association opened the meeting by explaining how there are many opportunities to connect the soybean centers and bring people together with unique/unrealized opportunities to develop good partnerships among researchers who wouldn't have otherwise collaborated across states.



From left to right are members of the Soybean Centers Coordination Group who attended the meeting in May 2022 : David Kee, MN; Joe Rorick, IN; Ed Anderson, IA; Jason Bond, IL; Katherine Drake Stowe, USSRC; Greg Tylka, IA; Jill Cornelis, IA; Katy Rainey, IN; Leah McHale, OH; Eric Oseland, MO; Greg Luce, MO; and Tom Fontana, OH.

Katy Rainey, Purdue University, gave the group an overview of the four pre-proposals invited by the USB to submit full proposals. Two of the proposals, Soy Food and Soy Food Economics, were developed from the Soy Convening meetings led by Rainey last fall at Purdue University, Iowa State University and the University of Missouri.

1. Soy Food – a multi-state project involving the University of Arkansas, University of Missouri and Purdue University
2. Soy Food Economics – a single state proposal led by Jason Lusk, Purdue University  
*(\*If USB awards either of these projects, a request for matching funds will be made to FFAR.)*
3. Regenerative Ag – a multi-state project involving Iowa State University, University of Kentucky, University of Missouri, Purdue University and Southern Illinois University
4. Unmanned Aerial Systems (UAS) – a single state proposal led by Katy Rainey, Purdue University

Two additional soybean research topics for possible proposal submissions were identified and discussed by the group: 1) seeding rates and 2) new uses for soy meal. Researchers would like to test seeding rates on earlier maturity group beans because current research on seeding rates has only been done for later maturity group varieties. This project could be a good one to share with current multistate on-farm research programs. As for the topic of new uses for soy meal, the group discussed the anticipation of a large increase in the demand for soy oil, which then begs the question...what will be done with the soy meal that results from processing?

In addition, USSRC Director Katherine Drake Stowe talked about how the USSRC Research Forum and Think Tank held in Indianapolis, IN, in August 2021, set the stage for thinking more broadly across the soy value chain. A second annual forum and think tank will be held July 18-20, 2022. Invited research delegates (farmers, staff, university and private sector researchers) from participating soybean-producing states will meet to discuss soybean research needs and efforts to meet those needs.

Beyond organizing the forum and think tank, the USSRC will lead and coordinate national efforts to understand, communicate and coordinate member states' research portfolios and will identify where there are gaps and/or opportunities for collaborative work in supporting novel and innovative public/private partnerships to address current and future needs. Because the USSRC research forum occurs annually and many individuals involved in the SCCG also participate in USSRC activities, it was decided that the SCCG would meet annually around the USSRC's Research Forum meeting starting this July.

## ISRC Holds Staff Retreat

Iowa Soybean Research Center staff met in June for an annual retreat. The main topic of discussion revolved around plans for the center's Industry Advisory Council (IAC) meeting set for September 15<sup>th</sup> at the Iowa Soybean Association's offices in Ankeny. The group did an initial review of research concept submissions and reviewed its annual stakeholder report. The group also did some planning for upcoming ISRC activities that include an ISA Board tour of ISU research programs and facilities in September as well as a possible "Think Tank" event that will be led by the ISRC in early 2023.



From left: ISRC IAC Chair and ISA Senior Director of Research Ed Anderson, ISRC Industry Partner Recruiter Steve May, ISRC Director Greg Tylka, ISRC Center Coordinator Jill Cornelis and (not pictured) ISRC Communications Coordinator Kara Berg.

# ISRC Welcomes New Partners Albaugh and Mosaic

[Albaugh](#) and [Mosaic](#) have joined the Iowa Soybean Research Center at Iowa State University as industry partners.

In this role, the companies will provide financial support to the center, which will be leveraged with soybean checkoff funds from the Iowa Soybean Association to support soybean research at the university. Also, the companies will each have a representative serving on the ISRC's Industry Advisory Council, which provides guidance on research needs and funding priorities for the center.



“Albaugh is proud to join the Iowa Soybean Research Center as an industry partner. The advisory council presents a great opportunity for collaboration among industry stakeholders to provide input on research needs and priorities that benefit soybean producers in Iowa and beyond. As an Iowa-based company firmly rooted in agriculture and committed to providing innovative and strategic solutions to farmers, we are excited to have a seat at the table,” said Chris Zita, director of seed treatments for Albaugh.

