



# Chemically Speaking

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## USDA Releases 2014 Pesticide Data Summary

USDA's Pesticide Data Program (PDP) annually tests a wide range of commodities in the U.S. food supply. PDP tests fresh and processed fruit and vegetables, grains, beef products, catfish, groundwater, and treated and untreated drinking water for pesticide residues. These data are important to ensure the implementation of the 1996 Food Quality Protection Act (FQPA) is followed. The FQPA requirements include stricter safety standards, especially for infants and children, and a complete reassessment of all existing pesticide tolerances. Ten states participated in 2014, including Florida. Sound conclusions about the U.S. food supply can be drawn from the PDP results because these states represent all regions of the U.S. and more than half the population.

During 2014 excluding water, PDP tested 10,619 samples for various insecticides, herbicides, and fungicides. Of the total samples collected and analyzed, 80.8% were fresh and processed fruit and vegetables. Fresh and processed fruit and vegetables tested during 2014 were: apples, bananas, blueberries (fresh and frozen), broccoli, carrots, celery, cherries (fresh and frozen), grape juice, green beans (fresh, frozen, and canned), nectarines, peaches, strawberries, summer squash, sweet corn (fresh and frozen), tomatoes, and watermelon. Domestic samples accounted for 75.5% of the samples while 22.9% were imports, 0.7% were of mixed origin, and 0.9% were of unknown origin. Fresh and processed products were tested for various parent pesticide residues.

Residues exceeding the tolerance were detected in 0.36% (38 samples) of the total samples tested (10,619 samples). Of these 38 samples, 19 were imported and 19 were domestic. Residues with no established tolerance were found in 2.6% (281 samples) of the total samples tested. Of these 281 samples, 138 were domestic (49.1%), 140 were imported (49.8%), and 3 were of unknown origin (1.1%).

PDP laboratory operations are designed to detect the smallest possible levels of pesticide residues possible, even when those levels are well below the safety margins established by EPA. It is important to note that the mere presence of a pesticide on food does not indicate the food is unsafe. For samples containing residues, the vast majority of the detections were well below established tolerances and/or action levels. Before allowing the use of a pesticide on food crops, EPA sets a tolerance, or maximum residue limit, which is the amount of pesticide residue allowed to remain in or on each treated food commodity.

EPA also factors in large margins of safety when determining any given tolerance. The reporting of residues present at levels below the established tolerance serves to ensure and verify the safety of the U.S. food supply.

Of all samples collected and analyzed, the majority were fresh fruits and vegetables, many of which are often eaten in a fresh, raw state. Health experts and the U.S. Food and Drug Administration agree washing fresh fruit and vegetables before eating is a healthful habit.

Consumers can reduce pesticide residues, if they are present, by washing fruit and vegetables with cool or lukewarm tap water. Such reports of data are reassuring to know that the U.S. not only has the world's most abundant food supply, but also the safest. Visit the PDP Website at [www.ams.usda.gov/pdp](http://www.ams.usda.gov/pdp). (USDA's Pesticide Data Program, 6/16)

## COMPLIANCE ADVISORY

August 2016

### High Number of Complaints Related to Alleged Misuse of Dicamba Raises Concerns

EPA and state agencies have received an unusually high number of reports of crop damage that appear related to misuse of herbicides containing the active ingredient dicamba. Investigations into the alleged misuse are ongoing. This Compliance Advisory is intended to provide information on the agricultural and compliance concerns raised by these incidents.

#### Compliance Concerns

- Based on cropping patterns and the number of acres of non-resistant crops adversely affected, extension experts across the country believe that illegal use of dicamba products on adjacent or nearby dicamba-resistant cotton and soybean crops caused the observed crop damage. *The EPA has not registered any dicamba herbicides for application at planting or over the top of growing cotton or soybean plants, including crops genetically modified to tolerate dicamba.* Therefore, any application of a dicamba product during the growing seasons of cotton or soybean crops is unlawful under FIFRA. Unlawful applications of dicamba products can result in residues on harvested crops and affect the yields of non-target crops.

#### Agricultural Concerns

- To date, the Missouri Department of Agriculture has received approximately 117 complaints alleging misuse of pesticide products containing dicamba. Missouri growers estimate that more than 42,000 acres of crops have been adversely affected. These growers have reported damage on a number of crops including peaches, tomatoes, cantaloupes, watermelons, rice, cotton, peas, peanuts, alfalfa, and soybeans. Similar complaints alleging misuse of dicamba products have been received by Alabama, Arkansas, Illinois, Kentucky, Minnesota, Mississippi, North Carolina, Tennessee and Texas.

#### What is Dicamba?

- Dicamba is an active ingredient contained in certain herbicides. Herbicides containing dicamba are registered for uses in agriculture, residential areas, and other sites to address broadleaf weeds and woody plants. *Current registrations for use on cotton and soybeans are restricted to preplant and postharvest burndown applications.* The product labels for these herbicides specify this restriction.

