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# Beyond practice adoption: keeping producers engaged in sustainability initiatives

By Kelly Murray Young

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*The Environmental Quality Incentives Program (EQIP) will pay growers for up to five years to experiment with cover crops to determine the best seed, management, and termination options for their farm. Here cover crops are being interseeded into corn. Photo by Lynn*

Betts (NRCS/SWCS).

This article is brought to you by the SPARC Initiative created in partnership between the American Society for Agronomy, the Agricultural Retailers Association, Environmental Defense Fund, and Field to Market: The Alliance for Sustainable Agriculture to empower trusted advisers to deliver services that drive continuous improvement in the productivity, profitability, and environmental outcomes of farmers' operations. Learn more about the SPARC Initiative and access additional resources, including the six-module series on sustainability at [www.fieldtomarket.org/SPARC](http://www.fieldtomarket.org/SPARC).

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## Sustainability Programming for Ag Retailers and CCAs (SPARC)



The push to improve U.S. agriculture's impacts on the environment has been advancing for at least 80 years, strengthened by the creation of the Soil Conservation Service in 1935 within the USDA (which became the Natural Resource Conservation Service in 1994). The need to conserve soil became painfully evident during the Dust Bowl of the

1930s when vast volumes of our nation's topsoil were blown away from the Great Plains, resulting in catastrophic losses of agronomic productivity across America's breadbasket. Since then, countless programs and initiatives from both public and private entities have launched to encourage farmers to adopt practices known to protect soil, water, air, and biodiversity.

To this day, a great deal of attention and financial resources are devoted to incentivizing farmers to adopt such practices. For example, the NRCS offers growers funds through two programs to improve their operations by adopting conservation activities. The **Environmental Quality Incentives Program** (EQIP) will pay growers for up to five years to experiment with cover crops to determine the best seed, management, and termination options for their farm.

The **Conservation Stewardship Program** (CSP) is intended to enhance existing conservation efforts on farms by implementing additional activities. If growers are already using cover crops, perhaps as a result of EQIP funding, they may use CSP funding to reduce their tillage intensity or implement another, additive practice. Payments vary from state to state for both programs and are generally lower for CSP projects because it is assumed once the initial hurdle of first practice adoption is crossed, it is cheaper to implement additional practices (Wallander et al., 2021).

USDA has signaled its intent to continue to scale these efforts, including through the recently announced **Climate-Smart Agriculture and Forestry Partnership Initiative**, which will finance the deployment of agronomic practices to aid in the marketing of climate-smart agricultural commodities.

Despite these efforts, adoption of two primary practices, cover crops and conservation tillage (>30% residue left on the field at planting), remains low. Looking at adoption of these practices across the Corn Belt, planting cover crops after corn and

soy more than doubled between 2005 and 2018, yet still only covers 3.3% of the area planted after those crops in that region. Conservation tillage in 2018 was practiced on 43.9% of acres after corn and soy, yet only represents an increase of 2.9% over the same time period (Hagen et al., 2019). Many commodity groups, including those representing cotton, corn, soybeans, and rice, have set goals and made climate commitments that rely on the uptake and longevity of conservation practices by U.S. producers. Read about these and other climate goals set by organizations across the supply chain in a compendium published by Field to Market (<https://bit.ly/3BEUXM9>). In order for these goals to be met, change is going to have to happen much faster than the current pace.

### **Encouraging Growers to Adopt, Maintain Conservation Practices**

Paying growers to adopt new practices encourages adoption, at least temporarily, but maintaining those behaviors is crucial to realizing common goals around climate, soil, water, and biological conservation. Another NRCS program, the **Conservation Reserve Program** (CRP), pays farmers annual rent to convert highly erodible land or other environmentally sensitive land to vegetative cover, such as native grasses and trees. Landowners enter into CRP contracts that range in length from 10–15 years. A 1997 analysis of Texan producers after CRP contracts expired suggested that two-thirds of contract holders intended to return their land to crop production, rather than maintain the permanent vegetative cover supported by the program (Johnson et al., 1997). Without continued support, growers are likely to revert to their old ways.

