US SOYBEAN RESEARCH COLLABORATIVE
Working and Growing Together

THIRD ANNUAL SOYBEAN RESEARCH FORUM & THINK TANK

Traceability & Transparency |
Opportunities for Soy

JULY 26-28, 2023

Westin Indianapolis
241 W. Washington St
Indianapolis, IN

INSIDE:

BACKGROUND

ABOUT

The Annual Soybean Research Forum & Think Tank began in 2021. The goal was to bring individuals from across the soybean research space together to think strategically and innovatively about what the future of soybean production looks like and to discuss strategies to stimulate research that will move the industry forward. We are now in our third year of bringing together a diverse group of individuals to collaboratively work towards discussing and prioritizing needs, information, and opportunities for future research.

The Annual Soybean Research Forum & Think Tank is hosted by the US Soybean Research Collaborative (USSRC). The US Soybean Research Collaborative is checkoff-sponsored partnership with the purpose of bringing more collaboration to soybean research. Its unique model of open collaboration helps extend current checkoff research investments for more impactful outcomes. USSRC exists to advance coordination, collaboration, and communication among organizations focused on soybean research and to foster a broad value chain view to help bridge the gap between soybean supply and demand.

In 2023 the theme was 'Transparency and Traceability: Opportunities for Soy'. Speakers helped attendees examine this from various angles including sustainability, technology, and data. The group worked to explore trends, challenges, opportunities, research needs, and potential strategies for moving forward in the traceability/transparency space.

FUNDING

This event is made possible thanks to the US Soybean Research Collaborative partners and Soybean Research Forum & Think Tank sponsors. Special thanks to each of the groups below who invested in this event.

USSRC Partners:

Iowa Soybean Association
Illinois Soybean Association
Ohio Soybean Council
Missouri Soybeans
Minnesota Soybean
ND Soybean Council
SD Soybean Checkoff
NC Soybean Producers Assoc
Michigan Soybean Committee
Kentucky Soybean Board
Atlantic Soybean Council
Virginia Soybean Board
South Carolina Soybean Board

Think Tank Sponsors:

United Soybean Board
Indiana Soybean Alliance
Kansas Soybean Commission
SOYLEIC
BASF
Bayer
Corteva

DISCLAIMER

The information provided in this White Paper was synthesized from the US Soybean Research Collaborative's 3rd Annual Soybean Research Forum & Think Tank – Traceability & Transparency: Opportunities for Soy. All information included is strictly the perspectives and opinions of speakers and participants at the event.

Back to Top

INTRODUCTION

HISTROY

The Annual Soybean Research Forum and Think Tank was designed to stimulate research that will move the industry forward as it enters the next generation of agricultural production. The soybean industry cannot rely on replicating projects and research models that were previously successful, as the industry and farming is changing very quickly. Farmers' questions today are much more complicated than they were 30 years ago, and it will take thinking about research differently to answer those questions and continue to drive the industry forward.

The event brings together players across the value chain including farmer leaders, public and private researchers, agribusiness professionals, and federal agency representatives. This diverse cross section of participants fosters a broad exchange of information and perspectives. Collectively this comprehensive value chain view helps bridge the gap between soybean supply and demand. Each participant has a critical role to play in shaping the future of soybean research and brings a valuable and unique voice to the conservation. By design, topics covered at this annual event have been challenging, thought provoking, and at times even polarizing. The goal is not for complete consensus on the topics, but that attendees leave with a broader perspective of understanding and enhanced opportunity for collaborations.

Since the inaugural event, each year has focused on a specific theme. In 2022, the theme was 'Moving from Opportunities to Innovation' and the key goal was to examine soybean research opportunities and solutions that span the value chain – breaking down some of the traditional bins and silos between "production research" and "new uses research".

Four areas that addressed "new" or "emerging" opportunities for soybeans were discussed, including aquaculture, renewable diesel, plant protein, and technology. Specific strategies that could be explored by the US Soybean Research Collaborative and other groups were identified. They included:

1. Build research teams that include representatives across the value chain to make sure we are delivering for the end users. These teams should include breeders, agronomists, economists, processors, and end-users.
2. **Explore possibilities for building infrastructure and logistics to support identify preserve opportunities and traceability within the soybean supply chain.**
3. **Use data to demonstrate the carbon intensity and sustainability metrics of soybean production.**
4. Develop platforms that allow innovators to connect with farmers to bridge the gap between these two parties.
5. Further expand role of commodity groups as unbiased 3rd parties in vetting new technologies.