“Mosaic is excited to join the Iowa Soybean Research Center to provide our agronomic expertise and advanced crop nutrition knowledge to further optimize soybean yields and improve sustainable agricultural practices across all of Iowa farmland,” said Tryston Beyrer, Crop Nutrition Lead with The Mosaic Company.

“We are delighted to have Albaugh and Mosaic join the center as industry partners,” said Greg Tylka, director of the Iowa Soybean Research Center and professor of plant pathology and microbiology at Iowa State. “Albaugh has long been recognized as a global provider of a broad portfolio of crop protection products. As such, they will provide valuable insights and guidance to the center as it strives to identify research that is needed to support soybean production in Iowa.”

In addition, Tylka said of Mosaic, “Iowa corn and soybean farmers understand the importance of fertilizers in maximizing crop production. Mosaic has a long-standing reputation as a leading provider of potassium and phosphorus fertilizers. With business operations in nine countries and customers in 40, Mosaic will bring a unique global perspective to the center that will help us identify research needs to support Iowa's soybean farmers for decades to come.”

Ed Anderson, senior director of research for the Iowa Soybean Association and chair of the ISRC's Industry Advisory Council echoed Tylka's sentiments. “We look forward to working with Albaugh and Mosaic and welcome their support of the center. They will be able to provide unique insight on ways to optimize soybean productivity and sustainability to benefit Iowa's soybean farmers.”

# ISA Provides Continued Research Funding to ISU



From front left, ISA board members Suzanne Shirbroun, Jeff Jorgenson, Scot Bailey, Lee Brooke and in back from left ISA research staff Joe McClure and Roger Wolf listen to a presentation during the ISA's summer supply committee meeting. *Photo by Joclyn Bushman, Iowa Soybean Association*

ISRC staff attended the Iowa Soybean Association's summer Supply Committee meeting on June 29. Greg Tylka, ISRC director, gave an update on the center's activities, while Kay Stefanik, Iowa Nutrient Research Center, Kendall Lamkey, agronomy, and Steve Harris, plant pathology, entomology and microbiology also gave updates. ISU researcher, Leonor Leandro, gave an update on several research projects focused on soybean sudden death syndrome.

The ISA Supply Committee reviewed research proposals for 2022-2023 at the

meeting. The following projects were approved to receive continued funding by the full ISA Board on June 30.

**Michael Castellano**, principal investigator (PI) agronomy and co-PIs Sotirios Archontoulis, agronomy and Theo Gunther, Iowa Soybean Association: "Soybean Nitrogen Fertility for High-Yielding Soybeans Following High-Yielding Corn and Winter Cereal Rye Cover Crops"

**Prashant Jha**, PI, agronomy and co-PI Ramawatar Yadav, agronomy: "Weed Seed Destructor: A Novel Harvest Weed Seed Control Technology for Mitigating Herbicide-Resistant Seed Banks"

**Leonor Leandro**, PI, plant pathology, entomology and microbiology (PPEM) and co-PI Lingling Liu, Agricultural and Biosystems Engineering (ABE): "Investigating the Use of Nano-encapsulated Seed Treatments for Improved Management of Soybean Sudden Death Syndrome"

**Mark Licht**, PI, agronomy and co-PI Fernando Marcos, agronomy: "Amplifying ISA Investment Through National Collaborative Research"

**Daren Mueller**, PI, PPEM and co-PI Edgar Nieto, PPEM: "Evaluating Foliar Fungicides and Monitoring for Fungicide Resistance"

**Matt O'Neal**, PI, PPEM and co-PIs Erin Hodgson, PPEM and Brad Coates, USDA: "Restoring Pyrethroid Susceptibility Among Resistant Soybean Aphids"

**Alison Robertson**, PI, PPEM: "Under Pressure: The Role of Partial Resistance in Soybean on Pathotype Diversity in *Phytophthora sojae*"

**Danny Singh**, PI, agronomy and co-PIs Baskar Ganapathysubramanian, mechanical engineering (ME), Daren Mueller, PPEM, Matt O'Neal, PPEM, Supratim Sarkar, ME, Arti Singh, agronomy and Greg Tylka, PPEM: "Breeding High Yielding Soybean Cultivars for Iowa Farmers"

**Michelle Soupir**, PI, ABE and co-PIs Daniel Andersen, Natasha Hoover and Rameshwar Kanwar, ABE and Marshall McDaniel, agronomy: "Integrated Agricultural Systems to Promote Soil Health and Environmental Resilience"

**Greg Tylka, PI, PPEM:** “Evaluating SCN-resistant Soybean Varieties and Nematode-protectant Seed Treatments to Increase Profitability for Iowa Soybean Farmers”

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

## IPRMP Holds Workshop

In April, the [Iowa Pest Resistance Management Program](#) (IPRMP) held a workshop at Iowa State University for Iowa agricultural stakeholders that focused on pest resistance management.

