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Multi-Cropping Practices: Recent Trends in Double-Cropping

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What Is the Issue?

Over the last decade, growing demand for agricultural commodities—for both food and fuel—has increased the incentives for farm operators to increase production. One way to expand production is by expanding cropland acres. However, cropland expansion is not without negative environmental consequences. A recent ERS study found that about one-third of the expansion in harvested corn crop acreage represented shifts from hay production, Conservation Reserve Program (CRP) enrollment, or grazing land use—all of which provide important environmental benefits, such as wildlife habitat and carbon reduction.

Another way to expand production and potentially increase the economic returns to farming is to intensify the use of existing cropland. Multi-cropping practices offer various strategies for intensification by allowing multiple uses of a single field during a single time period (such as a calendar year). The four main multi-cropping practices are cover cropping, integrated crop-livestock systems, woodland-based systems (such as woodland pasture and agroforestry), and double cropping.

This report focuses on double cropping, which involves the harvest of two crops from the same field in a given year. Double cropping may substitute for expanding cropland acreage and may have fewer negative environmental consequences. The authors developed a baseline analysis of U.S. double-cropping patterns from 1999 to 2012 and briefly explored the role that farm programs may have in farmers' double-cropping decisions. It is intended to support future discussion on the factors influencing its use and on the merits of expanding its use.

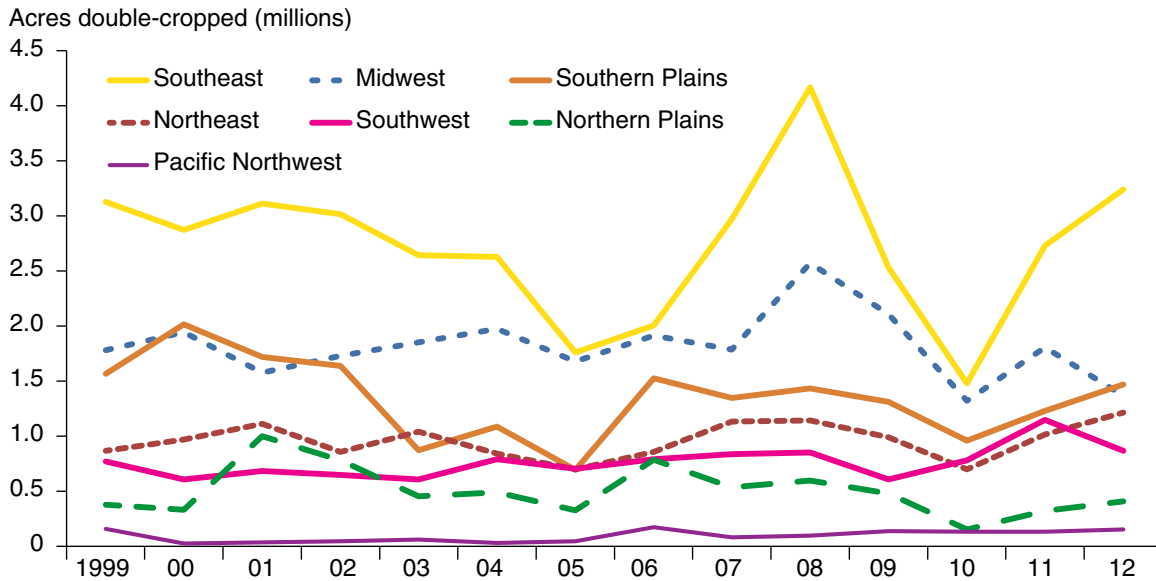
What Did the Study Find?

From 1999 to 2012, double cropping occurred on only about 2 percent of total U.S. cropland in most years, suggesting that relatively few farmers are choosing to adopt this practice. In comparison, from 2006 to 2011, an average of 1 to 2 percent of cropland acres were reported to be cover cropped, and 11 to 26 percent of planted acres for selected crops were grazed following harvest (an example of an integrated crop-livestock system).

The Southeast and Midwest contained the greatest total double-cropped land. The Southeast had about one-third of total U.S. double-cropped acreage (with an average 2.7 million acres), and the Midwest had slightly more than one-fifth (with an average 1.8 million acres). The Pacific Northwest contained the least double-cropped acreage, with an average 92,000 acres. These

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The Southeast leads the Nation in total double-cropped acreage, 1999-2012



Note: USDA, Economic Research Service calculations of double-cropped acreage using USDA, National Agricultural Statistics Service (NASS) June Area Survey data. Estimates are weighted with NASS-supplied survey weights. Regions were derived from hydrologic unit code boundaries.

regional differences can be partly attributed to factors such as climate. For example, the Southeast's larger acreage share reflects its longer growing season.

Viewed as shares of each region's total cropland, double cropping was most common in the Northeast, Southeast, and Southwest regions. The Northeast had the highest share (with nearly 10 percent of its cropland double cropped, on average), while the Northern Plains had the lowest share (with less than 0.5 percent double cropped, on average). The large Northeast acreage share suggests that the constraints short growing seasons pose to double cropping can be overcome with alternative crop combinations, production practices, or the use of new technologies, such as hybrid seeds.

Changing commodity prices are likely one factor in the decision to double crop. Over time, total double-cropped acreage tracked trends in soybean, winter wheat, and corn prices. When commodity prices were increasing or were relatively high at the time of planting decisions, the total double-cropped acreage also increased.

Slightly more than half of double-cropped acreage included soybeans. Nationally, an average of 53 percent of total double-cropped acres were double cropped with soybeans. Within the Southeast, soybeans represented a much larger share of double-cropped acreage than in other regions.

Crop insurance restrictions—including higher premiums tied to double cropping in some locations, or difficulty obtaining insurance for second crops—may discourage farmers from double cropping. However, if the market or environmental incentives for double cropping change, the crop insurance program has sufficient flexibility to avoid becoming a long-run constraint on double cropping.

How Was the Study Conducted?

The analysis relies primarily on data from the National Agricultural Statistics Service's (NASS) June Area Survey (JAS) to report on these trends. Data were also compiled from the Agricultural Resource Management Survey (ARMS), which is jointly administered by the Economic Research Service (ERS) and NASS, to investigate the double-cropping combinations farmers use. The USDA's Risk Management Agency's (RMA) county-level actuarial master data are explored to discuss the possible impacts of programs and policies on double-cropping decisions.