Which brings us to the 2023 event where we dove deeper into strategies two and three above, exploring traceability and transparency opportunities for US soy.

Back to Top

2023 EVENT

Traceability and transparency are being driven by end user demand, food safety and liability claims, and the need to prove market/sustainability claims. As end users and retailers reach down the value chain for information, farmers will be asked to provide more data and information about their practices and their own supply chains. While there are many challenges in this space, particularly for a bulk commodity like soybeans, technology is advancing and there are solutions to meet some of those challenges.

While traceability and transparency alone are not forms of value, they are tools which could enable US soybean producers to potentially capture more value. Therefore, we wanted to understand trends while also exploring opportunities and challenges in the traceability/transparency space to better prepare farmers to take advantage of these potential opportunities in the future.

The 3rd Annual Soybean Research Forum and Think Tank was held in Indianapolis, Indiana on July 26-28, 2023. The event brought together 105 soybean industry stakeholders including 17 soybean farmers as well as representatives from 12 QSSBs, the United Soybean Board, the American Soybean Association, the US Soybean Export Council, 14 land grant universities, 22 companies, and 2 federal agencies. The theme of the 2023 event was 'Transparency and Traceability: Opportunities for Soy' and the objective was to explore soybean research opportunities, potential solutions, and challenges in the traceability/transparency space.

Back to Top

PROGRAM

PROCESS

The Annual Soybean Research Forum and Think Tank was designed to bring together participants from across the value chain and give them an opportunity to interact, share thoughts, and actively engage in the brainstorming of research needs and strategies partner programs could move forward within the coming year. Our ask was that participants come willing to be creative, share new ideas, explore unconventional approaches, and seek a broader perspective of understanding.

The goal of the event was twofold:

1. Provide participants with a better understanding of the initiatives surrounding traceability and transparency of various segments of the soybean industry/supply chain.
2. Identify concrete research needs and strategies that can be explored by partners and stakeholders in the coming year.

To accomplish this, the event was divided into two phases. Phase one included background and information gathering with phase two moved to strategic thinking. During phase one, presentations were provided by various industry experts representing different parts of the value chain. This helped set the stage and provided participants insights into the current traceability and transparency initiatives, metrics, and technology in the value chain. Immediately following each presentation, table discussions occurred to get participants engaged in the discussion and capture ideas from a broad set of perspectives in the room. During phase one, participants were charged with capturing trends, challenges, and opportunities.

During phase two, the strategic part of the event, participants were asked to move from a "Think Tank" to a "Do Tank". They were charged with moving from simply reacting to what was heard to generating goals and ideas for action. Phase two was focused on capturing tangible strategies that could be moved forward. This included identifying concrete priorities to advance, highlighting where additional research will be needed to move forward, and identifying multi-discipline, multi-institution opportunities for collaboration in this space.

Ideas generated at each of the tables were compiled and a summary of those ideas are shared in this document.

TOPICS & SPEAKERS

(in order given at the event)

Traceability Landscape/Farmer of the Future Meets Next Gen Consumer
Jennifer Coleman, Aimpoint Research

Setting the Stage: Intersection between Traceability & Sustainability
Anastasia Volkova, Regrow Ag

Lessons from Cotton
Andy Jordan, Cotton Trust Protocol

Climate Smart/Soil Health Metrics
Lindsay Malone, NDSU

Leveraging Farm Data Beyond Traceability
Jon Bokmeyer, Ag Ingenuity | Advanced Agrilytics

Input Supplier Perspective
Ryan Locke, Nutrien

Vertical Integration Opportunities
Kyle Smith, Benson Hill

Connecting Physical Commodities to Digital Supply Chain Data through BioTags
David Singer, Index Biosystems

Supply Chain Panel
Facilitated by Polly Ruhland, USB; Perry Aulie, Perdue Agribusiness; Han Chen, ZeaKal; Onur Bermede, PepsiCo; Grey Montgomery, DTN

Farmer Reflection Panel
Facilitated by Jeff Nalley, Cromwell AG Radio Network; Robb Ewoldt, Iowa; John Fleming, North Carolina; Bryan Severs, Illinois

Public/Private Partnership Panel
Facilitated by Ed Anderson, NCSRP; Kathy Boomer, FFAR; Keenan McRoberts, USB; David Stark, Holganix

Back to Top

OUTCOMES

SUMMARY OF WORK

At the conclusion of each presentation, participants brainstormed trends, challenges, and opportunities that arose during the presentation. Below is a summary of the information captured from the table conservations.

