



IOWA SOYBEAN
Association ✓

RESEARCH CENTER FOR FARMING INNOVATION

2021-2022 REPORT

Dear farmer and soybean industry stakeholder:

For Iowa's farmers, the future is never far off, it's being built today. The Iowa Soybean Association's Research Center for Farming Innovation (RCFI) is doing its part for the future by delivering unbiased, innovative, and data-driven programming every day. This research is boots on the ground; it's on our members' farms, and it's the research that farmers are asking for. Farmers aren't in the business of guesswork, and neither are RCFI's qualified technical specialists.

RCFI's mission is to make farms more productive, profitable and sustainable. I think it's important that we as an association show our farmer members the benefits of the checkoff dollar and how we're leveraging those dollars — it's critical for our members to know what we're doing, and this is an easy way to show it.

If you're involved with RCFI's work already, thank you for your confidence and support. If you're interested, all it takes is a phone call or email. Participation is easy and convenient. Our team of researchers, agronomists, technicians, analysts and field specialists stand ready to help you make informed decisions on your farm.

Wishing you much success,



Robb Ewoldt

ISA President
Farmer near Davenport



Who We Are

The Iowa Soybean Association's Research Center for Farming Innovation (RCFI) is driven to deliver innovative research, tools, and technical support to assist farmers. The RCFI is one-of-a-kind in bringing agronomics, conservation, and analytics together as a systems approach to support farmers.

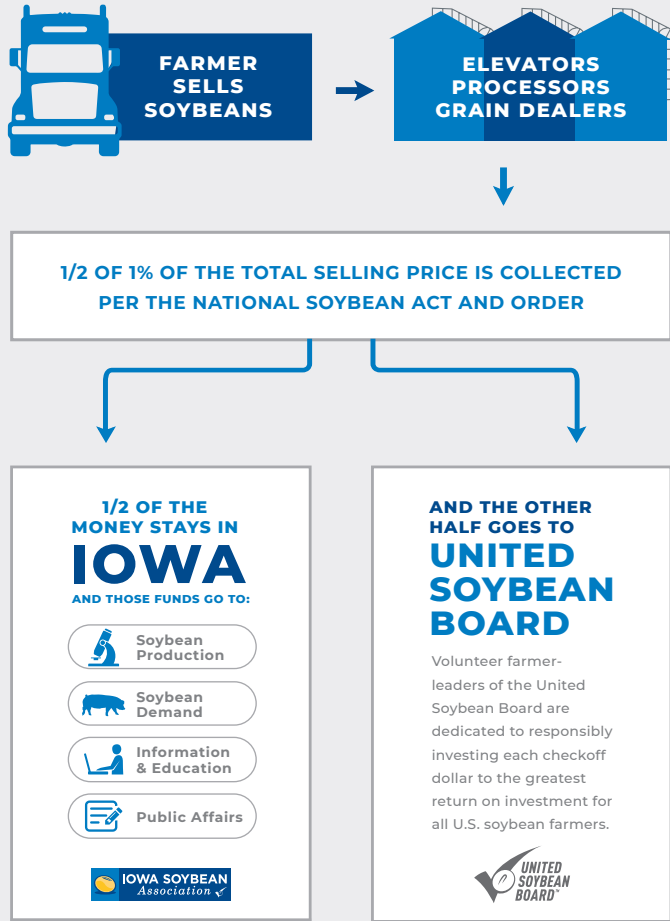
We know that no two farms are alike especially when considering management decisions for short- and long-term sustainability and profitability. As an unbiased, credible, trustworthy, and reliable resource for farmers, our team works at the crossroads of cropping system solutions, data and spatial science analytics, and outcomes-based natural resource management. We actively engage farmers by developing systems and practices to help maximize overall operation, one acre at a time.

Mission: Engage Iowa farmers through research and innovation to increase their productivity, profitability, and sustainability.

Vision: To be the recognized leader in expanding research and innovation opportunities with farmers to strengthen Iowa agriculture.

How does the checkoff work?

The national soy checkoff was created as part of the 1990 Farm Bill. The Act & Order that created the soy checkoff requires all soybean farmers to pay into the soy checkoff at the first point of purchase.



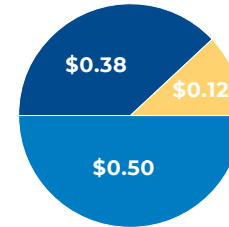
Financial Review

Year ending Sept. 30, 2021

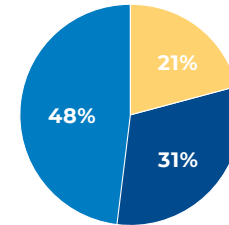
For every \$1 dollar of checkoff revenue received from Iowa Soybean farmers, 12 cents (\$0.12) is allocated to research. Roughly half of that (6 cents) goes to the RCFI. ISA RCFI then leverages non-checkoff funding resources at levels as high as 2x.