## Regulatory Scheme

- Under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), EPA regulates the sale, distribution, and use of pesticides in the United States. When certain criteria are met, states also have regulatory authority. Under FIFRA, the label on a pesticide package or container and the accompanying instructions are a key part of pesticide regulation. The label provides critical information about how to safely handle and use the pesticide product to avoid harm to human health and the environment. Further, the use of a pesticide in a manner that is inconsistent with the use directions on the label (i.e. a “misuse” of the pesticide) is a violation of FIFRA. These violations can result in federal and state enforcement actions. EPA enforcement actions may include, but are not limited to, assessing civil and criminal penalties.
- This spring, EPA issued a proposal to register dicamba to control weeds in cotton and soybean that have been genetically engineered to tolerate dicamba. EPA is currently evaluating the comments received during the comment period as well as information obtained from current investigations of crop damage related to the use of dicamba to inform a final decision.

## DISCLAIMER

- This Compliance Advisory explains select provisions of EPA regulatory requirements using plain language. Nothing in this Alert is meant to replace or revise any EPA regulatory provisions of any other part of the Code of Federal Regulations, the Federal Register, or the Federal Insecticide, Fungicide and Rodenticide Act. For more information on agricultural pesticides and compliance, visit: <https://www.epa.gov/agriculture>. For more information on enforcement, visit: <https://www.epa.gov/enforcement>. For more information or concerns about pesticides or dicamba uses in your area, contact your state Department of Agriculture or your state Pesticide Regulatory Agency. (US EPA, 8/16)

## **\$286 Million – Cost to Bring a New Crop Protection Product to Market**

CropLife America (CLA) recently helped the market research firm, Phillips McDougall, develop a study that shows the overall cost to discover and advance a new crop protection product averages \$286 million – up 21% over the previous 5 years. (Link to CLA statement with imbedded report available here: <http://www.croplifeamerica.org/cost-of-crop-protectioninnovation-increases-to-286-millionper-product/>).

The biggest driver in that cost increase appears to be regulatory compliance. That statistic demonstrates why it is so important to be sure that US regulatory requirements are assessments of real science and safety advancements, not simply reactions to non-scientific political ideologies. (WSSA Newsletter, 7/16)

## **NIMITZ®**, a New Nematicide That Was Granted Approval by the EPA on Additional Crops

ADAMA, a world leader in customer-focused agricultural solutions, announced today that NIMITZ® , a novel, non-fumigant nematicide with simplified application features and unmatched user safety, has received federal registration from the EPA for the following additional Crop Groups: 1B Root vegetables (except sugar beet) subgroup (including carrots, radish and garden beets), 1C Tuberous and corm vegetables subgroup (including potatoes, sweet potatoes and yams), 2 Leaves of Root and Tuber Vegetables, 4 Leafy Vegetables (Except Brassica Vegetables) (including celery, head lettuce, leaf lettuce, and spinach), 5A Head and stem *Brassica* subgroup (including broccoli, cauliflower and cabbage), 5B Leafy *Brassica* greens subgroup, 13-07G, Low growing berry subgroup (including strawberry) and tobacco.

These are in addition to the previously registered Crop Group 8-10 Fruiting vegetable (tomatoes, bell peppers, okra, eggplants) and Crop Group 9 Cucurbit vegetables (melons, cantaloupes, cucumbers).

Notification of the federal label expansion is being processed through state regulatory agencies. The active ingredient in NIMITZ, fluensulfone, is a novel chemistry group for nematode control and indications are that NIMITZ selectively kills only plant-parasitic nematodes.

Rob Williams, ADAMA VP of North America said, “NIMITZ is a game changer for the industry, it’s the nematicide that growers have been waiting for - cutting edge and highly effective in controlling plant-parasitic nematodes. It also has a Caution signal word, a first for a chemical nematicide.”

NIMITZ is a new paradigm for nematode control on high value crops. It eliminates stringent use requirements of fumigant nematicides including onerous Fumigant Management Plans, 24-hour field monitoring and restrictive buffer zones.

“In contrast to fumigant nematicides, NIMITZ simplifies nematode management by lessening complex handling practices and application restrictions,” says Williams. “NIMITZ does not require certified applicator training. Also, personal protective equipment (PPE) is minimal.”

Danny Karmon, NIMITZ Global Project Leader at ADAMA said, “Our research, regulatory and development teams around the globe worked hard to bring this exceptional product to the market.

More than eight years of intensive development and testing work, including laboratory studies, greenhouse trials, full-scale field trials and commercial applications, have consistently demonstrated that NIMITZ controls nematodes as well as or better than the commercial standards.”

“ADAMA’s promise is to simplify the lives of farmers,” Danny Karmon said. “NIMITZ is a prime example of this. It is extremely effective in protecting crops, and as a non-fumigant, the solution enhances user safety in comparison with all nematicides being used today. This makes the use of this product convenient and economically advantageous for the farmer.”

