

Iowa Smart Agriculture farmers embrace circular system pathways with the release of a new vision report at COP 27.

U.S. Secretary of Agriculture Tom Vilsack and other food system leaders attending the United Nation's International Climate Change Conference (COP27) in Egypt this week are touting "circular economies" as key strategies for transforming current systems of agriculture and food into more resilient, carbon neutral, nature positive, and profitable systems. While a new concept to many in the global audience, circular systems are not new to Iowa farmers. Iowa Smart Agriculture (IASA) farmers are embracing circular system pathways for scaling up Climate Smart agriculture in their newly released report, [Iowa Smart Agriculture: Circles of Life](#). Released today at COP 27 in the Solutions from the Land (SfL) side event on Circular System Pathways, IASA co-Chair, farmer Ray Gaesser describes circular systems as, "circles of life that replicate the dynamic complexity of natural systems." He elaborates, "circular system management processes replace 'take resources, make and dispose as waste what is not the main product' with 'make, use, retain value and reuse as co-products' thereby retaining value from wastes that otherwise might be lost income or harm the system."

The white paper, *Iowa Smart Agriculture: Circles of Life, a Vision for the Future*, represents the culmination of two years of conversation among more than 30 farmers and agriculture, conservation, academic and government partners who formed the [Iowa Smart Agriculture Working Group](#) (IASA). Iowa Smart Agriculture is co-chaired by Ray Gaesser, a corn and soybean farmer in Corning, Iowa; Bryan Sievers, a grain and livestock farmer in Stockton, Iowa; and Kellie Blair, a crop and livestock farmer in Dayton, Iowa. The group is supported by [Solutions From the Land](#) and [Iowa State University's College of Agriculture and Life Sciences](#).

Bryan Sievers explains, "as we talked about the challenges of the future, we asked ourselves how can we position Iowa agriculture to respond to and meet 21st century state, national and global needs? Co-chair and farmer Kellie Blair adds, "The idea behind "Iowa Smart Agriculture" is to challenge ourselves as farmers and our value chain partners to do more and do better in how we secure and sustain agricultural productivity, enhance our soil and water resources, ensure ecosystem integrity, and find profitable solutions."

This vision and recommendations for keeping Iowa agriculture profitable and on track encompass providing multiple services: nutritious food, clean energy, high-quality water and soil, and other ecosystem services. "The circles of life and paths of every farmer will look different as they seek profitable solutions while protecting soil and water resources in the context of their own farm and situation" says Kellie Blair.

Ray Gaesser, in his role as moderator of the COP 27 SfL side event farmer panel, Circular System Pathways explained to a global audience, "This report aspires to give voice to Iowa farmers and to encourage all farmers around the world to embrace diversification, innovation, new technologies, and new production systems that deliver economic, environmental and social value."

Media Release 2022 Nov 16

Iowa's farms and rural communities are resilient and productive but like many farmers from countries around the world face similar challenges: volatile markets, supply chain issues, and water quantity and quality. Iowa Smart Agriculture envisions circular systems — which “make, use, retain value and reuse” — as the path forward for Iowa's farmers, livestock producers and land managers. Solutions from the land must come from those who live with and manage the land. However, Iowa's universities, farm organizations, agricultural value chains and agencies are also needed to provide research, technologies, education and technical support, funding, and help monitor outcomes.

IASA offers five recommendations as farmers, public and private partners, and consumers work together develop multiple solutions to shared challenges:

1. Encourage agronomic and environmental performance for multiple beneficial outcomes through flexible, diversified and integrated systems approaches.
2. Reduce environmental impacts from externalities of agricultural production by promoting circularity of farm enterprise inputs, outputs, retained value, and outcomes at farm and landscape levels.
3. Improve resilience, water quality and agricultural productivity by managing the water cycle.
4. De-risk innovation, system redesign and transition, and market volatility in agriculture and the food chain.
5. Create finance mechanisms to cover the costs of experimentation and transition to new systems and build local, regional and national infrastructure that enables market flexibility, increases farmer capacity to pivot and change, and ensures profitability as demand for products and services in the value chain shift and distribution and production conditions vary.

IASA invites all farmers and agricultural stakeholders to join the conversation in forging consensus and the priority building blocks needed to achieve its vision. “We know we don't have all of the answers, and we seek to build on the past experiences and knowledge of farmer leaders and entrepreneurs, a growing body of science, and recent public investments in soil and water management,” say IASA co-chairs. “Together, Iowa can lead the way in producing safe and nutritional food supplies, renewable fuels and energy, high quality water, soil carbon, enhanced wildlife and biodiversity, and profitable livelihoods.”

A forum is being planned for winter 2023 in Des Moines, Iowa. More information about circular systems for farms can be found in [“Frontier: Beyond Productivity—Recreating the Circles of Life to Deliver Multiple Benefits With Circular Systems.”](#)

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