



Chemically Speaking

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China - All Certified Genetically Modified Foods on the Market are Safe, According to the Ministry of Agriculture

All certified genetically modified foods that are sold on the Chinese market are safe, according to the Ministry of Agriculture. China has established a safety supervision system that covers the complete chain of GM products, including research, production and trading, the ministry said.

The ministry will cooperate with other departments to improve legislation concerning GM products and their testing technologies to ensure the safety of GM products, the ministry said in a reply to a March proposal by 10 members of China's top political advisory body on improved safety management of GM foods.

The reply, posted on the ministry's website, said that China and other countries have done much research on the safety of GM foods that proved certified GM foods are as safe as traditional foods.

"Internationally, there is a conclusion on the safety of GM foods, that is, that all GM foods that have passed safety evaluation and been certified are safe," the ministry said.

"The conclusion by the World Health Organization is that no health damage has been seen in any people worldwide who have consumed GM foods that have been approved by authorities," it said.

A major research program organized by the European Union, in which more than 500 independent bodies participated over 25 years, concluded that GM technology is no more dangerous than traditional seed nurturing technologies, the ministry said.

GM food has occasionally been involved in controversy in China in recent years, and most of the dispute was centered on its safety.

In 2013, a soybean association in Heilongjiang province said that those who consume oil made of GM soybeans are more likely to get diseases such as cancer or infertility - a claim that triggered heated public debate.

Chen Junshi of the Chinese Academy of Engineering said at a news conference following the incident that there was no scientific evidence to prove that GM foods harm consumers.

"The mainstream opinion among scientists in the world is that GM food is safe," said Huang Dafang, a researcher in biological technology at the Chinese Academy of Agricultural Sciences. "I think it is natural that some people oppose new technologies, such as GM food, since they have little knowledge of these technologies," he said. "But they should value the GM specialists' opinion, because they are most familiar with the subject."

Producers for the Chinese market are obliged to label any product that contains elements of GM soybeans, rapeseed, corn, cotton or tomato - five major types of GM products in China, according to a regulation issued by the Ministry of Agriculture in 2002.

Some other countries ask for labeling of GM foods on a voluntary basis. The United States Food and Drug Administration, for example, doesn't require labeling of genetically modified foods, saying that those on the market are safe.

"The Chinese food and drug authorities will improve supervision of labeling of GM foods, and those GM food producers who fail to label their products will be punished," the ministry said. Zhu Beibei, who works for a biotechnology company in Beijing, said she believes that GM foods are safe because they already have been consumed by people for years in many countries.

"Still, I prefer naturally grown food," she said. "I think all products that contain GM foods should be labeled so people can choose." (China, Ministry of Agriculture, 8/31/15)

Croplife America Stresses Importance of Grower and Beekeeper Communication

CropLife America (CLA) has submitted public comments to the U.S. Environmental Protection Agency (EPA) in response to the agency's Proposal to Mitigate Exposure to Bees from Acutely Toxic Pesticide Products. The EPA proposal would prohibit the foliar applications of products containing any of 76 pesticide active ingredients during bloom where bees are known to be present under contract pollination services.

CLA's comments stress that this proposal would create impractical regulations that hinder agricultural production without positively impacting honey bee health or pollination services.

Growers and beekeepers alike find this approach counterproductive, and many have voiced their opinions to EPA through public comment. EPA accepted public comments on the proposal in docket EPA-HQ-OPP-2014-0818 through Friday, August 28, 2015.

"Honey bees are crucial to agricultural production, and the key to promoting their health lies in farmers and beekeepers working together," stated Jay Vroom, president and CEO of CLA. "Through communication at the local level, growers and those providing contract pollination services can tailor solutions that work in their specific geographic areas.

The crop protection industry supports the sound and responsible usage of pesticide technology to reduce pests and fight crop disease, and we will continue to work with growers, beekeepers, regulators and other stakeholders to support bee health."

Contract pollination services continue to be an integral contributor to agricultural production, with the gross revenue of beekeepers from pollination services in 2012 exceeding \$650 million.

The U.S. apiculture sector employed nearly 3,000 full-time workers in about 450 commercial beekeeping businesses in 2014, up some 16% from just two years earlier. Increasing communication among beekeepers across the country and the growers they serve about the use and timing of crop protection products can positively impact both pollinator health and the effectiveness of pollination services.

“Agriculture and bees must thrive together to benefit everyone,” Vroom added. “This past May, the President’s Pollinator Health Task Force identified private-public partnerships as one way to support our honey bees and other pollinators.

We also anticipate that both pollination contracts and state pollinator management plans can positively impact honeybee health and agricultural productivity.