“NIMITZ provides a non-restricted use pesticide alternative that is easy to apply, is effective, and with lower environmental impact.” says Pablo A. Navia, NIMITZ Development Leader. Cited by Navia as a true nematicide, NIMITZ causes irreversible and rapid nematocidal activity in plant-parasitic nematodes.

Within one hour of contact, nematodes cease feeding and quickly become paralyzed. Within 24 to 48 hours, mortality occurs rather than temporary nematostatic (immobilizing) activity, as seen with organophosphate and carbamate nematicides.

For growers, NIMITZ reduces the complexity of nematode control associated with fumigant nematicides without compromising control. NIMITZ’s unique and safer features exemplify ADAMA’s commitment to bringing simplicity to agriculture. The EPA summarized this new active in the Federal Docket [EPA-HQ-OPP-2012-0629, July 25, 2014]: “Fluensulfone (NIMITZ) represents a safer alternative for nematode control with a new mode of action and a much simpler and straight forward product label.” NIMITZ has been registered in the U.S. since 2014. (PR Newswire, 8/16)

## **China Backs GMO Soybeans in Push for High-tech Agriculture**

China will push for the commercialization of genetically modified soybeans over the next five years as it seeks to raise the efficiency of its agriculture sector, potentially boosting output of the crop by the world’s top soy importer and consumer.

China, which has spent billions of dollars researching GMO crops, has already embraced the technology for cotton but has not yet permitted the cultivation of any biotech food crops amid fears from some consumers over perceived health risks.

In its latest five-year plan for science and technology to 2020, China for the first time outlined specific GMO crops to be developed, including soybeans - used in food products such as tofu and soy sauce and for animal feed - and corn.

The blueprint, published on the government’s website on Monday, recommended “pushing forward the commercialization of new pest-resistant cotton, pest-resistant corn and herbicide-resistant soybeans.”

The use of the technology for corn was flagged in April when an agriculture official said that Beijing could greenlight GMO crops in the next five years. Corn is used mostly for animal feed and industrial products like starch and sweeteners and a move to biotech crops could be less contentious than with soybeans.

Support for new soybean varieties comes as China seeks to overhaul its crop structure. Farmers are being encouraged to switch from growing corn to soybeans and to rotate between crops. But analysts say boosting soybean production could be difficult without higher subsidies.

China is expected to produce 12.5 million tonnes of soy in 2016/17 but will import a record 86 million tonnes, according to a forecast by U.S. agriculture officials. China permits the import of GMO soybeans for use in animal feed.

Herbicide-resistant soybeans are already planted by most growers in the United States, the world's top soy producer.

“You can't manually kill weeds on the large farms in the north-east,” said an executive at a seed company in China. “If you're going to rotate between soy and corn, herbicide-tolerant soybeans are needed for mechanization,” he added, referring to the need for crops to be able to tolerate repeated exposure to weed killers applied by tractors.

But cultivating GMO soybeans is likely to face strong resistance from consumers and a local industry that sells GMO-free soybeans at a premium to imported beans.

“The major production areas for key commodity crops shouldn't be planted with GMOs,” said Liu Denggao, vice president of the Chinese Soybean Industry Association.

“Domestic soybeans are extremely desired and trusted by consumers for food.” Commercialization of GMO soy is likely to take a backseat to GMO corn however, said Huang Dafang, professor at the Biotechnology Research Institute under the Chinese Academy of Agricultural Sciences.

The government has previously said it will roll out biotech varieties of industrial crops such as corn before moving to food crops like soya. “Corn is more important from a production point of view,” Huang said. (Reuters, 8/16)

## ***Pesticide Registrations and Actions***

- Miami-Dade County Mosquito Control has been authorized to coordinate with the U.S. Centers for Disease Control and Prevention (CDC) in the use of In2Mix®. The U.S. EPA granted a public health exemption authorization under the provisions of Section 18 of FIFRA in an August 2, 2016 letter to CDC. This public health exemption authorizes the

use of pyriproxyfen and *Beauveria bassiana*, co-formulated in In2Mix®, an unregistered bait station product. This exemption expires on May 6, 2017. (FDACS letter, 8/16)

- The U.S. EPA, under the provisions of Section 18 of FIFRA, has issued a specific exemption for the use of naled (Dibrom Concentrate Insecticide), EPA Registration Number 5481-480 (AMVAC), in a baiting program for the control and eradication of Tephritid fruit flies in the state of Florida. This emergency exemption (File Symbol 16-FL-07) will expire June 24, 2017. (FDACS letter, 6/16)
- An Experimental Use Permit was granted for A12460 GRASS HERBICIDE (Fluazifop-p-butyl), FL16-EUP-01 to evaluate the efficacy of an unregistered product against torpedograss and other species in aquatic areas of Florida. It is authorized through December 31, 2016. (FDACS letter, 7/16)