Established in 2017, the IPRMP is an Iowa-specific effort to address pests (including weeds, insects and diseases) that can adapt and become resistant to chemical, genetic and agronomic control practices causing yield loss, increasing the cost of production and limiting farmers’ future pest management options. The ISRC provided funding and support during fiscal years 2016 and 2017 to help the program get started.



IPRMP lead Steve Bradbury gives an overview of the program’s activities.

Iowa State’s College of Agriculture and Life Sciences Dean Dan Robison gave opening remarks followed by IPMRP lead Steve Bradbury, natural resource ecology and management, who provided some background on the group. A panel discussion followed that included farmers, agronomists, crop advisers, retailers, technology providers and university faculty and staff. The group discussed trends in weed, insect and pathogen resistance and management options. One panelist, Amy Asmus of Asmus Farm Supply, said she thought resistance was getting worse, specifically mentioning aphids and frogeye leaf spot. To compound matters, she said, “the ag sector is now facing a shortage of

fungicides and insecticides due to supply chain issues and next year could be even more difficult. However, these problems may also pose some opportunities in that farmers will have to move to multi-action planning and away from relying solely on glyphosate.”

In the afternoon, Iowa’s Secretary of Agriculture Mike Naig gave brief remarks before joining in on small group breakout sessions. The groups discussed what successful resistance management looks like, how these practices can be replicated elsewhere and what needs to happen to change future outcomes.



Chris Gasser, a farmer from Corning, IA, leads a group breakout session.

# Researcher Spotlight: Mark Licht

ISRC affiliate Mark Licht is an associate professor of agronomy and an extension cropping systems specialist with Iowa State University. His extension, research and teaching program is focused on how to holistically manage Iowa cropping systems to achieve productivity, profitability and environmental goals. His research is centered on varied aspects of soybean, corn and cover crop management as well as agronomic implications of precision technologies.

Licht is a valuable source of information for farmers and fellow ag researchers, routinely called upon by agricultural media outlets for his advice and opinion. He regularly provides articles for *Wallaces Farmer* and Iowa State's [Integrated Crop Management website](#).



Mark Licht

Raised on a farrow to finish, corn-soybean farm in North Central Iowa, Licht says that his involvement in his high school FFA program led him to Iowa State University, where he earned B.S. degrees in Agronomy and in Agricultural Extension Education, an M.S. in Soil Science and a Ph.D. in Crop Production and Physiology.

Fascinated by agronomy, Licht says the best part of his job is getting to interact with farmers and agronomists and continually learning new things.

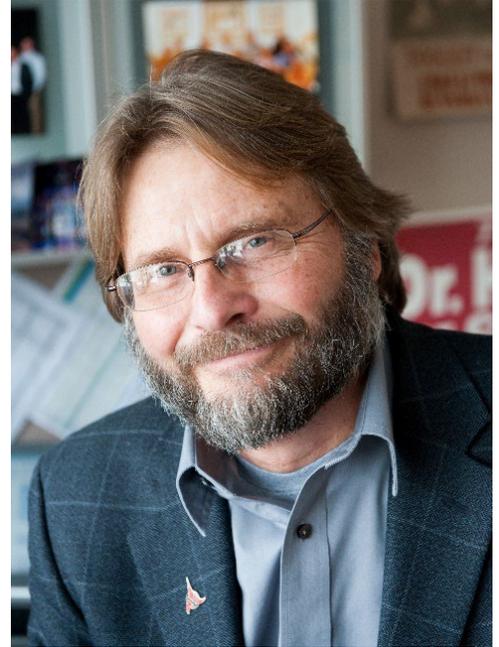
“A large focus of my research has been on how to help ease adoption of cover crops into Iowa’s corn-soybean cropping system,” says Licht. “I continue to do field evaluation of biologicals and fertilizer products on both corn and soybean. And, I’m starting a new trial to better understand soybean seeding rates.”

