



# ERS *Report Summary*

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## Conservation-Compatible Practices and Programs: Who Participates?

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### *What Is the Issue?*

Farm operators have a financial incentive to maintain the quality of their land by limiting soil erosion, avoiding excessive chemical inputs, and taking other steps to protect soil productivity. Because many farm operators live on or near their farms, they also have an incentive to reduce the onsite environmental degradation often associated with farm production. However, farm operators have little motivation to reduce offsite impacts, and farming remains a significant source of sedimentation and nutrient loading in some watersheds.

The Federal Government provides technical and financial support to farm operators for a wide range of conservation practices meant to reduce these offsite environmental impacts. Because these programs are voluntary, their effectiveness depends on the willingness of farm operators to participate. Operators' decisions can be influenced by considerations other than profits and the environment, such as off-farm work commitments and farm ownership status. By examining the characteristics of farms that have adopted conservation-compatible practices and participated in USDA conservation programs, we can better understand how potential participants might respond to market and program incentives.

### *What Did the Study Find?*

The results of the analysis suggest that farm size, commodity mix, and operator motivation are all associated with decisions to use various types of conservation practices, but in different ways.

### *Conservation-Compatible Management Practices*

Management practices that provide environmental benefits and profitability without large conversion costs (such as conservation tillage, crop rotation, and the use of insect-resistant or herbicide-tolerant plants) have been adopted by farms of all sizes, largely without direct financial assistance from conservation programs. However, operators of small enterprises focused on nonfarm occupations are less likely to adopt practices requiring extra time or expense (such as variable-rate application of inputs or integrated pest management) than operators of large enterprises whose primary occupation is farming. Higher education, the use of outside expertise, farm household reliance on farm income, and receipt of commodity program payments all affect the likelihood of farmers adopting conservation-compatible practices that are more management-intensive.

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### ***Structural and Vegetative Conservation Practices***

Conservation structures like grass waterways and riparian buffers, and vegetative measures such as planting farmland to grasses and other conservation cover crops, come at a cost, both for installation and in forgone production. Younger operators who consider farming their primary occupation and who rely less on off-farm income are more likely to install grass waterways, contour strips, and other working-land structures compatible with agricultural production. Farmers who install these structures tend to receive only modest assistance from conservation programs. More farm operators who plant conservation cover crops (either to retire cropland or as part of some other land-use change) consider themselves to be retired than those in the conservation structure group, and they receive more conservation program payments than other operators.

### ***Working-Land Conservation Programs***

Larger farms whose operators consider farming their primary occupation are more likely to seek participation in working-land conservation programs, such as the Environmental Quality Incentives Program (EQIP). Farmers who take advantage of conservation programs to install working-land practices typically enroll relatively little acreage in the programs, particularly if they are involved in the production of high-value crops.

### ***Land Retirement Programs***

Intensive use of land retirement programs is most common among smaller "retired" and "lifestyle" farms. Smaller farms whose operators are focused on nonfarm activities are also more likely to take land out of production. "Whole-farm" enrollees (those who effectively replace income from farm production with Conservation Reserve Program (CRP) payments) are generally older than other farm operators, are more reliant on nonfarm sources of income, and account for roughly half of the farms participating in CRP. Most of the remaining participants use CRP to retire selected fields or portions of fields from production. These "partial-farm" enrollees tend to be operators of larger farms and to consider farming their primary occupation.

### ***Policy Implications***

Because working-land and land retirement programs appeal to different types of farmers, both approaches may be needed to address the conservation needs of a diverse agricultural sector. Also, program incentives that assume all farmers aim to maximize farm profits may not be as effective or efficient as flexible incentive structures that can accommodate other farm operator goals, such as timesaving and ease of use. Finally, policies other than direct subsidies can provide substantial environmental benefits. For example, conservation-compliance regulations, technical assistance, and research to improve standard farming practices (such as crop rotation) can all provide conservation payoffs.

### ***How Was the Study Conducted?***

This report analyzes the business, operator, and household characteristics of farms, focusing on those that have adopted one or more of a select group of conservation-compatible management practices or have installed one or more conservation structures, with and without the assistance of USDA's major conservation programs. Particular attention is focused on the Department's farmland retirement programs, the largest of which is CRP, and its working-land programs, most notably EQIP and the working-land structures funded by CRP. Crop-specific data from the Agricultural Resource Management Surveys (ARMS) of farms growing corn (in 2001), soybeans (in 2002), and cotton (in 2003) allow us to examine the characteristics of farms that adopt conservation-management practices. A special section of the 2001 ARMS survey of all farms and ranches is used to examine the adoption of structural and vegetative conservation practices.