



THE DIVERSE CORN BELT PROJECT: YEAR 2 RESULTS



DIVERSE CORN BELT PROJECT



American farmers have become extremely efficient producers of corn and soybeans, a rotation that has been baked into the social, economic and political systems of the Corn Belt for decades. Many producers have enjoyed climbing yields and high profits, but concerns exist about possible long-term impacts of a limited rotation on economic returns, communities and the environment.

DIVERSITY ON MANY LEVELS

The Diverse Corn Belt project explores diversity on several levels:

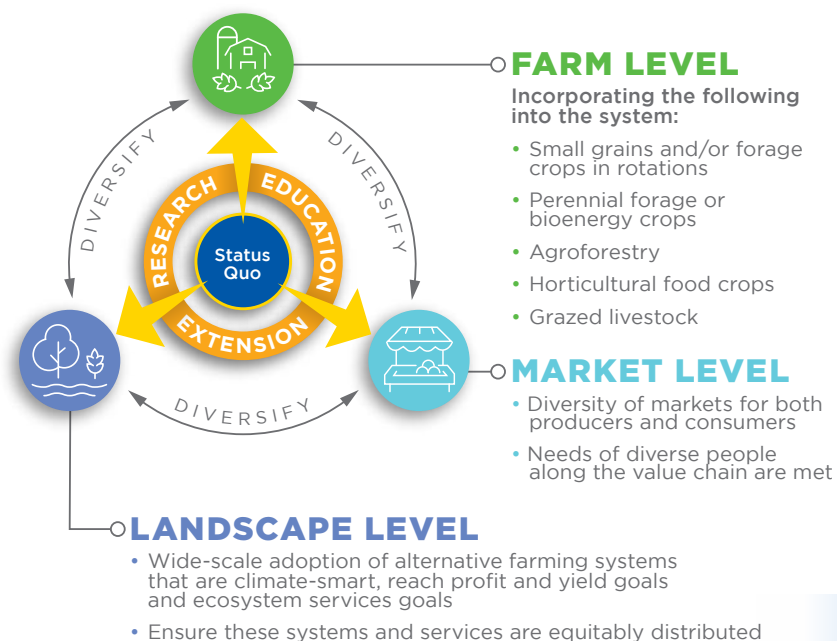
Farm-level diversity, including more options for crop rotations, perennial crops for forage or bioenergy, grazing livestock, agroforestry and horticultural food crops.

Market-level diversity, creating channels for processing and marketing a wider variety of agricultural products and meeting the needs of diverse people all along the value chain.

Landscape-level diversity, a wide-scale proliferation of profitable, resilient, climate-smart farming systems that achieve yield, ecosystem and equity goals.

Diversity is key to resilience in biological systems, as well as economic and social ones. The hypothesis underlying the Diverse Corn Belt (DCB) project is that diversifying crop production and markets will generate a suite of economic, social and ecosystem services that will benefit more people than the current corn-soybean/confined livestock system does.

Drawing on the skills of more than 30 collaborators representing a wide range of institutions and disciplines, DCB seeks to develop concrete, viable, evidence-based frameworks that can guide the Midwest to a more diversified agricultural system at the farm, market and landscape scale.

