

GAO Highlights

Highlights of [GAO-16-241](#), a report to the Honorable Jon Tester, U.S. Senate

Why GAO Did This Study

Three agencies have primary responsibility for regulating GE crops and food in the United States: USDA, EPA, and FDA. USDA and industry groups estimate that at least 90 percent of many major commercial crops, such as corn and soybeans, are GE varieties. Proponents say GE crops offer greater pest resistance, use less labor-intensive processes to control weeds, and result in increased productivity to feed growing populations. Opponents cite a lack of consensus on impacts to agriculture, the environment, and human health.

GAO was asked to review oversight and information on GE crops. This report examines (1) steps EPA, FDA, and USDA have taken to regulate GE crops; (2) the data USDA has on the extent and impact of unintended mixing of GE and non-GE crops, and what steps have been taken to prevent such mixing; and (3) the extent to which USDA, EPA, and FDA provide information to the public on GE crops. GAO analyzed legislation, regulations, and agency policies and reports and interviewed agency officials and stakeholders, including representatives from the biotechnology and food industries and consumer, farm, environmental, and commodity groups.

What GAO Recommends

GAO recommends, among other things, that USDA set a timeline for updating its regulations and include farmers growing identity-preserved crops in its survey efforts to better understand the impacts of unintended mixing. USDA generally agreed with these recommendations.

View [GAO-16-241](#). For more information, contact Steve D. Morris at (202) 512-3841 or morris@gao.gov.

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GENETICALLY ENGINEERED CROPS

USDA Needs to Enhance Oversight and Better Understand Impacts of Unintended Mixing with Other Crops

What GAO Found

The Environmental Protection Agency (EPA), Food and Drug Administration (FDA), and U.S. Department of Agriculture (USDA), have taken steps to regulate genetically-engineered (GE) crops (i.e., crops whose genetic makeup has been modified), but USDA has not updated its regulations to oversee GE crops derived from alternative technologies in which the GE crop developed contains no plant pest DNA. EPA regulates certain GE crops as part of its pesticide registration process. FDA, through its voluntary consultation process, works with companies that develop GE crops to consider food safety issues. EPA and FDA apply the same legal authorities and oversight processes to regulate GE and non-GE crops, regardless of how a GE crop was developed. Conversely, USDA's GE crop regulations pertain only to crops for which the donor, vector, or recipient of genetic material is a plant pest. In 2008, USDA took steps to update its regulations to capture GE crops developed with alternative technologies. However, in February 2015, USDA withdrew its proposed rule because, in part, the scope of this rule was not clear. USDA still intends to update its regulations, but has not established a timeline for doing so. GAO's body of work has shown that without milestones and interim steps it can be difficult for an agency to set priorities, measure progress, and provide management a means to monitor the agency's progress in promulgating a new rule. In addition, until a rule is finalized USDA will continue to lack regulatory authority to assess the potential risks, if any, posed by GE crops created with alternative technologies.

USDA has limited data on the extent and impact of unintended mixing of GE and non-GE crops, according to USDA officials and stakeholders. USDA officials said that the agency has generally not collected information on unintended mixing in past farmer surveys because no specific request had been made to obtain this information. In a 2012 report, the USDA Advisory Committee on Biotechnology and 21st Century Agriculture (AC21) recommended that the agency fund or conduct research, including quantifying actual economic losses (e.g., loss of a premium price for an organic crop), incurred by farmers as a result of unintended mixing. In its 2014 Organic Survey, USDA surveyed organic farmers on economic losses from unintended GE presence in their crops offered for sale. The survey results indicated that economic losses caused by unintended GE material in organic crops offered for sale exist, although at very small levels. However, USDA does not have similar data for farmers using non-GE seed and marketing their crops as identity-preserved (i.e., a specific genetic variety of a crop). USDA officials said identity-preserved crop acreage is significantly greater than organic crop acreage. Without including farmers growing identity-preserved crops in addition to those growing organic crops in its survey efforts, USDA is missing key information on the potential economic impacts of unintended mixing. Nonetheless, USDA has taken some steps to address unintended mixing, such as reviving AC21, as have farmers and the agribusiness industry.

USDA, EPA, and FDA provide varying degrees of information about their oversight of GE crops to the public. USDA and EPA regularly provide information and updates on actions relating to their oversight of GE crops on their websites and use a number of mechanisms to obtain public input on their actions. FDA provides information on GE crops relating to its consultation process.