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# *Chemically Speaking*

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Pesticide Information Office / P. O. Box 110710 / Building 164 / Gainesville, Florida 32611-0710 / Tel. (352) 392-4721

## EPA Administrator Pruitt Denies Petition to Ban Widely Used Pesticide

U.S. Environmental Protection Agency (EPA) Administrator Scott Pruitt signed an order denying a petition that sought to ban chlorpyrifos, a pesticide crucial to U.S. agriculture.

"We need to provide regulatory certainty to the thousands of American farms that rely on chlorpyrifos, while still protecting human health and the environment," said EPA Administrator Pruitt. "By reversing the previous Administration's steps to ban one of the most widely used pesticides in the world, we are returning to using sound science in decision-making – rather than predetermined results."

"This is a welcome decision grounded in evidence and science," said Sheryl Kunickis, director of the Office of Pest Management Policy at the U.S. Department of Agriculture (USDA). "It means that this important pest management tool will remain available to growers, helping to ensure an abundant and affordable food supply for this nation and the world. This frees American farmers from significant trade disruptions that could have been caused by an unnecessary, unilateral revocation of chlorpyrifos tolerances in the United States. It is also great news for consumers, who will continue to have access to a full range of both domestic and imported fruits and vegetables. We thank our colleagues at EPA for their hard work."

In October 2015, under the previous Administration, EPA proposed to revoke all food residue tolerances for chlorpyrifos, an active ingredient in insecticides. This proposal was issued in response to a petition from the Natural Resources Defense Council and Pesticide Action Network North America. The October 2015 proposal largely relied on certain epidemiological study outcomes, whose application is novel and uncertain, to reach its conclusions.

The public record lays out serious scientific concerns and substantive process gaps in the proposal. Reliable data, overwhelming in both quantity and quality, contradicts the reliance on – and misapplication of – studies to establish the end points and conclusions used to rationalize the proposal.

The USDA disagrees with the methodology used by the previous Administration. Similarly, the National Association of State Departments of Agriculture also objected to EPA's methodology. The Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Scientific Advisory Panel (SAP) also expressed concerns with regard to EPA's previous reliance on certain data the Agency had used to support its proposal to ban the pesticide.

The FIFRA SAP is a federal advisory committee operating in accordance with the Federal Advisory Committee Act and established under the provisions of FIFRA, as amended by the

Food Quality Protection Act of 1996. It provides scientific advice, information and recommendations to the EPA Administrator on pesticides and pesticide-related issues regarding the impact of regulatory decisions on health and the environment.

To view the petition: https://www.epa.gov/pesticides

(EPA Media Relations, 3/29/17)

## EPA Extends Timeline for Pesticide Applicators Rule

U.S. Environmental Protection Agency Administrator Scott Pruitt today announced a 12-month extension for implementation of the revised final Certification and Training of Pesticide Applicators (C&T) rule. EPA received feedback from states and stakeholders that more time and resources are needed to prepare for compliance with the rule. The extended timeline will enable EPA to work with states and provide adequate compliance and training resources.

“In order to achieve both environmental protection and economic prosperity, we must give the regulated community, which includes farmers and ranchers, adequate time to come into compliance with regulations. Extending the timeline for implementation of this rule will enable EPA to consult with states, assist with education, training and guidance, and prevent unnecessary burdens from overshadowing the rule’s intended benefits,” said Administrator Pruitt.

Last month, Administrator Pruitt met with Missouri Governor Eric Greitens to discuss the C&T rule, among other issues.

"Administrator Pruitt proved today that the old way of doing business at the EPA is over and done with. We presented them with a problem, and they took quick action to begin fixing it. Missouri farmers have waited a long time for common sense government, and now it's on its way. I'm grateful for this new leadership, and look forward to continuing to work with this administration to curb regulations that are killing jobs and hurting our farmers. It's time for government to get out of the way and let our farmers farm,” said Governor Greitens.

“We greatly appreciate EPA extending the effective date of this rule. While we are supportive of the improved final rule released in January, States are facing a range of on-going logistical, resource, and capacity challenges. These challenges are amplified as they also implement other recent EPA requirements, such as the Worker Protection Standard. Extending the certification timeline will help alleviate some of those challenges by allowing states to work with our EPA partners to ensure adequate training resources and compliance assistance activities,” said Dr. Barbara P. Glenn, CEO of the National Association of State Departments of Agriculture.

