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## Overview

### **E-32 Corn Low Level Adventitious Presence**

Limited quantities of Dow AgroSciences commercial seed planted in the U.S. in 2006 and 2007 have been found by company testing to contain extremely low levels of a regulated corn event, E-59132 (Event 32 or E-32 for short). E-32 is a “sister” biotech corn trait to Herculex RW (DAS-59122-7), which has regulatory approvals in the U.S. and many other nations.

#### **Why This Is Not a Food Safety Issue**

Because E-32 corn produces the same *Bt* proteins as Herculex RW corn, which has been deemed safe by regulators, this low level adventitious presence of E-32 in commercial seed is covered by an EPA issued “exemption from tolerance” for food and feed and poses no concerns for human health or the environment. However, special permits are needed to grow E-32 corn because the evaluations to deregulate it were discontinued when Dow AgroSciences commercialized its “sister” corn type, Herculex RW.

No additional genetic material was inserted into E-32 that does not also appear in Herculex RW. Neither corn type contains an antibiotic resistance marker. The difference between E-32 and Herculex RW is that identical genetic material has been inserted into these two corn types at different points in the genome.

#### **How E-32 Low Level Adventitious Presence Occurred**

Dow AgroSciences’ investigation has concluded that the initial E-32 low level presence originated from a few grains of pollen inadvertently transferred from a regulated plant at a small Dow AgroSciences research plot conducted in compliance with applicable government requirements.

The extremely low levels of E-32 created by this initial transference would then have been inadvertently carried through to the affected Dow AgroSciences commercial hybrid seed. E-32 would have been present in the affected lots at a rate of about three seeds per thousand. No commercial hybrid corn seed sold by licensees and other industry partners would have been affected.

In commerce, affected seed would have appeared at even lower levels. For example, of all the corn grain produced in the U.S. in 2007, E-32 seed sold in that year would have translated into about two kernels of corn grain per million. It is not believed that E-32 would be detectable at these levels in corn grown from the affected seed, even with state-of-the-art DNA testing.

## **What Dow AgroSciences Is Doing About It**

Upon learning of the low level adventitious presence of E-32, Dow AgroSciences took immediate action to voluntarily retrieve potentially affected seed sold in 2008 from the U.S. channels of distribution and notified the U.S. Department of Agriculture, the Environmental Protection Agency and the Food and Drug Administration of its findings.

In full cooperation with the USDA, Dow AgroSciences has voluntarily located and secured affected seed. Current Dow AgroSciences protocols for plant breeding are being reviewed in light of these circumstances. The company has developed a comprehensive outreach strategy and is committed to working this situation through with regulators, customers and other affected stakeholders.

## **Questions and Answers**

### **Q1: Is there a food safety concern?**

**A:** No. E-32 corn presents no human, animal or environmental safety concerns, because the *Bt* proteins it contains are identical to those found in corn that has been deemed safe by regulators and commercialized in the U.S. and other nations. The genetic material added to E-32 and its “sister” corn type Herculex RW (DAS-59122-7) is identical but inserted at a different point in the corn genome. No additional genetic material was inserted into E-32 corn that does not also appear in Herculex RW. Because the proteins are the same, E-32 is covered by the existing tolerance exemptions issued by EPA for Herculex RW, and any grain that might have entered the U.S. food and feed chain would be authorized for human and animal consumption. Neither corn type contains an antibiotic resistance marker.

### **Q2: Is this like other biotech crop incidents?**

**A:** No. There are significant differences with this E-32 situation and prior issues involving regulated events. First, E-32 is truly an example of low level, adventitious presence. The potential concentration of E-32 in a bag of affected hybrid seed was extremely low, approximately three seeds per thousand, which in terms of all the corn produced in the U.S. in 2007 would translate to about two kernels per million of grain. Second, E-32 contains no additional genetic material. For example, neither E-32 nor its “sister” Herculex RW contains an antibiotic resistance marker. For these reasons, we see E-32 as a very different situation than that presented by prior incidents.

**Q3: How does one test for E-32?**

**A:** An E-32-specific PCR test has been validated by the USDA Grain Inspection Packers and Stockyards Administration (GIPSA). Dow AgroSciences has retained a qualified laboratory to conduct testing as needed. ELISA strip tests cannot differentiate between Event 32 and Herculex RW because both events produce the same protein.

**Q4: Does E-32 include an antibiotic marker?**

**A:** No. The genetic material inserted is identical in both E-32 and Herculex RW, and no genetic material was inserted into E-32 that does not also appear in Herculex RW. Neither corn type has an antibiotic resistance marker.

**Q5: How do you know that this issue is confined to the hybrids you're focusing on?**

**A:** Based on extensive sampling and testing, Dow AgroSciences has isolated the issue to three commercial corn hybrids. Potentially affected seed has been identified and secured.

**Q6: Is there any commercial E-32 corn now being grown?**

**A:** No. No commercial E-32 corn is now being grown.

**Q7: Are you confident that you have identified and secured affected seed?**

**A:** Yes. We believe that we have identified and secured all affected seed.

**Q8: Where is Herculex RW authorized for use?**

**A:** Herculex RW is approved for food and feed and for cultivation in the U.S. and Canada; and also for food and feed uses in major grain importing nations including Australia/New Zealand, China, the European Union, Japan, Korea, Mexico, the Philippines and Taiwan.