Checkoff Funding

Distribution of the 12 cents per \$1 checkoff investment



- State Checkoff - Research Coordination & RCFI
- State Checkoff - Demand, Information & Education, Public Affairs
- National Checkoff

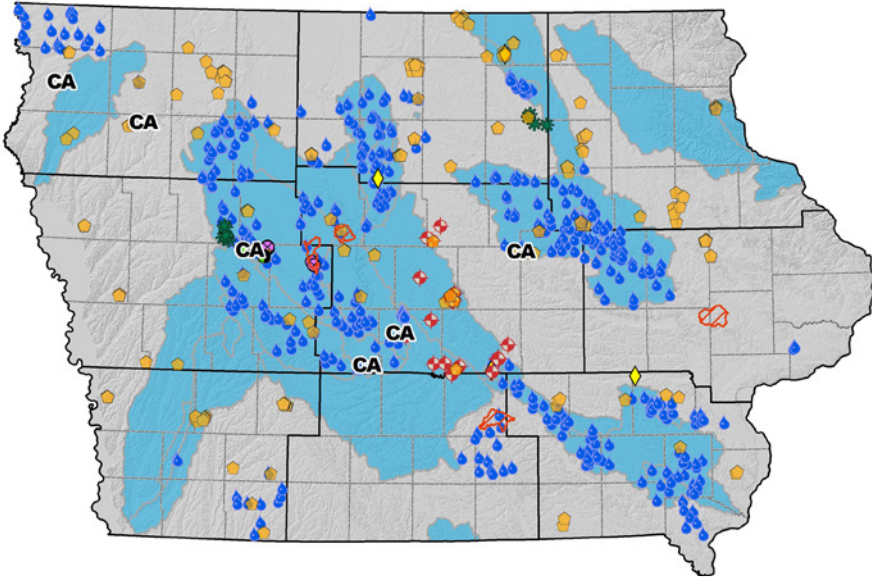


- Research Coordination
- Contract Research
- RCFI











Leveraged Funding

2X

It is critical that soybean checkoff dollars are fully utilized to help increase the productivity, profitability, and sustainability of soybean farmers. Our internal research programs and projects (RCFI) complement university-based contract research projects and also leverage non-checkoff funding resources at levels as high as 2 times. Company partnerships, state, federal, and private grants/contracts help support ISA RCFI and advance its program. RCFI has a large portfolio of integrated and innovative projects with broad areas of research focused on soil health, water quality, cropping systems, and analytics.



Project Map:

- CA** Conservation Agronomists Co-located within Ag Retailers
-  Watershed Plans = 4
-  Replicated Strip Trials = 188
-  Smart Integrated Farm Network for Rural Agricultural Communities = 21
-  Soybean Quality Mapping = 17
-  Crop Systems Modeling = 4
-  Bioreactors = 2
-  Saturated Buffers = 1
-  Oxbow Restorations = 7
-  Water Monitoring = 632
-  Priority Watersheds = 31

Project Highlights

1 // Cover crops for improved soil health and water quality

Cover crops can help improve soil health and water quality but can be tricky to implement. The RCFI is doing extensive research with growers on cover crops to help better define farm-specific best practices.

2 // Interactive online agronomic decision-making applications

Online interactive applications have been designed and are constantly being improved to provide individual and aggregated summaries of on-farm trials conducted by farmers working with RCFI. Trials include testing of different products, practices, and technologies in Iowa cropping systems to help farmers make informed decisions.

3 // Cover crop business project update

The cover crop business project is helping entrepreneurs launch businesses ranging from growing cover crop seed to planting cover crops for farmers.

4 // ISA data-driven simulation tools: reducing costs and improving management

Simulation tools allow growers to test various scenarios in their operation without incurring the expenses. RCFI is continuously collecting data and building robust tools that explore topics like cover crops, soybean quality, variable rate planting, and different products and practices.

5 // Cropping systems and biological inputs

Biologicals are gaining traction with farmers as alternatives to chemical-based solutions. RCFI is doing research on a handful of products as part of an overall nutrient program looking at effectiveness and affordability.

6 // ISA's water monitoring lab

ISA has a State of Iowa certified lab located on-site. The lab provides coordination and consultation services supporting the collection and interpretation of water quality data, building knowledge of current conditions, and providing valuable insights for water quality and soil health.