TRENDS

- The industry is moving forward even though it makes some people uncomfortable.
- Traceability is here to stay – in some form. Much of this is motivated by sustainability metrics.
- There's demand for certified/verified products in some markets.
- Niche markets will require more on farm storage.
- CPGs are investing in sustainability to improve brand/capture more market share.
- Labels sale items (even if they're not accurate).
- Many consumers are unwilling to pay premiums for verified products, but it is a product differentiator.
- Technology exists to solve many of the traceability hurdles.
- Providing data is a double-edged sword (can open up litigation/but also help protect).
- There is still a lot to learn about soil health metrics and their relation to yield.
- Subfield management is the next evolution in yield increases.

CHALLENGES

- The soy ecosystem is large – there won't be a one size fits all solution.
- Different companies/end users have different standards.
- Many companies are setting targets without knowing (or understanding) what they're asking.
- Third party verifiers are needed, but often costly and may not be unbiased.
- Infrastructure (physical and digital) will be required to enact traceability, and this could be very costly (who incurs the cost?).
- There are many different sustainability programs, how do farmers determine which is best for them?
- Volatility in commodity markets creates apprehension about investing in new practices/technologies.
- Verification processes are often cumbersome and costly.
- With more granular data, there is the potential to open individual farms up to litigation if there are product quality issues.
- Consumers may be hesitant to accept new technologies that enable more traceability/transparency.

Back to Top

OPPORTUNITIES

- Radical collaboration across the industry.
- Soy checkoff partners to take the lead on setting goalposts/standards.
- Optimize measurements and models in soil health.
- Lean in on cross-commodity learnings.
- Think beyond just carbon and soil health (what's next? water quality, etc).
- Farmer to farmer peer learning.
- More diverse market options.
- Use data to make better management decisions.
- Better understand how to manage fields for weather events.
- Build common ground to explain the "why".

RECOMMENDATIONS

At the conclusion of the event, participants were asked to identify and prioritize the top needs and then brainstorm tangible strategies that could be tackled to begin to meet those needs. Below is a summary of the needs and strategies identified, organized into five themes.

COMMUNICATION UP & DOWN VALUE CHAIN

Need	Strategies
Collaboration across academics, industry, associations and farmers along with grain buyers and processors to develop holistic strategy across the value chain.	a) Develop "why" for processors to come to the table to build the value across the value chain. Food, Fuel, Feed - build relationships with these end users. b) Hold grain buyer round tables to see how they are thinking about this and understand their future plans for infrastructure. c) Perhaps start with the smaller groups to begin the relationships (i.e. regional coop elevators and processors before going with the bigger players). d) Fund pilot programs in small markets with partners such as Benson Hill and ZeaKal.
Transparency from third party entities.	a) Help third party verifiers build the trust of the farmer. b) The third-party piece is important, but gaps in knowledge must be filled.
Trust building for the players at the table.	a) Grass-roots collaborations to bring stakeholders together. b) Engage social scientists in these discussions and projects to understand the needs. c) Build trust across the organizations to believe in a shared vision, find common ground. d) Develop the story for farmers to differentiate their product on their farm and build that story in a commodity world.

Back to Top

DEFINING GOAL POSTS

Need	Strategies
Define the goal post, similar to the Cotton Trust Protocol, even for commodity beans.	a) Determine where we are currently, and where we want to be. b) Create a transparency protocol and stick to it as an industry. c) Identify the spectrum of limitations for farmers to move towards a certain direction. d) Make sure we're not penalizing the farmer that don't have the infrastructure to pivot to new practices quickly. e) Try not to jump into every trend as soon as it's demanded by a food company without first understanding risk/reward.
Reduce the burden of documenting practices that farmers are already doing.	a) Develop programs that define what soybean farmers are doing and make the process as simple as possible.
Some centralization/oversight by soy industry to guide options, education, etc.	a) Can models be made to fit regionality? b) Not one solution for all, but a pick list of options that you can choose to achieve a level of sustainability necessary for certification. c) Ensure organizations with a farmer focus (checkoffs) engage in setting these standards.
Understand what the supply chain is actually looking for and agree on future goals.	a) How can we be clearer across the transparency and traceability sector about the goals we are wanting to achieve, b) Co-develop these and ensure common goals are met. c) Understand who our customers are and what they want. d) Understand the cost and benefits to the farmers. e) We need to look out 10-15 years rather than being responsive.