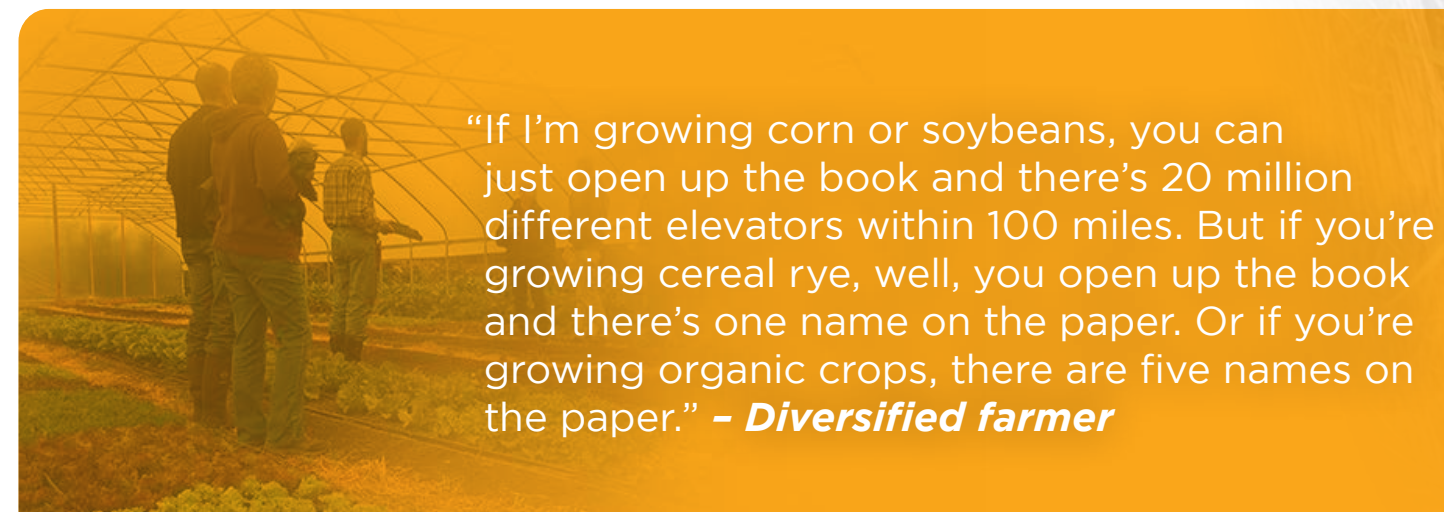


“I think corn and soybeans are actually great crops. I don’t think there’s anything bad about those as crops and I think it would be a loss to stop producing them. We just need to stop obsessively focusing on extremely high yields in those crops and integrate them into a more thought-out portfolio.” – **Diversified farmer**

WHAT IS DCB?

The Diverse Corn Belt project is a five-year, multi-disciplinary project that explores the real-world impacts of diversified farming systems. Partners in Indiana, Illinois, Iowa and other states are coordinating research and analysis to understand the agronomic, economic, social, and infrastructure and policy changes that could make diversification in the Corn Belt viable.

DCB team members include experts in the social sciences, agronomy, entomology, soil science, economics, Extension, education and more. The group seeks to understand the opportunities presented by diversification at the farm, market and landscape level, as well as the constraints and challenges that currently make diversification difficult.



“If I’m growing corn or soybeans, you can just open up the book and there’s 20 million different elevators within 100 miles. But if you’re growing cereal rye, well, you open up the book and there’s one name on the paper. Or if you’re growing organic crops, there are five names on the paper.” – **Diversified farmer**

DCB OBJECTIVES

The Diverse Corn Belt Project aims to develop scientifically and ethically sound visions for Midwest agriculture based on data gathering and modeling across a wide range of disciplines. The process emphasizes co-production, a teamwork approach to posing questions and finding answers that includes stakeholders throughout the value chain.

The program will yield a suite of economic, social and ecosystem services that will benefit more people than the current system built on corn-soybean rotations and confined livestock.

The Diverse Corn Belt Program's objectives include:

- 1. Identifying and addressing social, economic, agronomic and environmental barriers** to adopting diverse agricultural systems through stakeholder engagement, on-farm research, and economic analysis.

"They said, 'What cover crop or what specialty crop do you grow?' I said, 'Oh, we grow 40 different vegetable crops.' Well, there were three lines on the form. We're done..." So one thing there needs to be is the people who write these insurance programs need to understand how it works." - **Diversified farmer**
- 2. Modeling economic and ecosystem impacts of diversity** with data from in-field research, interviews, and surveys. DCB models will help guide evidence-based policy recommendations, quantify sustainability metrics and establish the conditions required for economic vitality.
- 3. Working with stakeholders to design alternative production systems** through interviews, focus groups and RAD (Reimagining Agricultural Diversity) Team meetings.
- 4. Developing and sharing policy guidance** that can help communities achieve resilient intensification through diversified farms, landscapes and markets.

"If we get our landscape right, more people might move to our towns. And if more people move to our towns, then we can further diversify our agriculture." - **Iowa RAD Team participant**
- 5. Supporting farm diversification and market development** by engaging with diverse stakeholders across the supply chain.
- 6. Creating, piloting and publishing educational materials at high school and undergraduate levels** that prepare the workforce to respond to emerging challenges and support a diversified landscape.



