

Questions and Answers: Genetically Engineered Wheat Investigation

The U.S. Department of Agriculture's (USDA) Animal and Plant Health Inspection Service (APHIS) is sharing information about two separate incidents involving the detection of genetically engineered (GE) wheat in the United States. The first detection occurred last year on a farm in Oregon. The second detection occurred in July of this year at a research facility in Montana where research field tests involving GE wheat were conducted between 2000 and 2003 under APHIS regulatory approval.

APHIS has concluded a comprehensive investigation into the detection in Oregon, which found no evidence of GE wheat in commerce and determined the incident appears to be an isolated event.

APHIS has opened a new investigation into potential regulatory compliance issues after the detection in a Montana research facility.

Q. Are these two events related?

A. No. Testing of the GE wheat from Oregon and Montana has confirmed that the wheat found in both locations was genetically engineered by Monsanto for resistance to the herbicide glyphosate, commercially known as Roundup. However, genetic testing shows that the varieties of wheat differ significantly from one another. The GE wheat found in Oregon contained genetic material from a number of different wheat varieties. The GE wheat found in Montana is less genetically diverse and more similar to known varieties of wheat. This confirms that the GE wheat detected in Oregon did not originate from the field trials conducted in Montana.

Q: Is GE wheat in commerce?

A: No. As part of its investigations to date, APHIS has no evidence of GE wheat in commerce. Testing conducted by several trading partners during the last year also has not detected the presence of GE wheat in any commercial shipment from the United States.

Q: Is GE wheat in use in the United States?

A: No. USDA has not deregulated any GE wheat varieties; there are no GE wheat varieties for sale or in commercial production in the United States at this time.

Q. Are there food safety concerns?

A. No. Although USDA has not deregulated GE wheat in the United States, there are no food safety issues associated with this wheat. In 2004, the Food and Drug Administration determined such GE wheat to be safe for food and feed.

Q: Are there any impacts to trade as a result of these detections?

A: No. Currently, all markets are accepting U.S. wheat and no trade restrictions are in place. Testing conducted by several trading partners during the last year has not detected the presence of GE wheat in any commercial shipment.

Oregon

Q: What did USDA investigate and why?

A: APHIS has completed a thorough investigation into the 2013 detection of genetically engineered (GE) wheat in one field of an Oregon farm. The investigation sought to determine how GE wheat came to be in the field and to determine the extent of its presence.

Q: When did APHIS launch the investigation?

A: The investigation launched on May 3, 2013.

Q: What did investigators examine?

A: Investigators initially began by collecting and testing the following:

- Samples of plants from the field that survived glyphosate treatment;
- Samples of volunteers in the same field that had not survived glyphosate treatment;
- Samples of plants that appeared on the periphery of a field that was planted with the same certified seeds;
- Samples of the three varieties of soft white wheat seed planted on the farm since 2009;
- Samples of grain harvested from the farm including from the 2012 harvest; and
- Samples from the business that sold the seed to and purchased the harvested grain from the grower, and other businesses that purchased seed from this business.

In addition to testing samples, USDA officials completed 291 interviews with wheat growers, grain elevator operators, and crop consultants, as well as interviews with field test plot researchers involved in the testing of the GE wheat. The 12,842 pages of documents made public today detail the investigation. With one exception, none of the growers had themselves experienced a glyphosate-based herbicide failing to destroy volunteer wheat plants. One grower reported an experience with glyphosate-resistant wheat in 2007. APHIS collected samples from the reported area, all of which tested negative.

Q: What did USDA find in its investigation?

A: The investigation indicates that this appears to be an isolated occurrence and that there is no evidence of any GE wheat in commerce.

The 12,842 pages investigation also found that the GE wheat is not a commercial variety of wheat. USDA scientists compared the GE wheat found on the Oregon farm to over 200 known cultivars of wheat that have been developed for growers and could not find a match. The GE wheat found on the Oregon farm is a hybrid that includes genetic material from other types and varieties of wheat, along with a GE glyphosate-resistant wheat trait developed by Monsanto that confers resistance to Roundup herbicide. The genetic characteristics of the GE wheat volunteers are representative of a wheat breeding program.

Q: Why did the investigation take so long?

