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# FOOD SAFETY

## FDA and USDA Should Strengthen Pesticide Residue Monitoring Programs and Further Disclose Monitoring Limitations

GAO Highlights

Highlights of GAO-15-38, a report to the Ranking Member, Subcommittee on Environment and the Economy, Committee on Energy and Commerce, House of Representatives

### Why GAO Did This Study

From 1970 to 2007, hundreds of millions of pounds of pesticides were applied annually to U.S. food crops to protect them from pests. To protect consumers, EPA sets standards—known as tolerances—for pesticide residues on foods. FSIS monitors meat, poultry, and processed egg products to ensure they do not violate EPA's tolerances, and FDA monitors other foods, including fruits and vegetables. AMS gathers annual residue data for highly consumed foods, although not for enforcement purposes.

GAO was asked to review federal oversight of pesticide residues in food. This report examines (1) what FDA data show with respect to pesticide residue violations in the foods that it regulates; (2) what FSIS data show with respect to pesticide residue violations in the foods that it regulates; and (3) what AMS data show with respect to pesticide residue levels in fruits and vegetables. For each agency, GAO examined limitations, if any, in the agencies' monitoring of foods for pesticide residues. GAO analyzed FDA, FSIS, and AMS pesticide residue data, including their reliability, reviewed agency methods for sampling foods for testing, and interviewed agency officials.

### What GAO Recommends

GAO recommends that FDA improve its methodology and FDA and USDA disclose limitations in their monitoring and data collection efforts. FDA said it will consider methodological changes and will disclose limitations. USDA agreed with GAO's recommendations.

View GAO-15-38. For more information, contact John Neumann at (202) 512-3841 or neumannj@gao.gov.

### What GAO Found

The Food and Drug Administration's (FDA) most recent data from 2008 through 2012 show that pesticide residue violation rates in 10 selected fruits and vegetables were low, but FDA's approach to monitoring for violations, which targets commodities it has identified as high risk, has limitations. Among other things, GAO found that FDA tests relatively few targeted (i.e., non-generalizable) samples for pesticide residues. For example, in 2012, FDA tested less than one-tenth of 1 percent of imported shipments. Further, FDA does not disclose in its annual monitoring reports that it does not test for several commonly used pesticides with an Environmental Protection Agency (EPA) established tolerance (the maximum amount of a pesticide residue that is allowed to remain on or in a food)—including glyphosate, the most used agricultural pesticide. Although FDA is not required by law to select particular commodities for sampling or test for specific pesticides, disclosing this limitation would help meet Office of Management and Budget (OMB) best practices for conducting and reporting data collection and help users of the reports interpret the data. Also, FDA does not use statistically valid methods consistent with OMB standards to collect national information on the incidence and level of pesticide residues. FDA officials said that it would be costly to calculate national estimates for the foods it regulates because it would require a large number of samples for a wide array of products, but did not provide documentation on the cost of doing so or an assessment of the trade-offs of doing less targeting and more random sampling. Limitations in FDA's methodology hamper its ability to determine the national incidence and level of pesticide residues in the foods it regulates, one of its stated objectives.

For domestic and imported meat, poultry, and processed egg products, the U.S. Department of Agriculture's (USDA) Food Safety and Inspection Service's (FSIS) most recent available data from 2000 through 2011 show the agency found a low rate of pesticide residue violations, but its data had limitations. Specifically, for this period, FSIS did not test meat, poultry, and processed egg products for all pesticides with established EPA tolerance levels. Like FDA, FSIS is not required by law to test the foods it samples for specific pesticides, but disclosing this limitation in annual reports would meet OMB reporting best practices. Since 2011, FSIS has increased the number of pesticides it has tested for and samples it has taken and engaged with EPA on changes to FSIS's monitoring program to better provide EPA with data it needs to assess the risks of pesticides.

The most recent data from USDA's Agricultural Marketing Service's (AMS) annual survey of highly consumed commodities, including fruits and vegetables, show that, from 1998 through 2012, pesticide residue detections varied by commodity and were generally well below tolerance levels. EPA and others praise AMS's data collection efforts as providing valuable information on the incidence and level of pesticide residues in foods. In addition, while the sampling methodology used by AMS in the Pesticide Data Program meets many of OMB's best practices for conducting and releasing information to the public concerning a data collection effort, it does not meet several others, such as some principles of probability sampling that are important for ensuring that the data the agency collects are nationally representative. As AMS does not disclose these limitations in its annual monitoring reports, users of the data may misinterpret information in these reports and draw erroneous conclusions based on the data.