Administrator Pruitt recently launched his *Back-to-Basics agenda* for returning EPA to its core mission: protecting the environment by engaging with state, local, and tribal partners to create sensible regulations that enhance economic growth. Today’s action is the latest evidence of Administrator Pruitt’s commitment to cooperative federalism and getting the EPA back to basics.

(EPA Media Relations, 5/11/17)

# Weed Science Society of America Survey Ranks Most Common and Most Troublesome Weeds in Broadleaf Crops, Fruits and Vegetables

A recent survey conducted by the Weed Science Society of America (WSSA) ranks Palmer amaranth as the most troublesome and difficult to control weed in 12 categories of broadleaf crops, fruits and vegetables, while common lambsquarters ranks as the weed most commonly found.

Almost 200 weed scientists across the U.S. and Canada participated in the 2016 survey, the second conducted by WSSA. A 2015 baseline survey explored the most common and troublesome weeds in 26 different crops and noncrop areas.

The current survey ranks the following weeds as the most troublesome or the most common among broadleaf crops, fruits and vegetables:

| **TOP 10 WEEDS IN BROADLEAF CROPS, FRUITS & VEGETABLES** | | | |
|---|---|---|---|
| **Most Troublesome** | | **Most Common** | |
| 1 | Palmer amaranth | 1 | common lambsquarters |
| 2 | common lambsquarters | 2 | foxtail (giant, green, yellow) |
| 3 | horseweed (marestail) | 3 | morningglory (ivyleaf, pitted, tall) |
| 4 | morningglory (ivyleaf, pitted, tall) | 4 | Palmer amaranth |
| 5 | waterhemp (tall, common) | 5 | redroot pigweed |
| 6 | nutsedge (yellow, purple) | 6 | waterhemp (tall, common) |
| 7 | kochia | 7 | horseweed (marestail) |
| 8 | common ragweed | 8 | common ragweed |
| 9 | giant ragweed | 9 | barnyardgrass |
| 10 | nightshade (eastern black, hairy) | 10 | velvetleaf |

Six weed species appeared on both the “most troublesome” and “most common” lists, including Palmer amaranth, common lambsquarters, horseweed, morningglory, waterhemp and common ragweed. “Weed scientists have confirmed multiple cases of herbicide resistance in all six of these weed species, except for the morningglories where there is suspected resistance to glyphosate,” says Lee Van Wychen, Ph.D., science policy director for WSSA. “While each of these species has evolved traits that make them widespread and tough competitors in broadleaf crops like soybeans and cotton, there is no question that their difficulty to control with herbicides has pushed them to the top of the list in this survey.”

WSSA also sorted the survey data to produce the following crop-specific results:

| BROADLEAF CROP | MOST TROUBLESOME WEED | MOST COMMON WEED |
|---|---|---|
| alfalfa | Canada thistle | dandelion |
| canola | kochia | wild oat |
| cotton | Palmer amaranth | morningglory (ivyleaf, pitted, tall) |
| fruits & nuts | field bindweed | horseweed (marestail) |
| peanuts | nutsedge (yellow, purple) | Palmer amaranth |
| pulse crops | common lambsquarters | common lambsquarters |
| soybeans | horseweed, waterhemp (tall, common) | waterhemp (tall, common) |
| sugar beets | common lambsquarters | common lambsquarters |
| vegetables | nutsedge (yellow, purple) | common lambsquarters |

Although listed as the most troublesome weed in cotton only, Palmer amaranth was ranked first in the overall survey based on the number of respondents who cited it as a problem. Common lambsquarters is widely distributed across the northern half of the United States and southern Canada. It is not surprising that it ranked as the most common weed in sugar beets, vegetable crops and pulse crops, such as dry edible beans, lentils and chickpeas.

WSSA plans to conduct habitat-specific weed surveys annually. The 2017 survey will focus on weeds in grass crops, pasture and turf, while the 2018 survey will focus on weeds in aquatic environments, natural areas and other noncrop settings.

