Farmers should weigh benefits of cover crops with cost, yield

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INDIANAPOLIS – Farmers thinking about using cover crops should consider how their addition will impact the rest of their crop management system, according to the executive director of the Indiana Agriculture Nutrient Alliance (IANA).

"Just like changing tillage practices or your soil fertility program may require you to make adjustments to other crop operations, from planting to weed control to nutrient management, you will likely want to make certain adjustments to your agronomic plans to maximize the benefits of the cover crop and minimize your risk for harm," Ben Wicker told Farm World.

"Cover crops can address a wide range of concerns on the farm, but they are still just one tool in building a whole crop management system," he noted.

"Understanding where a cover crop introduces new risk and reduces others can let you be successful and profitable with their implementation more quickly."

Cover crops can be valuable in addressing a variety of resource concerns on farms, Wicker pointed out. Fall cover crops can be highly effective in protecting soil from erosion, particularly in the fallow winter months, he said. In Indiana, research has shown that cover crops can reduce nitrogen losses from tile drainage by nearly 34 percent on average, Wicker added.

Farmers considering cover crops have questions tied to finances – such as the initial costs of planting them – or how their use might impact productivity, he said.

"If you're making an investment in establishing a cover crop – you want it to be successful and to generate the value and benefits you're hoping to get from its use," Wicker said. "At the same time, the risks around managing the next year's corn or soybean crop can be significant if you don't have a plan to account for the changes that a cover introduces into your system. It's best to have that plan laid out front and understand what potential risks and management changes you might have to make based on what that growing season is shaping up like."

A recent article from the director of Purdue University's Center for Commercial Agriculture examined farm goal trade offs, with a focus on the trade off between conservation and profitability.

For most producers, conservation is only one of several farm goals, Michael Langemeier wrote in a paper posted on the center's website in June. Those goals may include conservation, risk reduction, profitability and the reduction of debt, he said. The paper included several scenarios, such as the adoption of a cover crop in a corn/soybean rotation.

"The adoption of a cover crop reduced soil loss, reduced greenhouse gas emissions and improved the overall soil health score from minus 0.5 to 0.0," Langemeier wrote. "The drop in yield for corn and soybeans associated with the use of cover crops was eight and three bushels per acre, respectively. Due to differences in gross returns and costs, net returns per acre for the corn/soybean rotation declined by $36 per acre with the use of cover crops."

Langemeier said his article developed a conceptual framework that can be used to examine trade offs between soil conservation, profitability and other farm goals. Specific scenarios address the adoption of cover crops with various assumptions regarding the impact of cover crops on net returns, he said.

"Unless fertilizer and herbicide costs are reduced and/or the yield gap between crops grown with and without cover crops is reduced over time, farmers that focus on profit maximization would be cautious in their adoption of cover crops," Langemeier said.

In 2025, Indiana had 1.62 million acres in living cover planted in all crops, according to the Indiana Conservation Partnership. In 2015, more than 1.2 million acres in living cover were planted in all crops.

Cover crops can reduce erosion and improve weed control and nutrient cycling, said Shannon T. Zezula, state resource conservationist with the Indiana office of the Natural Resources Conser-

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vation Service. They can also improve soil health, which could mean such things as increased organic matter, reduced compaction and increased soil biology.

"We encourage farmers to at least give cover crops an honest try on a part of their farm, but it's important that they give them a fair try so they can truly see the potential benefits," he told Farm World. "Start with a small amount of acres to learn the ins and outs of using cover crops before putting them on more acres. This will give the farmer a place to try out the new system and provide a smaller financial risk in case something does go wrong during the learning process.

"You wouldn't give up on growing corn or beans if you have a bad year, so don't give up on cover crops if one year doesn't go according to plan."

Farmers should remember that cover crops are a long-term investment, he said. They should look at it as putting money in a savings account for the farm, Zezula said. Improved soil health and resilience will support the farm and future crops, he said, but it may not be easy to put a dollar figure on what that resilience is worth.

"Cover crops also often take the place of at least one tillage pass," Zezula said. "While there is a cost for cover crop seed, taking out the tillage pass is nearly the cost of seeding."

Farmers interested in learning about cover crops should contact their local USDA Service Center or Soil and Water Conservation District, Zezula said. Programs may be available to help offset the initial costs of using cover crops, he noted.

IANA is involved with Farmers for Soil Health, which offers a $35 an acre payment for cover crops planted this summer/fall, Wicker said. IANA also offers technical assistance to farmers. For more information, visit www.inagnutrients.org.

Above: Soybeans emerging from a rye covercrop in Indiana. (Photo by Connie Swaim)