THE DIVERSE CORN BELT PROJECT:
YEAR 4 HIGHLIGHTS

DIVERSE CORN BELT
PROJECT

The fourth year of the Diverse Corn Belt Project (DCB) engaged all the senses in the effort to understand diversifying corn-soybean rotations— from smelling healthy soil to using sound to identify insect populations. As data flow in from the fields and labs, DCB's final system-wide insights and policy recommendations are so close, you can taste them.

The first three years of DCB focused on study design and the start of research. The final two years are dedicated to data, publications, and other communication tools that shed light on the benefits and challenges surrounding diversification. They will also feature releases of stakeholder perspectives on creating a more diverse agricultural system in the Corn Belt.

DCB researchers collaborate in interdisciplinary teams that explore the wide range of factors involved in diversifying Corn Belt agriculture and supply chains. Here is a summary of those teams' accomplishments in the fourth year of the five-year project: Resilience in biological systems improves with diversity. The same can be said for economic and social resilience. The Diverse Corn Belt (DCB) project is exploring the hypothesis that diversifying crop production and markets will generate an array of economic, social, and ecosystem services that will benefit more people than the current corn-soybean/confined livestock system.

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

DCB OBJECTIVES

Launched in 2021, the Diverse Corn Belt Project includes eight objectives. Those are, in summary:

- Identify and address the social, economic, agronomic, and environmental barriers to adopting diverse, sustainable agricultural systems.

- Model the economic and ecosystem impacts of diverse landscapes to develop evidence-based policy recommendations, quantify metrics, and establish conditions required for economic vitality.

- Conduct visioning sessions that allow participants to consider ethical choices and sustainability outcomes.

- Develop and disseminate policy guidance to achieve resilient intensification.

- Engage with diverse stakeholders through Extension to support farm diversification and market development.

- Publish educational materials to foster a workforce ready to respond to emerging challenges and support a diversifying landscape.

REIMAGINING AGRICULTURAL DIVERSITY (RAD) TEAM

Working with stakeholders to coproduce research and identify key research questions is a central part of DCB's study design. Much of that co-production starts with Reimagining A gricultural Diversity (RAD) Team meetings, which bring together farmers and other stakeholders to provide feedback and direction, discuss project findings, inform future visions, and identify pathways to increase agricultural diversification. In Year 4 of the project, RAD teams met in each of the project states of Indiana, Illinois, and Iowa to discuss markets and policies that impact diversification. A fourth, final meeting of RAD team members from all three states convened in Illinois in August 2025 to develop and refine policy recommendations. They addressed:

• **Reforming crop insurance and commodity support programs;**

• **Enhancing conservation incentive programs;**

• **Developing post-harvest and processing infrastructure; and**

• **Expanding institutional purchasing and labeling standards for diverse, local products.**

In all, 178 farmers, advisors, landowners, educators, decision makers, and others attended the meetings; 48% attended two or more meetings and 7% attended all four meetings. DCB researchers also published results from previous years' RAD team meetings in the Journal of Renewable Agriculture and Food Systems and Landscape and Urban Planning.

IN-FIELD TEAM

A multidisciplinary team of scientists investigating the impacts of diversification on soil, water, insects, weeds, and crop productivity conducts research on 72 farm sites in the three study states. The fields have cropping histories ranging from highly specialized to highly diversified. Fieldwork includes analyzing water samples from 24 wells, hydrology studies, soil quality assessments, yield monitoring, and surveys of insect and weed populations. Innovative research on the crop-boosting value of a diverse weed community—which can unseat more destructive weeds and harbor beneficial insects that suppress pests—was another Year 4 highlight. The team is developing a regenerative agriculture spectrum that will allow researchers to uniformly classify study sites based on tillage, cover crop intensity, pasture, and small grains in rotation. Creative DCB biophysical studies such as assessing insect diversity with sound or determining soil health through smell have garnered great attention nationwide.

MARKETS TEAM

The DCB Markets Team, composed primarily of agricultural economists, has surveyed wholesalers, restauranteurs, and grocers. They gleaned insights into existing supply chains and business operations, assessing both opportunities and obstacles for Corn Belt-grown crop and livestock products. The team also interviewed consumers of oat milk—a promising market for locally grown oats—and used insights from the interviews to create a willingness-to-pay survey.

MODELING TEAM

Computer models allow researchers to test a wide range of variables and predict their impacts. The DCB Modeling Team uses an array of computer tools to explore many aspects of diversification, including:

• **The Soil and Water Assessment Tool (SWAT) models the effects of various crop systems on soil and water quality;**

• A land-use change model uses remotae sensing data to understand historic trends in crop specialization;

• An agent-based model (ABM) provides insight into farmer behavior and adoption of new agricultural systems;

• Foodshed models quantify the number of acres required to meet demand for local food;

• An economic model provides estimates of the financial impacts of various cropping choices; and

• An air quality model allows researchers to estimate the effects of different systems on air quality and human health.

Together, the models provide a powerful tool for testing many scenarios and guiding policy and adoption targets.

EXTENSION TEAM

DCB's Extension Team, covering Purdue, University of Illinois, Iowa State University, and more, worked with 13 partner organizations to put on 31 farmer-focused field days in DCB Year 4. Extension educators connected to DCB also facilitated six farmer networking calls on extended rotations, four workshop sessions at the Practical Farmers of Iowa (PFI) 2025 annual conference, and 17 webinars related to small grains and biofuels. In addition, DCB team members attended 11 winter meetings across the Corn Belt to share findings from the project with farmers, consultants, educators, and other stakeholders. The team began writing educational publications on the five DCB systems: extended rotations, perennial forage or energy crops, agroforestry, horticultural food crops, and grazed livestock.

EDUCATION TEAM

DCB's team of curriculum designers develops modules for high school and university students. The curricula are organized into four units: agricultural, economic, ecological, and human diversity. The diversity units are linked by connecting modules on systems thinking, changing minds, and sustainability principles. The team also supports the development of a documentary on diversifying the Corn Belt. Student-oriented segments are being created from footage from the documentary shoots and used to illustrate the school curricula.Together, the models provide a powerful tool for testing many scenarios and guiding policy and adoption targets.

FOR MORE DETAILS on the Diverse Corn Belt Project, links to publications, information on members of the research team, and additional insights into research objectives and methods, visit **diversecornbelt.org**.

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