Licht also teaches two courses in the M.S. agronomy distance program, a new travel course for agronomy undergraduates and an “Experiences in Plant Science” ISU Extension course.

# Get to Know IAC Rep: Stott Howard, Syngenta

Stott Howard is Heartland Region Head for Syngenta's Crop Protection Field Development organization and serves as Syngenta's representative on the ISRC's Industry Advisory Council. Syngenta's Heartland Region is comprised of 13 scientists across nine Midwestern states who are focused on the development and characterization of pest control technologies.

During his 30 plus year tenure with [Syngenta](#), he has filled many roles ranging from a bench scientist working with chemists on the discovery of new herbicides to a global technical manager responsible for developing strategies for corn, cotton and soybean herbicides. These different roles have afforded him the opportunity to travel extensively and reside in other countries. Howard notes that meeting farmers from around the world is always inspirational. "No matter what country, no matter what type of government, farmers are always exemplary citizens in their community," said Howard.



Stott Howard

Howard has served as Syngenta's representative on the ISRC's Industry Advisory Council for four years and believes that it is time very well spent. "I see tangible outputs from the ISRC's support of research projects. For example, in 2019, the ISRC supported ISU weed scientist Prashant Jha's hyperspectral imaging project and at the 2021 North Central Weed Science Society (NCWSS) annual meeting one of Jha's graduate students, Austin Schleich, presented the poster *Hyperspectral Imaging for Early Detection of Herbicide Resistant Amaranthus tuberculatus in Soybean Production Fields*. The poster was very well received by the society and is now an important piece of literature in this area of science. This is fantastic work and I look forward to continuing my involvement with the ISRC," said Howard.

Howard received an undergraduate degree in horticulture from Utah State University and a Ph.D. in weed science from Washington State University. Prior to joining Syngenta, he was as an extension weed scientist with Washington State University. He has served as a board member of the NCWSS and was president of the organization in 2020.

For those that know Howard, know he can often be spotted wearing his beloved LA Dodgers cap. And, while Howard will tell you that he very much enjoys his career in agriculture, he is quick to add, "I always keep an eye on incoming telephone calls....hoping that the Los Angeles Dodgers will finally pick up my option."

## Episodes from CropsTV Available on YouTube



Episodes from the second season of CropsTV from are now available for public access on the [ISU Extension and Outreach - Crops Team YouTube channel](#). Just go to their homepage and look under Playlists.

## American Phytopathological Society Honors ISU Researchers

Congratulations to the following plant pathology, entomology and microbiology faculty and ISRC affiliates who were recognized by the American Phytopathological Society for their contributions and impacts in research, teaching and extension.

[Leonor Leandro](#) received the Excellence in Teaching Award, [Daren Mueller](#) received the Excellence in Extension Award and [Steve Whitham](#) was named an APS Fellow. [More...](#)



From left, Leonor Leandro, Daren Mueller and Steve Whitham

## SCN Coalition Honored with PRSA Silver Anvil Award

The SCN Coalition's public relations campaign to move more soybean farmers to actively manage the soybean cyst nematode (SCN), "Take the Test Beat the Pest," was the recipient of the Public Relations Society of America's (PRSA) [Silver Anvil Award](#) in the "Issues Management" category. For more than 75 years, the Silver Anvil has been considered an icon of the communications profession. The award ceremony, held in New York City on May 19, 2022, recognized and honored the best communications and public relations campaigns from around the country.

Greg Tylka, plant pathology, entomology and microbiology and director of the Iowa Soybean

Research Center, was part of the team that received the prestigious award. Tylka and other leaders of the SCN Coalition, a public-private partnership across 28 states and Ontario, Canada, were honored for efforts to raise farmer awareness of SCN. The coalition's public relations campaign resulted in 18% more farmers actively managing SCN, resulting in a savings estimated at hundreds of millions of dollars annually. The SCN Coalition is funded by the North Central Soybean Research Program, the United Soybean Board and nine corporate partners.



SCN Coalition leaders, Greg Tylka (far left) and Sam Markell (far right), attended the celebration event honoring PRSA's Silver Anvil Award winners along with Max Wenck and Julianne Johnston from MorganMyers.