"I'm just not a people person. I want to produce a product and I want to do the best I can at that. I don't want to be that guy that does every step." - **Less-diversified farmer**



INTERCONNECTED

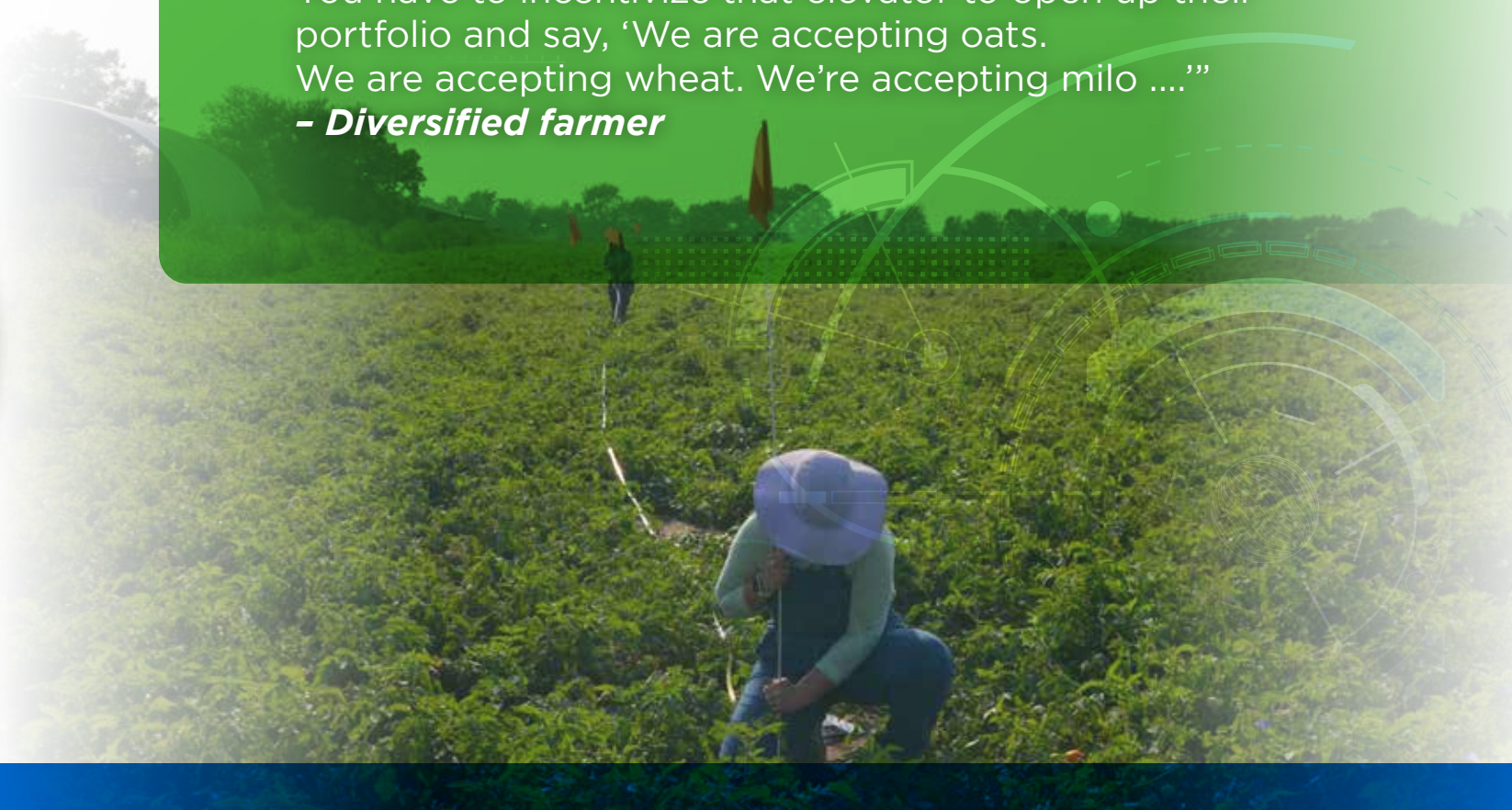
Dozens of principal investigators, postdoctoral researchers and graduate students serve on DCB teams dedicated to exploring diversification across a wide range of disciplines. DCB teams coordinate closely and share data, and many DCB researchers participate in more than one team.

Results from each DCB team influence other research within the project. For instance, insights gathered from farmer surveys and focus groups in Years 1 and 2 helped the Reimagining Agricultural Diversity (RAD) Team set priorities for key themes and challenges to discuss in the remaining years of the project.

Similarly, data gathered on more than 100 farm fields, in focus groups and a RAD Team meeting, and through surveys and in-depth interviews provided a foundation for research that will take place over the next three years, as well as direction and input for computer models that the DCB Modeling Team will use to explore the potential economic and environmental impacts of various diversification scenarios.