The 2016 survey data is posted online at http://wssa.net/wssa/weed/surveys. For more information specific to herbicide-resistant weeds, see the International Survey of Herbicide Resistant Weeds, available at http://weedscience.com.

(Weed Science Society of America, 5/23/17)

## Plasma Protection for Rice Crops

Diseased rice seeds treated with atmospheric plasma show significant improvement and growth, offering a potential tool to protect rice crops from fungus and blight.

A team from Tohoku University in Japan found that immersing infected rice seeds in hot water and

then irradiating them with plasma reduced infection rates between 60 and 90 percent.

Plasma is the fourth state of matter along with solid, liquid and gas. It is a cloud of electrons that creates positive and negative ions, as well as neutral atoms. Plasma is emerging as a disinfectant in a variety of applications, including wounds and crops. It is used to sterilize crops after the harvest, where there is little concern about damaging living cells.

The Tohoku team, led by Professors Hideki Takahashi and Toshiro Kaneko, tested the effects of plasma irradiation on healthy rice seeds, on rice seeds infected with bakanae disease, caused by the fungal pathogen *Fusarium fujikuroi*, and on seeds infected by bacterial seedling blight, caused by *Burkholderia plantarii*.

The two diseases are major threats to rice crops worldwide. For example, Japan has reported 20 to 50 percent yield losses due to bakanae, and the United States has experienced 40 percent yield loss due to *B. plantarii*.

Often, rice seeds are treated in 60°C hot water for ten minutes to kill any bacteria before cultivation in greenhouse nurseries. However, if the rice is not left in the scalding water long enough or if the water is not quite hot enough, bacteria survives and can inhibit growth.

The team found the most effective way to reduce disease rates was the hot water bath followed by plasma irradiation. There was no damage to the seeds, which germinated and grew like healthy seedlings.

"The combination of water immersion and plasma irradiation of rice seeds seems to provide an excellent pest integrated management system to reduce risks to human health and the environment by minimizing the use of chemical pesticides," the researchers conclude in their study recently published in the journal Plant Pathology. How exactly the plasma treatment helps suppress the diseases remains a mystery. The researchers suspect that reactive oxygen compounds generated by irradiation play a role, but this requires further study.

**Publication Details:** Title: Management of bakanae and bacterial seedling blight diseases in nurseries by irradiating rice seeds with atmospheric plasma. Authors: Ochi, A., Konishi, H., Ando, S., Sato, K., Yokoyama, K., Tsushima, S., Yoshida, S., Morikawa, T., Kaneko, T. and Takahashi, H. Journal: Plant Pathol, 66: 67-76. DOI: 10.1111/ppa.12555

(Tohoku University, 5/12/17)

## *Pesticide Registrations and Actions*

- The United States Environmental Protection Agency (EPA), under the provisions of Section 18 of FIFRA, has issued a quarantine exemption for the use of Tilt® Fungicide (propiconazole), EPA Registration Number 100-617, to control Laurel Wilt (caused by *Raffaelea lauricola)* on avocado trees. This emergency exemption (File Symbol 17FL05) will expire April 3, 2020. (FDACS letter, 4/5/17)

- A Section 24(c) Registration request for ADMIRE® PRO, EPA Reg. No. 264-827, EPA

SLN No. FL-120008 for basal tree applications to suppress the transmission of Huanglongbing disease (citrus greening) by Asian Citrus Psyllid in young citrus groves and replants has been accepted by FDACS. (FDACS letter, 3/14/17)

- A revised Section 24(c) Label for Imidan 70-W (phosmet), EPA Reg. No. 10163-169, EPA SLN NO. FL-010006 for control of scale, mealy bug and citrus weevil complex (including Apopka *{diaprepes}* Weevil, blue-green weevil, and little leaf notcher) in oranges and grapefruit has been accepted by FDACS. (FDACS letter, 5/12/17)

- A revised Section 24(c) Label for Lorsban® Advanced (chlorpyrifos), EPA Reg. No. 62719-591, EPA SLN NO. FL-090002 for control of beet armyworm, fall armyworm and corn earworm larvae on sweet corn has been accepted by FDACS. (FDACS letter, 4/12/17)