7 // Watershed planning: the long-term value

Watershed planning outreach and technical assistance backed by data analytics are used to help increase adoption of conservation practices that will improve water quality and aquatic habitat in watersheds across Iowa.

8 // Manure management

This project is one component of a strategy to develop and drive implementation of improved practices for manure management. These strategies include use of NIR sensors for improved applications, modeling the fate of manure nitrogen, and the use of inhibitors and cover crops.

9 // Drainage water recycling research

The drainage water recycling project is helping to quantify crop production impacts of two drainage water recycling (DWR) systems in Iowa and quantify impacts on downstream water and nutrient delivery from one DWR system in Iowa.

10 // Pest management solutions

Economic analysis is being done on the benefits of crop rotation in pest management. The RCFI is developing split field on-farm trials with and without rotating crops, and Northern/Western Corn Rootworm pressure and yield will be determined. RCFI is also evaluating a new seed treatment to assist in management of soybean gall midge.

11 // Adaption and resilience in nitrogen fertilizer management

The RCFI does in-depth research on nitrogen management to help growers make informed decisions on their farms. Areas of research include variable rate nitrogen, optimized nitrogen rates, and nitrogen management with cover crops.



Focus and Depth

ISA RCFI is working diligently to bring value to Iowa soybean farmers by working with them as a trusted and unbiased partner. The RCFI team of qualified technical specialists conducts advanced soybean research in Iowa, with a focus on making participation as convenient and affordable as possible for farmers. RCFI intentionally has a farmer focus while also working to support the broader community through cooperative collaboration and partnership.

Projects and Trials

In 2021, RCFI staff

implemented more than **80 dedicated projects in coordination with upwards of 445 farmers across Iowa**. Notable project priorities in 2021 included conducting on farm research examining impacts of using cover crops, growing relay crops, management strategies addressing soybean gall midge, manure management, drainage water recycling research, integrating habitat into working farms and evaluation of the agronomic, natural resource impacts and cost/benefits of making these management practice changes.

Regional Road Maps

Staff developed four Regional Roadmaps across Iowa to help prioritize and guide research and implementation and programming topics of interest. These efforts also inform and drive development efforts to support additional research programming investment for the future.

Iowa's Front Forty



The launch of Iowa's Front Forty Initiative

is an outcome from eight grassroot townhall listening sessions. This effort celebrates our state's conservation champions at the forefront of sustainable soil and water management practices. Each year, 40 future-thinking Iowans will be selected to represent farmers and conservation-minded individuals across Iowa. Champions have adopted a variety of conservation strategies including utilizing cover crops, installing bioreactors, saturated buffers, incorporating no-till/strip-till, etc. To learn more about the first cohort of Iowa's Front Forty Champions, visit iowaforty.com.

Conservation Agronomists

In 2021 a Conservation Agronomists Network was established, and positions were co-located and interfacing within ag retail offices including NEW Cooperative, Nutrien, Landus Cooperative, Heartland Co-op and CFE Cooperative. These positions are working to align agronomy and conservation, to engage farmers with conservation practice installations and assist with the handling of design of practices like bioreactors and saturated buffers. This network also helps align with research opportunities, providing informative reports and decision-making tools and support to the retail agronomy field staff.

Network highlights in 2021 include:

- Engaging with over 100 retail sales agronomists,
- Meeting with 900 farmers on a one-on-one basis,
- Reaching over 3,500 farmers via outreach meetings and events,
- Making over 500 practice recommendations,
- Enrolling farmers in the application of 40 edge of field practices,
- Directly helping farmers install 24,400 acres of cover crops.

Support tools

The RCFI team developed and maintained numerous online decision support tools that can all be found at iasoybeans.com/research/results

• Interactive Summaries of On Farm Strip Trials (ISOFAST):

This is an online interactive tool designed to provide individual and aggregate summaries of on farm research trials conducted across Iowa, including trials that test different products, practices, or technologies that farmers might consider investing in to improve yield or profitability.

• Cover Crop Economic Simulator:

Provides baseline costs involved with establishing different types

of cover crops mostly for Iowa. Farmers can edit and customize baseline values and evaluate impacts upon yields and accounting for market price fluctuations on net return.

• Transforming Drainage Rate Calculator:

Calculates three drainage rates recommended for characterizing subsurface (tile) drainage systems. ISA RCFI staff communicated information and content utilizing ISA's Innovations to Go webinar series, developing original and publishable content for ISA's website. Timely and relevant information is used during field days, conferences, and other public education events.