Finding the best tactics to encourage growers to adopt and maintain conservation practices in their operations has brought many unlikely partners to the same table, including social scientists, economists, environmental non-profits, and agrochemical companies. An emerging strategy to encourage producers to continue practices are ecosystem services markets. A seemingly ever-growing number of ecosystem markets has emerged in recent years. With contract terms commonly lasting as long as 10 years, growers sell credits to buyers, usually corporations, that are trying to meet their own sustainability goals. By implementing and maintaining practices like cover crops, no-till, and expanding crop rotations, and quantifying improvements, growers exchange improvements in biodiversity, water use, carbon sequestration, and other environmental services for payments that can range from less than \$15/ac/yr to more than \$50/ac/yr. Among these ecosystems markets, carbon markets are the most common due to the increasing focus on the role of atmospheric carbon dioxide in climate change.



*If growers are already using cover crops, they may use Conservation Stewardship Program funding to reduce their tillage intensity or implement another, additive practice. Photo courtesy of USDA.*

The **Soil and Water Outcomes Fund** offers one-year terms on financial incentives for growers to retire cropland, convert cropland to pasture, extend rotations, and implement no-till and cover crops for carbon sequestration and improved water quality. **The Nori Carbon-Removal Marketplace** is focused on carbon credits and offers 10-year contracts for farmers changing or expanding crop rotations and cropping intensity, introducing cover crops and/or shifting from annuals to perennials, reducing tillage events and intensity and/or adopting new residue management

techniques, and substituting synthetic fertilizers with organic matter additions.

Expected to launch in 2022, the **Ecosystem Service Market Consortium** (ESMC) will pay growers for outcomes, rather than for implementing specified practices. While ESMC is still working out the measurement protocol, it expects contracts to last 10 years.

Agribusinesses are entering ecosystem markets and expanding their portfolio of services to growers too. **Bayer** is implementing a program to pay their customers \$3/ac/yr for reduced- and no-till, \$6/ac/yr for cover crops, and \$9/ac/yr for both practices, even if the practices were started previously, as early as 2012. And Cargill is launching a new carbon market program for its customers in select geographies called **RegenConnect**, which will pilot during the 2022 growing season.

Many of these ecosystems markets can be stacked with NRCS and other governmental financial incentives. The markets mentioned above are just a sample of the many that have emerged in the past few years. Find out what is available to growers in your region and help them decide which, if any, will help them to adopt and maintain conservation practices.

One full-tillage event can undo years of work building soil organic carbon. If the soil remains protected with living roots and crop residues, soil erosion is likely to accelerate too. Realizing the long-term environmental benefits of conservation agriculture requires sustained commitment by farm operators to stick with it. What can a CCA or other farm adviser do to support the growers they serve in deciding to continue the practices year after year?

## **Messaging Matters**

Growers may think there is a disconnect between sustainable agriculture and “good farming.” But nothing could be further from the truth. Building soil health is not a fad; rather, it should be considered an investment in the long-term success of the farm and its productivity. Share case studies that show the benefits. Organizations like **Field to Market**, **Soil Health Institute**, **Sustainable Agriculture Research and Education** (SARE), and **American Farmland Trust** have a trove of examples on their websites that you can share with growers.



*Shifting from annuals to perennials is one practice that is encouraged by the Nori Carbon-Removal Marketplace, which offers 10-year contracts for farmers. Here University of Minnesota Kernza researcher Prabin Bajgain is evaluating intermediate wheatgrass (a perennial) before harvest. Photo courtesy of Prabin Bajgain and originally submitted with article <https://doi.org/10.1002/csan.20239>*

Behavioral research points to the importance of social norms influencing farmer conservation behavior (Kuhfuss et al., 2016). People are more likely to take up a new behavior if they perceive everyone else is doing it. When our mothers asked us if we would jump off a bridge because the other kids were doing it, the honest answer was probably “yes.”

The key to widespread adoption of agronomic practices that are proven to improve environmental outcomes lies in shifting the norm from bare soil between cash crops to protected soil between cash crops. Normalizing sustainable, regenerative agriculture is our shared challenge.

