

# What makes farmers try new practices?

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Perennial grasses, a type of multifunctional perennial cropping system, can be grown for forage or biofuel. Credit: Wikimedia Commons

Change is never easy. But when it comes to adopting new agricultural practices, some farmers are easier to convince than others.

A group of researchers at the University of Illinois wanted to know which [farmers](#) are most likely to adopt multifunctional perennial

cropping systems—trees, shrubs, or grasses that simultaneously benefit the environment and generate high-value products that can be harvested for a profit.

"We surveyed farmers in the Upper Sangamon River Watershed in Illinois to learn their attitudes about growing MPCs on marginal land. We then looked at their demographic data to classify people into different categories related to their adoption potential," says University of Illinois agroecologist Sarah Taylor Lovell.

Using statistical clustering techniques, the team discovered that survey respondents fell into six categories. The "educated networkers" and "young innovators" were most likely to adopt MPCs. On the other end of the spectrum, survey respondents classified as "money motivated" and "hands-off" were least likely to adopt the new cropping systems.

The goal of categorizing farmers was to tailor strategies for each group, given their general attitudes. "If they're very unlikely to adopt at all, we probably wouldn't spend a lot of time worrying about those groups," Lovell explains.

However, Lovell thinks some low-likelihood adopters could be swayed. "One of the groups—the one we called "money motivated"—was really connected with GPS in their yield monitoring, so we thought we could target that. We could review high-resolution maps of their farms to point out the areas that are unproductive for corn and soybeans. We'd try to make the case that alternative perennial systems could bring in profits," Lovell says.

High-likelihood adopters were motivated by environmental concerns, and were especially interested in converting [marginal land](#) to bioenergy crop, hay, or nut production systems. "Farmers were probably most familiar with bioenergy grasses and hay," Lovell explains. But it was

important to them that an existing market was in place for MPCs products.

Another major factor was land tenancy. Considering that most MPC crops don't mature for years after planting, rental contracts would need to account for the long-term investment.

"The person leasing the land might be really interested in agroforestry or perennial cropping systems," Lovell says. "The lease arrangement has to be long enough that the farmer will get back their investment in that period. For example, some of the nut crops take a long time to mature. But if you integrate some of the fruit shrubs, they'll become productive in maybe 3-4 years. You could get an earlier return on investment in those cases."

Lovell's graduate students—housed in the crop sciences department at U of I—are now following up with several of the farmers who were interested in MPCs and offering custom designs to establish the new [cropping systems](#) on their land.

"That was part of the overall goal for this study. We wondered if the barrier to adoption is a lack of information about design options and the economic potential," Lovell says. "If we overcome that barrier by developing good planting plans, projecting the market economics, and providing them with that information, will that help them implement the change?"

**More information:** Chloe M. Mattia et al, Identifying barriers and motivators for adoption of multifunctional perennial cropping systems by landowners in the Upper Sangamon River Watershed, Illinois, *Agroforestry Systems* (2016). [DOI: 10.1007/s10457-016-0053-6](https://doi.org/10.1007/s10457-016-0053-6)

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