Online Decision Support Tools



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“
We are looking to see what management practices are best to unlock further yield potential to increase farmer profitability.”
”

— Dan De Vries, ISA farmer-member from Prairie City



Why Farmers Participate

- To improve their farming practices and become more efficient and profitable
- Access to latest advances in technology and advanced analytics and methods
- To improve conservation efforts
- For access to innovative and cutting-edge research
- For financial and technical support backed by data and information to assist with implementation
- Easy to participate; affordable and convenient for farmers

A Trusted Partner

RCFI works in partnership with farmers helping them:

GET STARTED with using efficient and productive cropping systems. RCFI assists in refining systems so yield and profits are more consistent year over year.

PROVIDE ADVICE AND CONNECTIONS with agencies and private sector programs that share costs or pay for ecosystem services. RCFI connects farmers who are working to be successful with assistance from a team of RCFI staff with expertise in agronomy, engineering, data and spatial analytics, conservation agronomists and natural resource management.

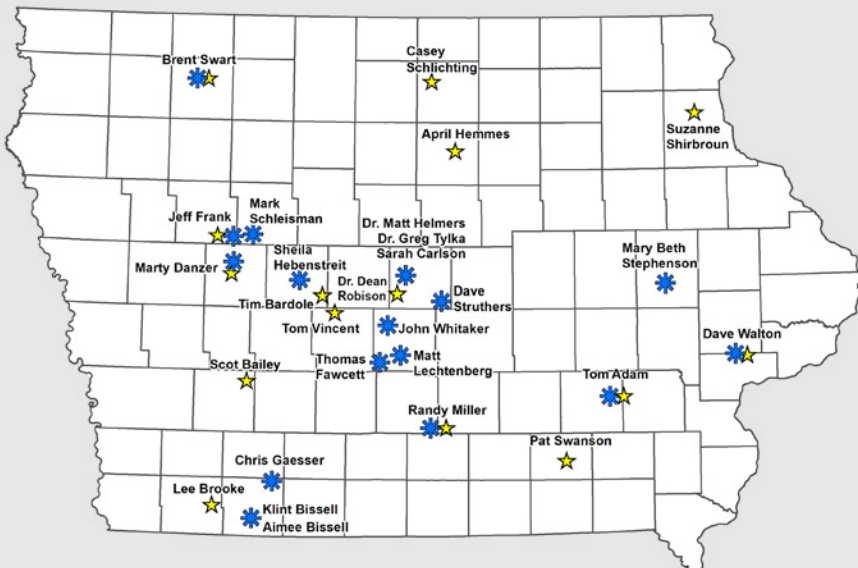
ASSESS RISK FACTORS when considering new practices standing on the shoulders of science and data.

EVALUATE OUTCOMES from management including impacts on natural resources.

SUPPORT DECISION-MAKING processes to finding practices and systems that work in their specific settings.

ONLINE TOOLS & SIMULATORS help illustrate which management strategies are best for your farm. RCFI has several tools with easy-to-follow tutorials to learn how farmers can be more productive, profitable and sustainable.

IMPROVE STEWARDSHIP on your farm with information and support on integrating practices that address natural resource opportunities.



Advisors and Partners:

Thank you for your support!

ISA's Research Center for Farming Innovation collaborates with federal and state agencies, county SWCDs, universities, ag retail, cooperatives, private companies, cities, and non-profit organizations.

★ Research Advisory Council Members - Farmers and Program Partners

★ ISA Board of Directors

RCFI Leads With:

VALUE PROPOSITION

As a trusted, unbiased partner, the ISA research team conducts the most advanced soybean research in Iowa, with a focus on making participation as easy, convenient and affordable as possible for farmers.

UNBIASED

Like all Iowa Soybean Association initiatives, RCFI is funded by farmers, for farmers. We have no hidden agendas. We have no products or systems to sell. We go where the data takes us, with farmers' very best interests at heart.

FARMER-FOCUSED

Your time and money are valuable. That's why all of our programs and trials are planned with your unique farm in mind, with expert help and guidance from the ISA research team every step of the way.

QUALIFIED

With more than 16 years of experience in conducting agronomic and conservation research, we have a proven track record of helping farmers improve profitability. Together, our team of experts takes a holistic approach to soybean research across Iowa.

CUTTING EDGE

No one has more advanced soybean research methods and data analysis than us. Our sophisticated suite of research and decision-making tools are world-class, giving farmers access to the latest technology to maximize their operation's potential.

WORK WITH US

Fill out our interest form to let us know what trials or projects interest you. Our team will work with you and provide information that can help your farm be more profitable and productive.

iasoybeans.com/research/work-with-isa



CONTACT

Contact one of our expert staff members agronomy, conservation, technology and more.

iasoybeans.com/contactRCFI



For other inquires, contact Kristen Dearden, customer service coordinator at kdearden@iasoybeans.com or (515) 334-1482.