Other behavioral research looking at the factors related to farmer practice adoption points out what should be obvious: Growers need to be aware of the practice or

program and have a positive attitude toward it (Smart et al., 2015). Convey support for growers' continued use of cover crops, no-till, nutrient stewardship, and the like. Connect them with other growers who are doing well with the practice. Farmers trust other farmers for advice on practice implementation as much, or more than, family members and chemical and seed dealers (Prokopy et al., 2014). Amplify the stories of the early adopters that are doing well as they are positive ambassadors for conservation agriculture.

An example of one such successful farmer is Jack Boyer, Field to Market's 2020 Farmer of the Year. Willing to share not only what has worked on his operation, but also what didn't, Boyer is a role model for the value of cover crops to improve resilience. While neighboring farmers saw their corn destroyed during the 2020 derecho in Iowa, Boyer's crop stood tall through the catastrophic weather event. Read more about Jack Boyer's story at <https://fieldtomarket.org/case-studies-series/2020-farmer/>.

### **Track Farmer Financial Outcomes**

Understanding the true costs and benefits of continuing conservation ag practices requires consistent recordkeeping and shifting the focus from strictly yields to net profitability. Recent analysis of 100 farms by the Soil Health Institute shows that using no-till and cover crops as a management system increased farmers' net income by \$88 and \$85 for soybeans and corn, respectively.

As the expertise of farmers using sustainable agriculture systems grows, their profitability improves. A report by the Environmental Defense Fund (Bowman et al., 2021) demonstrated that as growers became more experienced with cover crops and reduced-till systems, after at least five years, they reduced their input costs over time. Corn producers who had fine-tuned their conservation systems reduced their input costs by \$67/ac, and seasoned soybean growers whittled theirs down by \$119/ac.

These savings came from spending \$5–\$10 less per acre on cover crop seed, \$25–\$46 less per acre on fertilizer, and \$25–\$28 less per acre on equipment costs compared with recent adopters. Sharing this kind of solid evidence about the financial benefits of maintaining conservation agriculture practices in the long-term is a way to boost grower confidence that persistence pays.

## **Conclusion**

Enabling large-scale, systematic improvements in soil, water, and biodiversity outcomes from agriculture requires constant encouragement and support from the communities that surround farmers. Certified Crop Advisers need ready access to solutions when growers are hesitant to get started or are considering abandoning sustainable, regenerative agronomic systems. These tools can be grouped into four categories:

1. Build their understanding of the importance of participating in America's conservation agriculture movement, and work on securing their commitment.
2. Share stories of farmers in your region who are already doing well by doing good, and elevate them as role models.
3. Grow and demonstrate your technical expertise in the sustainable ag practices that will work well for the growers you serve.
4. Connect growers to programs offering financial incentives for practice adoption and permanence.

## **References**

Bowman, M., Verville, T., Cornell, J., Gauthier, V., Sands, L., Grafton, A., & Nichol, J. (2021). Conservation's impact on the farm bottom line. <https://bit.ly/3BE6uLF>

Hagen, S., Ingraham, P., & Delgado, G. (2019). Mapping conservation practices and outcomes in the Corn Belt—final report. <https://bit.ly/2YldkRG>

Johnson, P.N., Misra, S.K., & Ervin, R.T. (1997). A qualitative choice analysis of factors influencing post-CRP land use decisions. *Journal of Agricultural and Applied Economics*, **29**(1), 163–173.

Kuhfuss, L., Préget, R., Thoyer, S., Hanley, N., Le Coent, P., & Désolé, M. (2016). Nudges, social norms, and permanence in agri-environmental schemes. *Land Economics*, **92**(4), 641–655.

Prokopy, L.S., Towery, D., & Babin, N. (2014). *Adoption of agricultural conservation practices: Insights from research and practice* (FNR-488-W).

<http://www.extension.purdue.edu/extmedia/fnr/fnr-488-w.pdf>

Smart, A.J., Clay, D.E., Stover, R.G., & Parvez, M. (2015). Persistence wins: Long-term agricultural conservation outreach pays off. *The Journal of Extension*, **53**(2).

<https://tigerprints.clemson.edu/joe/vol53/iss2/20>

Wallander, S., Smith, D., Bowman, M., & Claassen, R. (2021). *Cover crop trends, programs, and practices in the United States*.

<https://www.ers.usda.gov/publications/pub-details/?pubid=100550>

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