Before we jump to intensive nationwide regulatory policy changes, we need to look at the local level to make sure growers and beekeepers can properly coordinate their activities.

Increased organization among all farming stakeholders leads to a more efficient and sustainable food supply for us all.” (CropLife America, 9/3/15)

Study Demonstrates the Effectiveness of Post-Harvest Controls for Glyphosate-Resistant Palmer Amaranth

A study featured in the most recent issue of the journal [*Weed Technology*](#) shows that post-harvest treatment of glyphosate-resistant Palmer amaranth can significantly reduce seed production and help to control the spread of the weed’s resistant traits.

A research team from the University of Tennessee treated two test fields after corn crops were harvested. Fourteen days after treatment, they found that the herbicide paraquat used alone or in a mix with S-metolachlor controlled 91 percent of glyphosate-resistant Palmer amaranth in the fields.

Even better results were achieved, though, when paraquat was tank-mixed with residual herbicides to control subsequent regrowth of the weed.

Post-harvest treatments were found to prevent approximately 12 million Palmer amaranth seeds per hectare – significantly reducing the weed seedbank.

Researchers also discovered that the residual herbicides used in post-harvest treatments of Palmer amaranth had no impact on the yields achieved from a winter wheat crop subsequently

planted in the same fields.

Lawrence Steckel, Ph.D., one of the authors of the *Weed Technology* article, says the prevalence of glyphosate-resistant Palmer amaranth has led scientists to recommend a zero tolerance policy toward the weed, with year-round management programs that incorporate multiple control methods and multiple herbicide mechanisms of action.

“We now know that herbicides applied post-harvest can play an important role in a sustainable Palmer amaranth weed management program by reducing the number of seeds left in the field by herbicide-resistant plants,” he said.

Full text of the article, “[Evaluation of POST-Harvest Herbicide Applications for Seed Prevention of Glyphosate-Resistant Palmer amaranth \(*Amaranthus palmeri*\)](#),” is now available in *Weed Technology* Vol. 29, Issue 3, July-September 2015. (Weed Science of America, 9/4/15)

Pests Worm Their Way into Genetically Modified Maize

Even with biotech crops, farmers still need to make use of age-old practices such as crop rotation to fight insect pests. That’s the lesson to be drawn from the latest discovery of resistance to the pest-fighting toxins added to maize — also known as corn.

According to a team led by Aaron Gassmann, an entomologist at Iowa State University in Ames, in some Iowa fields a type of beetle called the western corn rootworm (*Diabrotica virgifera virgifera* LeConte) has developed resistance to two of the three types of *Bacillus thuringiensis* (Bt) toxin produced by genetically modified maize.

Resistance to one type of Bt toxin has cropped up in the worms in recent years, but now there is a twist — the researchers have found that resistance to that type of Bt toxin also confers protection against another, more recently introduced type. Their work appears in this week's *Proceedings of the National Academy of Sciences*.

“That’s two of the three toxins on the market now,” says Gassmann. “It’s a substantial part of the available technology.”

Genetically modified (GM) maize producing the Bt toxin Cry3Bb1, which provided protection against pests such as rootworm, was first approved for use in the United States in 2003.

By 2009, farmers had started to see rootworm damage in their GM crops. In 2011, that damage had spread to GM maize containing a second toxin, mCry3A.

In lab tests, Gassmann showed that this was a case of cross-resistance — worms that had become resistant to Cry3Bb1 were also resistant to mCry3A, possibly because the toxins share

structural similarities and some binding sites in the insect's gut.

Part of the problem is that rootworms are tough, and the Bt maize does not produce enough toxin to fully control them. The Bt toxins used against pests such as the European corn borer (*Ostrinia nubilalis*) kill more than 99.99% of their targets, whereas more than 2% of rootworms can survive Bt maize.

Resistance in the worms can evolve rapidly in fields where the same kind of maize is grown every year — in Iowa it showed up after an average of 3.6 years.

Nicholas Storer, a global science-policy leader for biotechnology at Dow AgroSciences in Washington DC, says that the study illustrates that if GM crops are not used as part of an integrated pest-management policy, resistance can develop quickly in an individual field.

Agricultural biotechnology companies such as Dow are now 'pyramiding' their seeds so that they produce two different Bt toxins to attack the rootworm.

For example, Dow has teamed up with Monsanto of St Louis, Missouri, to sell seeds that combine Cry3Bb1 with Cry34/35Ab1, a toxin that has so far not seen any resistance develop.

Gassmann says that the pyramiding of toxins is an important way to delay the development of resistance, but that the combination is less effective once resistance arises to one of the toxins.

