JOHN BURK
BAY COUNTY, MI

SUSTAINABILITY STORIES: INNOVATION

John Burk is smiling at earthworms.

It's a misty October afternoon — the type particularly detested at harvest — and the Bay County farmer is examining the carefully manicured soil on one of his farm's 2,900 acres.

"Here's another one!" Burk exclaims. "I know it's kind of nutty-sounding, but the earthworms are what make all the pores in the soil. They eat all those extra bacteria and create mulch. It wasn't long ago you couldn't find one in a field like this. We've worked really hard at improving our soil structure through cover cropping, and this is a sign it's working."

Cover cropping is planting an alternative crop to build and hold soil nutrients, prevent soil erosion, and increase soil organic matter.

For Burk, innovation comes through trying previously unproven principles. The former Michigan State University Extension educator draws on that experience to assess new technologies and performance principles, with a keen eye toward the future of his farming business.

"I think that experience helps me evaluate situations a lot easier," Burk explains. "It probably prepared me to adapt to change because I taught it for so long. And being with the university, I think I was exposed to a lot of technology early on. You learn a lot of things that way, and maybe pick up on new things a little quicker."

Nearly 25 percent of Michigan soybean farmers plant cover crops, including Burk, who learned early the value of incorporating cover crops into his rotation system. It's a tactic that has paid huge dividends in the realms of soil health and nutrition management, as the acreage's crop diversity also grows the earthworm population.

"We started using cover crops a little bit in '99, planting oilseed radish after we harvest wheat," he says. "The past

five years, we've been really heavily using cereal rye after our sugarbeets and soybeans come off. Now we're working with a three-way mix — oilseed radishes, winter peas and red clover — to help even more with producing our own nitrogen. And the other thing that I like about that radish, it's a sink. And what I mean by a sink is, if there's any excess fertilizer in the soil or especially nitrates, it'll suck it up. With us being so close to Saginaw Bay, that helps retain the nutrients in our soils so we can do our part to keep the Bay clean."

Partly because of his proximity to Saginaw Bay, and partly because keen attention to detail has given him the ability to improve fertilizer return on investment, Burk also pays close attention to nutrient levels in the soil. He hires a crop consultant to take samples every 2.5 acres once every three years for a more informed approach to fertilizer applications.

"It just got to the point where you'd get your soil tests back, and you've got this 40-acre field," asserts Burk. "I'm putting lime on the whole 40, where you only needed it on 10 or 15 acres. Same way with potash or phosphorus. It's just what you did. 'This is the rate. You used it last year. This is the rate you're going to use this year.' Now it's like writing a prescription for individual fields. We've probably reduced the amount of fertilizer we apply by 50 percent compared to 15 years ago."

67%

of Michigan soybean acres are seasonally rotated with other crops. Crop rotation helps control weed, disease and insect pests, supports biodiversity and helps return nutrients back to the soil.

74% of Michigan soybean farmers utilize crop scouting to assess the treatment needs of their crops.

SPRAYING

Nearly 80% of soybean growers check their pesticide sprayers regularly for accuracy, reliability and dependency. This helps avoid inaccuracies that may harm non-targeted insects and weeds, as well as preventing overspray and spray drift.

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Michigan Soybean Promotion Committee
The Soybean Checkoff