

Conservation

Benchmark farm's sustainability

By LYNN BETTS

If you want to see if your farm operation is sustainable, there's a free, confidential online tool available to help you take a quick look. It's the Fieldprint Calculator created by Field to Market: the Alliance for Sustainable Agriculture. Designed to compare inputs to outputs, in as little as an hour at the computer, you can determine the sustainability performance level for a field and compare it to other users at the local, state and national levels.

If you care to spend more time, you can run the calculator on all your fields, run comparisons from year to year, and also test different management scenarios you might be considering to compare predicted sustainability. The calculator uses models developed by the USDA Natural Resources Conservation Service and others to compare your results against benchmarks calculated from publicly available data: land use, soil erosion, soil carbon, irrigation water use, water quality, energy use and greenhouse gas emissions.

Coaching helps

"It's an educational tool," says Emily Funk, a project coordinator with the Kossuth, Humboldt and Wright counties' soil and water conservation districts in Iowa. "Anyone can go online, log in as a guest user or create a confidential account, and begin to use the calculator. But it helps if you have someone who's been through it

Key Points

- A free, confidential online calculator offers many features.
- Input information such as average slope, soil type, crop planted, rainfall and more.
- You can also look at "what if" scenarios to compare practices.

or has some experience with soil conservation methods and terminology; NRCS tools are built into the calculator."

Funk has helped more than a dozen local farmers use the calculator. "You find a field on a Google-like map, draw in its boundaries, and the program calculates the acreage of your field and brings in the soils from the Web Soil Survey," she says. "You determine which year you want to calculate; you can run the scenarios for each year back to 2007. Most farmers just want to try the last two years."

Information that you input includes average slope steepness, slope length, soil texture and organic matter percentages. Management details including crop planted, planting date, seed treatments, seeding rates and row spacing are requested, as well as tile drainage present, rainfall amounts and conservation practices. Other management details include type of tillage, trips across the field, estimated cover left on the soil surface over the year, pest management techniques, and nitrogen and phosphorus application methods — how much, when,



CALCULATE: Kevin Rasmussen used Field to Market's Fieldprint Calculator to benchmark sustainability on his farm. He calculated a field using 2012 data with help from Humboldt County, Iowa, SWCD Project Coordinator Emily Funk.

what form and how. Such things as mileage from the field to point of sale, diesel vs. gas fuel, and grain drying system use are also considered.

After you've entered all the data, the calculator creates a series of slider bars that compare the sustainability of your land use, energy use, soil loss, irrigation water use and climate impact to county, state and national averages. A summary tab allows you to view your "Fieldprint" in a table report and also in what's called a spidergram. It's a multi-sided box that displays the size of your Fieldprint with all the sustainability categories put together; the smaller the area you see, the more sustainable your management system.

"One of the values of the calculator is that you can see your Fieldprint with your current system, but you can also do "what ifs" with it. For instance, you could watch how much your sustainability could change if you switched from conventional tillage to no-till or strip till," Funk says.

Benchmark efficiencies

"It was all new to me, but when Emily called and offered a way to set a benchmark for sustainability and to track it year by year, I thought it was worth doing," says Kevin Rasmussen, a corn and hog farmer from Goldfield in Humboldt County, Iowa. "I try to be as efficient as I can with everything — reducing trips across a field, saving soil, saving fertilizers — and this is one tool that can track that from year to year, comparing those efficiencies to crop yields."

Rasmussen, an avid conservationist, had a Fieldprint that was smaller than local, state and national averages. Still, he was surprised it was as large as it was. "One thing that raised my Fieldprint was an extra trip for fungicides. Another was my split application of nitrogen," he says. "Every trip across the field is accounted for in this calculator. You like to think you just plant and harvest, but that's not the case."

Rasmussen's Fieldprint was also lower in 2012, when yields were high. "Yield is a big driver in this, because all those inputs are measured against your output," he says. He knows there are some things he can do to make the Fieldprint smaller yet. "Cover crops give you big points," he says.

"I used a few acres of cover crops last year, and I'm continuing to evaluate them. This program validates some reasoning that I need to continue to pursue them in the operation. It will be interesting to get another year under my belt with this calculator and to keep looking at improvements. You need to see trends."

Rasmussen believes the calculator is one way to document what you're doing, look at what you might want to change and compare yourself against others. "Really, it's just being a good steward of your resources to sit down and compare inputs to outputs," he says.

Betts writes from Johnston, Iowa.

Field to Market pilot project

PILLOT groups of farmers — some 400 in eight states — have been using the Fieldprint Calculator on corn, soybean, rice, wheat, cotton and potato fields. In Iowa, the promotion of the calculator and coaching in its use is being funded for two years by Monsanto Co. and the Coca-Cola Foundation, two partners in a diverse alliance that makes up Field to Market.

The alliance has more than 50 grower organizations; agribusinesses; food, fiber, restaurant and retail companies; conservation groups; universities; and agency partners such as the American Soybean Association, DuPont Pioneer, The Mosaic Co., The Fertilizer Institute, The Nature Conservancy, Walmart and McDonald's Corp.

"The groups are coming together to get a sustainable supply chain for U.S. commodity crops, and a standardized way to measure outcomes," says Field to Market President Rod Snyder. "We're seeing improved efficiencies in producing more food, fiber and fuel, with less natural resources, and the Fieldprint Calculator and other tools give us a creditable way to talk about those efficiencies."

To try the calculator, go to www.fieldtomarket.org/fieldprint-calculator.

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