So farmers should not rely exclusively on technology to fight pests, and should instead periodically change the crop grown on a field to help disrupt the pest's life cycle. "The rootworm can't survive if the corn's not there," Gassmann says.

Storer agrees that even the best technologies will always need to be combined with the old methods. "Crop rotation was the primary tool to combat rootworm before Bt came along," he says. "We need to keep it up." (Nature, 3/17/14)

Operation Cleansweep is Back!

The purpose of Operation Cleansweep is to offer a safe, convenient, and cost effective mechanism for agricultural operations, golf courses, and pest control companies to properly dispose of canceled, suspended, and unusable pesticides (CSUP).

The 2015 Legislature has appropriated \$100,000 to fund the program, with the funds going directly to the Florida Department of Agriculture and Consumer Services (FDACS) to hire a contractor and implement the program in accordance with these Program Guidelines. In-kind services from the staff of the Florida Department of Environmental Protection and FDACS will also be directed to this program.

This is an opportunity for agricultural operations, golf courses, and pest control companies that reside in Florida to properly dispose of CSUP. This program is not intended for universities, pesticide manufacturers and distributors, institutions, or state and local government.

The intent of this guideline is to ensure that the public money that funds Cleansweep goes mostly to commercial users rather than governmental agencies or commercial wholesalers. For all private commercial entities requesting service, they will be serviced at the following rate:

- The first 750 pounds of CSUP will be managed utilizing Cleansweep funds. If more CSUP, over the initial 750 pounds, exists, the entity requesting service will be responsible for paying for the management of this “excess” material at the contracted rate directly to the contractor. Operation Cleansweep contract prices are generally 1/3 or 1/4 the costs of disposal it would normally cost to hire a private contractor to handle the same pesticide wastes. Additional requests will be handled on a case by case basis, based on the degree of eminent danger to public health and safety and the potential for environmental harm.

A list of participants, quantities and products will be compiled in advance of scheduling a pickup or collection. When a list in a geographic area (county), reaches a quantity specified in the vendor contract e.g., 2,000 lbs., a “milk run” collection would be authorized by the FDACS Program Manager. The contractor, not the FDACS Program Manager, would schedule the specific route and collection schedule for all participants served by a milk run.

This program is primarily focused on the collections of pesticide or fertilizer/pesticide containers known to contain CSUP ingredients. This means the product label should be legible. In instances where the label is not legible a decision will have to be made at the collection site by FDACS personnel as to whether it is acceptable. Leaking product containers shall be over-packed at the collection site and accepted for proper disposal. The selected contractor will be responsible for all CSUP handling, packaging, loading, transportation, disposal, and emergency response. Gas cylinders are not acceptable. Formulations in aerosol dispensers are acceptable.

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Pesticide Registrations and Actions

Other Actions

- On August 18, the Florida Department of Agriculture and Consumer Services (FDACS) registered the fungicide seed treatment ethaboxam technical to provide systemic fungicide protection against seed and seedling diseases caused by *Pythium*, *Phytophthora*, and *Aphanomyces* species. The EPA registration number for the Valent USA Corporation product is 59639-185. (FDACS PREC Agenda, 9/3/15)
- On August 18, the FDACS registered the fungicide ethaboxam (Intego Solo[®]), a fungicide seed treatment providing systemic fungicide protection against seed and seedling diseases caused by *Pythium*, *Phytophthora*, and *Aphanomyces* species. The EPA registration number for the Valent USA Corporation product is 59639-186. (FDACS PREC Agenda, 9/3/15)
- On July 28, FDACS registered the insecticide cyantraniliprole (Verimark[®]) for soil applications to various crops to control sucking and chewing insects. The EPA registration number for the DuPont Crop Protection product is 352-860. (FDACS PREC Agenda, 9/3/15)
- On July 28, FDACS registered the insecticide cyantraniliprole (Exirel[®]) for foliar applications to various crops to control sucking and chewing insects. The EPA registration number for the DuPont Crop Protection product is 352-859. (FDACS PREC Agenda, 9/3/15)
- The special local need registration for the use of spinosad (Spinosad Fruit Fly Bait[®]) was approved on September 11 for the control of exotic (non-established, quarantined) fruit fly members of the family Tephritidae in/over urban or rural residential areas, noncrop areas and production agricultural sites (SLN FL-150005). The EPA registration number is 62719-498. (FDACS letter, 9/11/15)
- The special local need registration for the use of fluensulfone (Nimitz[®]) was approved on September 10 for the control of nematodes on direct-seeded crops (SLN FL-150004) in the following counties: Miami-Dade, Collier, Hendry, Manatee, Hardee, and Hillsborough. The EPA registration number for the ADAMA product is 66222-243. (FDACS letter, 9/10/15)