Back to Top

FARMER BUY-IN

Need	Strategies
Help farmers better understand the landscape of traceability, IP, transparency and sustainability.	a) Identify farmers that have had success and leverage their knowledge and learnings. b) Learning groups outside of a farmers competitive region to identify opportunities. c) Don't let perfect be the enemy of good. Every farmer does not have to move to the high-tech, transparent model. Some could focus only on commodity beans.
Ensure farmers have a voice and practices are not just imposed on them. If farmers don't have buy in, they won't engage.	a) Develop a network on farmer beta-testers who can work with new ag startup companies to help develop technology and build trust between these parties. b) Peer education for technology, farmers can identify items that are beneficial to them voluntarily. c) Private money (and public) to increase research. I.e. grocers group or food manufacturers group to partner with commodity group. We are both part of the food supply chain.
Encourage growers to adopt innovative practices.	a) Technology & research to ensure new practices are successful (ie, integrated weed management, robotics, improved varieties adapted to new practices). b) Testing on biotags and other technologies for viability. c) Studying and understanding the costs of implementation. d) Giving farmers freedom by avoiding mandates and allowing for volunteer opportunities. e) Identify products and practices that are a win-win (offers a benefit to grower and partner). f) Take a step backwards to move forwards. Unwind the core issues of resistance to adoption of these practices and address those.

DATA COLLECTION

Need	Strategies
Seamless integration of data captured on farm into third party audits, sustainability initiatives, etc.	a) USDA-FSA or other NGO compatibility with farm collected data formats (FieldView, JD Operations Center, etc) b) Ensure that different software, and companies that are collecting data have a consistent language across platforms so that growers are not locked into any single system.
Effective use of data to make results driven decisions.	a) Data analysis capacity – build through AI and other tools, b) Using data to understand cost/benefits of new practices and generate farm-level recommendations.
A data collection and storage infrastructure that flows through the value chain.	a) Identifying customer needs and let that drive the data utilization processes and being nimble enough to adapt those processes quickly and efficiently to evolving customer needs.

Back to Top

CONNECTION WITH CONSUMERS

Need	Strategies
Determine how much consumer interest there actually is for this transparency and traceability (e.g. - social license for end users versus actual consumer interest),	a) Survey work done independently from a CPG company and compiling industry survey data. b) Transparency to align with the consumer's shared values. c) Work with social scientists for determining best messages. d) Consistency in grocery labeling. e) Tell stories of what's happening on farm, in ag research; help consumers understand what they're asking for and why.
Help growers tell the story and demonstrate you are doing what you're saying you're doing (trust but verify); stratify the story for soybeans regionally to support farmers.	a) Identify the differentiating factors in production regionally (cultural or environmental management). b) Build the story with those regional differences that highlight the value of the soybean supply chain without pinning regions against each other. c) Caution to maintain the collaboration across soybean. d) Across the board support research with soft sciences and communication to tell farmers (brand) story to the producer and consumer. e) Identify opportunities to build shared experiences from farmer to processor to consumer. f) Understand differences between shared values and facts: how can we connect facts with values. g) Engage in conversation with next generation consumers and explain what US agriculture is about. c)

NEXT STEPS

The strategies identified by this group will be explored by the US Soybean Research Collaborative as well as regional and state soybean checkoff research programs, as research opportunities in the coming year.

THANK YOU TO OUR PARTNERS & SPONSORS

US SOYBEAN RESEARCH COLLABORATIVE PARTNERS

Iowa Soybean Association
Illinois Soybean Association
Ohio Soybean Council
North Dakota Soybean Council
South Dakota Soybean Checkoff
Minnesota Soybean Research & Promotion Council
Atlantic Soybean Council
NC Soybean Producers Association
Kentucky Soybean Board
VSB Virginia Soybean Board
South Carolina Soybean Board
Michigan Soybean Committee
Missouri Soybeans

THIRD ANNUAL SOYBEAN RESEARCH FORUM & THINK TANK SPONSORS

Kansas Soybean Commission
United Soybean Board
Indiana Soybean Alliance
Soylei
BASF We create chemistry
Bayer
Corteva agriscience

Back to Top