A: This was one of the most thorough and scientifically complicated investigations APHIS has conducted into a possible violation of the Agency's regulations. After exhausting all leads, APHIS worked as quickly as possible to finish the investigation and prepare its report of investigation, findings, and evidence file. At the outset of the investigation, APHIS committed to making the results known publicly. In order to do so, over the last several months APHIS has carefully reviewed thousands of pages containing confidential business information collected as part of the investigation. APHIS then worked to appropriately withhold personal information and confidential business information from the 12,842 pages of the report and evidence file that is now available on the APHIS website at <http://www.aphis.usda.gov/foia/efoia.php>.

Q. How was the GE wheat discovered?

A. An Oregon farmer noticed some wheat plants growing in his field that were resistant to glyphosate and sent the samples to an Oregon State University scientist. The scientist received the samples on April 30, 2013, and conducted tests on the samples. Based on the preliminary tests, the samples were positive

for the glyphosate-resistance trait and the farmer was informed of the testing results. The scientist then notified USDA on May 3, 2013 and USDA immediately launched a thorough investigation, which included collecting samples where USDA maintained full chain of custody, giving us additional confidence in our results.

Q: What other steps were taken in the investigation?

A: APHIS reviewed each of the 158 approvals it issued between 1994 and 2005 for field testing in sixteen states of GE wheat varieties with the trait for resistance to Roundup.

Montana

Q. What is USDA investigating?

A. APHIS is investigating occurrence of genetically engineered (GE) wheat that was discovered at a location where authorized regulated field trials for GE wheat occurred from 2000-2003. Upon notification of the incident, APHIS immediately began an investigation into this potential regulatory compliance issue and sampled wheat at the location. Testing of samples by a USDA laboratory confirmed that the wheat is genetically engineered to resist Roundup. USDA is now working to determine why GE wheat was found growing at the research center after the conclusion of the field trials. SARC is located in a primarily sugar beet and barley production area, not a major wheat producing region.

Q. When did APHIS launch its investigation?

A. The investigation was launched on July 14, 2014. APHIS also took steps to prevent unauthorized movement of all wheat from the location.

Q. Why did USDA wait to announce this investigation?

A. APHIS will generally acknowledge an open investigation when it will not impact the active investigation, and we generally will not comment on open investigation. In this case, APHIS first worked to confirm the presence of GE wheat in the samples. APHIS then had additional genetic testing done to determine whether the variety of GE wheat found growing at the research facility in Montana was related to the variety of GE wheat found growing last year on a single farm in Oregon. Those test results showed that the GE wheat detected in Oregon and Montana are genetically quite different. This suggests that the GE wheat detected in Oregon appears to be an isolated incident and the situation in Montana is being investigated as a separate compliance issue at a field trial location. For these reasons, APHIS did not announce the situation but rather included information

on its investigation as part of its announcement regarding the close of its investigation into the detection of GE wheat in Oregon last year.

Q. How is this detection different from the one in Oregon?

A. Unlike the investigation into the GE wheat in Oregon, which occurred on a single field on a single farm, the detection in Montana occurred at a research facility where GE wheat was previously grown as part of APHIS-approved field trials. The GE wheat varieties collected from the sites in Oregon and Montana are not the same, although they do share the same GE wheat trait. Genetic testing has shown that the varieties of wheat differ significantly from one another. The GE wheat found in Oregon contained genetic material from a number of different wheat varieties. The GE wheat found in Montana is less genetically diverse. This confirms that the GE wheat detected in Oregon did not originate from the field trials conducted in Montana.

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Q. Has GE wheat from the facility in Montana entered commerce?

A. No. GE wheat from the research facility has not been allowed to enter commercial channels this year. GE wheat that was grown as part of authorized field trials between 2000 and 2003 was not allowed to enter commercial channels per APHIS' requirements for the field trials. None of the research facility's wheat is sold as seed.

Q. Is APHIS taking any additional steps in response to the detection of GE wheat in Montana?

A. Yes. As it continues its investigation in Montana, APHIS is also taking several additional steps to ensure that unintended GE wheat is not growing in other locations in the United States where field trials are

taking place or have recently occurred. APHIS will inspect all field trials planted in 2014, and follow-up with post-harvest inspections to ensure those conducting the field trials adhere to APHIS' requirements to monitor for, and remove, volunteer plants (plants that grow in a field following a previous harvest). It will also conduct some post-harvest volunteer monitoring inspections of GE wheat field trials that were planted in 2012 and 2013. Beyond this, APHIS is assessing other measures – such as the requirements it puts in place for field tests involving GE wheat, as well as the frequency of its inspections of field test sites – to minimize the potential for any further incidents involving GE wheat.

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