Measuring the profitability and soil-health effects of alternatives to conventional burndown of cover crops

Recently we ran across an interesting agricultural research project that "examines how farmers can maximize the soil health and agronomic benefits of cover crops" (https://tinyurl.com/578x3cbh). In areas of the country where there is sufficient time between harvest and the onset of winter, farmers plant cover crops to "suppress weeds, prevent soil erosion, [and] help build and improve soil fertility and quality."

The challenge has then been to kill the cover crop so that is does not negatively influence the yield of crops that are planted in the spring for fall harvest. In recent decades, the common practice has been for farmers to kill the cover crop with farm chemicals or tillage.

The interesting USDA funded project in northern New Jersey is designed to "examine alternative termination strategies that not only boost soil health benefits but also increase profitability. Farmers enrolled in the study will commit to either (1) planting cash crops through green, growing cover crops, (2) grazing cover crops, or (3) using a roller-crimper to kill the cover crops." The study called "Innovative Strategies for Cover Crop Termination: On-Farm Soil Health Demonstration & Research Trial is being carried out by the North Jersey RC&D (Resource Conservation and Development).

The study involves 25 farmers using a wide range of agricultural practices (conventional grain, organic grain, conventional vegetable, organic vegetable, beef, and dairy production). Project organizers will compile and analyze farmer assessments and insights, yields, and measures of soil health on the participating farms to identify the strengths and weaknesses of each of the three systems compared to the conventional burndown of the cover crop weeks before spring planting.

Our interest in the project is as much about the research methodology as it is with the results of the study. The methodology seeks to systematically record and analyze a number of measurable parameters of agricultural production both social and physical.

We regularly read a wide range of articles that appear in the agricultural press. Many are fascinating stories about individual farmers or groups of farmers and the systems that they have developed in response to their own particular needs and values. The stories are inspiring.

But we are often frustrated because there is no direct way to compare one system we read about with another.

The advantage of the North Jersey project is that it seeks to provide a common set of measures to examine three alternatives to the conventional burndown of cover crops over a wide range of agricultural systems.

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