Finally, many of the 46 papers and presentations based on DCB research were co-authored by investigators representing a wide range of expertise, reflecting the project's multi-disciplinary approach.

"You have to incentivize that elevator to open up their portfolio and say, 'We are accepting oats. We are accepting wheat. We're accepting milo'" - **Diversified farmer**



KEY ACCOMPLISHMENTS: DCB BY THE NUMBERS

Year 2 of the DCB Project was an exciting one. After spending much of Year 1 on planning, experimental design and coordination, our team members took to the lab, the field, and to kitchen tables, tractor cabs, farm shops and meeting halls to dig into research.

Here's a summary of DCB accomplishments by the numbers:

STAKEHOLDER ENGAGEMENT A variety of contacts, from individual interviews to guided group discussions, provided explorations of opportunities—including alternative marketing arrangements, farmer networks, family relationships, and improved soil health—and obstacles, which stakeholders identified as income, productivity, market access, time, land, labor, agricultural policies, and access to technical support.

- 20 focus groups with 100 diversified and non-diversified farmers
- 18 stakeholders in the first RAD (Reimagining Agricultural Diversity) visioning session
- 759 farmers surveyed
- 26 Corn Belt oat, pea and wheat growers interviewed to explore challenges and opportunities in markets for alternative crops

MARKET EXPLORATION Researchers have identified four key themes in exploring market opportunities and challenges: markets, scale, labor, and support. Competition and ROI are market challenges, while on the labor side, affording more labor and finding qualified staff present hurdles, while also offering opportunities for new or next-generation farmers. Support is impeded by lack of crop insurance or access to capital, while opportunities include heightened interest in local food and growing alternative marketing channels; aggregators and farmer-to-farmer cooperation are helping meet challenges in scale.

- 36 diversified farmers interviewed one-on-one on markets, scale, labor and support
- 4 supply chain surveys drafted
- 7 consumer packaged goods (CPG) companies' executives interviewed in-depth
- 29 interviews with consumers and processors of oat milk to understand consumer motivations and preferences.
- 3 market case studies focusing on oats, peas and wheat.



IN-FIELD RESEARCH Biophysical research began in 2023 with soil fertility analysis, groundwater quantity and quality studies, and biodiversity of insects and weed species. Data were shared with host farmers to help them plan 2023-2024 management. The In-Field Team is also developing a diversification index to classify participating fields.

- 72 farmers hosting on-farm research
- 24 research wells installed on farms across Iowa, Illinois and Indiana

EDUCATION AND OUTREACH Outreach began with cooperator recruitment, awareness, and coproduction efforts in Year 1, and continues with the dissemination of results and insights through publications, presentations, press materials, field days, online communications, and educational resources.

- 45.9% open rate for 3 DCB newsletters
- 3,715,901 impressions via 26 articles, releases and online outreach
- 849 farmers and other stakeholders reached through presentations at Practical Farmers of Iowa meetings
- 347 attendees at 8 field days
- 8 Diversified Rotation Farmer Network calls reached 213 participants
- 3 undergraduate class guest lectures by DCB team members

LOOKING AHEAD Research conducted under DCB sets the stage for further collaboration, future studies and more insights to share.

- \$1.55 million secured by DCB principal investigators through additional grants



"I think if there is a market for whatever we're talking about growing, whatever we're going to diversify to, we'll figure out. We're farmers—we'll figure out a way to make it work." – **Indiana RAD Team participant**

LEARN MORE AT
DIVERSECORNBELT.ORG



GET INVOLVED

The DCB team seeks a wide range of perspectives from stakeholders throughout Indiana, Illinois and Iowa. Please contact Emily Usher (eusher@purdue.edu) if you are willing to help shape the future of the Corn Belt.



**Conservation Technology
Information Center**



**ILLINOIS STATE
UNIVERSITY**



**UNIVERSITY OF WISCONSIN
PLATTEVILLE**
SCHOOL OF AGRICULTURE



**The Nature
Conservancy**



**MONTANA
STATE UNIVERSITY**



UNIVERSITY OF MINNESOTA



WISCONSIN
UNIVERSITY OF WISCONSIN-MADISON

For more information on the Diverse Corn Belt project, visit diversecornbelt.org. For detailed annual reports submitted to the USDA National Institute of Food and Agriculture, contact Emily Usher, project manager, at eusher@purdue.edu.

This research is supported by Agriculture and Food Research Initiative Competitive Grant 2021-68012-35896 from the USDA National Institute of Food and Agriculture.