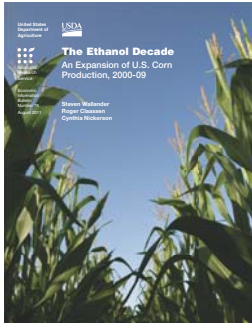


ERS *Report Summary*

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This is a summary
of an ERS report.

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The Ethanol Decade: An Expansion of U.S. Corn Production, 2000-09

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What Is the Issue?

As annual U.S. ethanol production increased 9 billion gallons between 2000 and 2009, demand for the feedstock used to produce ethanol also increased. In the United States, corn is the primary feedstock for ethanol production, and harvested corn acreage increased by roughly 10 percent (7.2 million acres) over the same period, with much of the change occurring in 2006-08. The environmental and economic implications of such a large shift in land use depend largely on where these additional corn acres are located. In this study, we analyze data from a special bioenergy survey of farm operators to determine, for the first time, how farm-level land-use decisions affected corn supplies and competing crops.

What Did the Study Find?

As farmers react to price changes for commodities they can produce on their farms, adjustments in land-use decisions can be complex. Not only do land-use decisions by individual farmers reflect the relative productivity of farmland for specific crops, but price expectations can differ from one operator to the next and decisions can change from year-to-year as new expectations are formed. Increased demand for corn, attributed to bioenergy policies and other market conditions during 2000-09, resulted in a complex array of cropping pattern changes.

- Corn production expanded between 2000 and 2009 due partly to an increase in corn acreage relative to historic levels and partly to an increase in corn yields.
- Crop acreage shifts at the farm level indicate complex market adjustments between 2006 and 2008:
 - Farms specializing in soybeans in 2006 accounted for most of the increase in corn acreage;
 - Farms shifting from other crops into soybeans offset the shift from soybeans to corn; and
 - Some farms reduced corn acreage, while other farms expanded soybean and corn acreage simultaneously.
- Expanding total acreage in major cultivated crops on corn and soybean farms also increased corn and soybean acreage:

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- The average shift from hay, USDA Conservation Reserve Program, or grazing land into cultivated cropland accounted for about a third of the average increase in harvested crop acreage, mostly from hay; and
- Double cropping (consecutively producing two crops of either like or unlike commodities on the same land within the same year) and a reduction in idled cropland also expanded harvested crop acreage.

How Was the Study Conducted?

This report examines the expansion in U.S. corn production between 2000 and 2009, but focuses specifically on farm-level evidence for 2006-08—a period of dramatic corn price increases. Higher corn prices (relative to alternative crop prices) stimulated increased corn production. Analyzing farm-level survey data allows us to determine the relative scale and sources of cropland expansion. The farm-level data were drawn from a special version of the 2008 Agricultural Resources Management Survey (ARMS) that sampled corn and soybean farmers simultaneously. Corn and soybeans are often grown in rotation, so targeting producers of both crops provides a full representation of joint production for both crops. The ARMS is a detailed, annual survey of farm businesses and associated households conducted jointly by the U.S. Department of Agriculture's Economic Research Service (ERS) and National Agricultural Statistics Service (NASS). We investigated the changes in aggregate crop acreages between 2000 and 2009 by using annual crop production summaries and the 1997, 2002, and 2007 Agricultural Censuses.