

Questions and Answers: Amylase Corn Deregulation

Q. What is Amylase Corn?

A. Amylase corn is a corn variety genetically engineered (GE) to produce a common enzyme called alpha-amylase that breaks down starch into sugar, thereby facilitating a vital step in ethanol production. It is expected to help the United States meet its goals for ethanol production.

Q. What are the benefits of using Amylase Corn?

A. The use of amylase corn allows for a reduction in water and energy consumption and the production of a larger amount of ethanol from the same quantity of corn leading to increased ethanol production without increasing the corn area.

Q. How long has this corn been undergoing field tests?

A. Amylase corn has been field tested in the United States since 2002 as authorized by the U.S. Department of Agriculture (USDA) notifications and permits. Over this period of time, 36,000 acres of amylase corn have been planted under permit without any reported incidents of amylase corn going to processing for food or feed. The corn went to ethanol production with no reports of misdirection.

Q. How did USDA's Animal and Plant Health Inspection Service (APHIS) make its decision to deregulate this line of corn?

A. The developers, Syngenta Seeds, Inc., requested that APHIS grant nonregulated status to its amylase corn in 2005. In 2008, APHIS prepared a plant pest risk assessment as required by the Plant Protection Act and an environmental assessment in accordance with the National Environmental Policy Act. Both documents were made available for two rounds of public review and comment. APHIS received more than 13,000 comments. APHIS determined through those analyses, as well as through reviewing the public

comments received, that the corn does not pose a plant pest risk and should no longer be subject to APHIS regulation.

Q. Has amylase corn undergone testing outside of USDA?

A. Amylase corn has successfully completed the consultation process for food and feed safety with the U.S. Food and Drug Administration. Amylase corn does not contain any genetically engineered pesticides or tolerance to herbicides; under the Coordinated Framework, all pertinent agencies have reviewed the product. Amylase corn has been reviewed and approved in other countries including, Mexico, Russia, Australia, New Zealand, Canada, Korea, Taiwan, Japan, Switzerland, and the Philippines.

Q. Did USDA hold any meetings to hear from stakeholders about amylase corn?

A. On August 5, 2010, USDA held a stakeholders meeting that included 45 participants representing such interests as corn growers, corn refiners, commodity processors, biofuel energy producers, and the biotechnology industry. The meeting provided an opportunity for senior USDA officials to listen and understand stakeholder concerns and for stakeholders to hear from one another with the purpose of exploring the best path forward for amylase corn.

Q. What is being done to address concerns regarding amylase?

A. APHIS recognizes that certain milling and food-processing stakeholder groups have concerns about this corn variety being deregulated and potential impacts on wet-milling operations. Accordingly, we are pleased that these segments of industry continue to dialogue with Syngenta on research and testing efforts, and encourage these parties to continue their efforts to resolve the issues that remain. Syngenta has committed to several important steps to address some stakeholder concerns, such as forming an industry advisory council to review the closed loop system they have in place for amylase corn. Syngenta has invited USDA to be a part of the council, and USDA will participate. Syngenta is also willing to share information on amylase corn production, within appropriate legal and privacy limits, with members of the advisory council.

Q. What type of ethanol will amylase corn be used for?

A. There are two types of ethanol processing plants in the U.S., dry-grind and wet-milling plants. Dry mill facilities account for 82 percent of ethanol production and wet mills 18 percent. Amylase corn will be produced for dry-grind ethanol production.

Q. How vital is corn production in terms of ethanol development?

A. GE and non-GE corn varieties are continually under development. In 2008, 80 percent of the total corn acres planted was GE corn varieties, and more than 20 percent of the total corn production in 2007 was used for ethanol production.

Q. Does growing amylase corn for fuel make sense in light of rising food prices?

A. While corn prices have only a modest impact on food prices, anything that improves the efficiency of corn use will have a positive impact on the current tight corn market. Currently, ethanol accounts for about 40 percent of U.S. corn production. That means the corn from about 32.6 million harvested acres goes toward ethanol production. If the entire 80 percent of ethanol production that is associated with dry milling used amylase corn in 2010/11 (assuming a 2 percent increase in ethanol output per bushel of corn), 521,000 harvested corn acres or almost 80 million bushels of corn would have been freed up for feed and other uses.

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