# University Honors

## Helmers Honored with Brent and Cindy Hart Professorship



From left, Brent and Cindy Hart with Matt Helmers

ISRC affiliate and Director of the Iowa Nutrient Research Center Matt Helmers, agricultural and biosystems engineering, was the inaugural recipient of the Brent and Cindy Hart Professorship. Helmers was presented the professorship at a May 6 medallion ceremony hosted by Dan Robison, Endowed Dean's Chair in the College of Agriculture and Life Sciences. [More...](#)

## C-Change Receives Interdisciplinary Team Research Award

ISRC affiliates Marshall McDaniel, agronomy, and Lisa Schulte Moore, natural resource ecology and management (NREM), were part of the research group C-CHANGE (Consortium for Cultivating Human and Naturally reGenerative Enterprises) that received Iowa State's Interdisciplinary Team Research Award. The award recognizes researchers who have made significant contributions to the university's research and scholarship mission through successful interdisciplinary collaborations. Additional members of the team were Adam Janke, Omar de Kok-Mercado and Dana Schweitzer, NREM, Mark Mba-Wright, mechanical engineering and Jarad Niemi, statistics.



Marshall McDaniel



Lisa Schulte Moore

## University Faculty Promotions



From left, Prashant Jha, Mark Licht, Marshall McDaniel, Fernando Miguez and Daren Mueller

Congratulations to the following ISU faculty and ISRC affiliates on their recent promotions. Prashant Jha, agronomy, Fernando Miguez, agronomy and Daren Mueller, plant pathology, entomology and microbiology, were promoted to professor. Mark Licht, agronomy and Marshall McDaniel, agronomy, were promoted to associate professor.

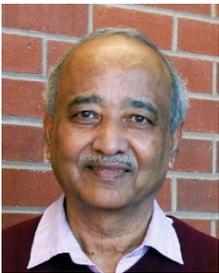
# ISRC Affiliate Highlights

## Archontoulis' Research Featured in FFAR Impact Report



Research by Sotirios Archontoulis, agronomy, was included in The Foundation for Food and Agriculture Research's 2021 Impact Report. His research focused on improving crop models to better understand how groundwater, especially excess groundwater, affects yields. [More...](#)

## Bhattacharyya Named AAAS Fellow



Madan Bhattacharyya, agronomy, was one of six Iowa State researchers the American Association for the Advancement of Science (AAAS) named to its class of 2021 Fellows for their "distinguished efforts to advance science or its applications." He was honored for his work in identifying genetic mechanisms to fight soybean diseases. [More...](#)

## Castellano Appointed to FAO's Global Soil Partnership



Mike Castellano, agronomy, was appointed by the USDA and the State Department to be the U.S. representative to the Global Soil Partnership. The GSP is a globally recognized mechanism established in 2012 to position soils in the global agenda through collective action. The Food and Agriculture Organization of the United Nations held its 10th plenary assembly of the Global Soil Partnership in May. [More...](#)

## Dong Named Director of Microelectronics Research Center



Liang Dong, electrical and computer engineering, was named director of Iowa State's Microelectronics Research Center (MRC). The MRC is a multi-disciplinary center focusing on the study of semiconductor materials, devices and applications. [More...](#)

## Koziel Retires After 18 Years in ABE



Jacek Koziel, agricultural and biosystems engineering, retired from Iowa State on June 3. He will begin a new journey with the Conservation and Production Research Lab in USDA's Agricultural Research Service. Koziel will be a research leader in the Livestock Nutrient Management Research unit based in Bushland, Texas. [More...](#)

## Schulte Moore Named Co-Director of Bioeconomy Institute



Lisa Schulte Moore, natural resource ecology and management, and Robert Brown, mechanical engineering, were selected to serve as co-directors of the Bioeconomy Institute (BEI) at Iowa State. The BEI is nationally recognized for its role in leading the bioeconomy. [More...](#)

## Tang Receives Walmart Foundation Grant



Lie Tang, and Dirk Maier, agricultural and biosystems engineering, received a \$300,000, two-year grant from the Walmart Foundation for food waste prevention research. Using drone technology, they are working to prevent food waste by flying the drone over harvested fields and finding crops that are left behind. [More...](#)

## Upcoming Events

August 2 - [ISA Webinar: Drainage Water Recycling for Crop Production and Water Quality](#)

August 4 - [ISRC Summer Field Tour for Ag-related Graduate Students & Faculty](#)

August 30 - September 1 - [Farm Progress Show](#)

September 13 - [ISA Webinar: Keys to Improved Soil Health, Water Quality and Profitability](#)

September 15 - [ISRC Industry Advisory Council Meeting](#)

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