

PESTICIDE REPORTS

Division of Agricultural Sciences and Natural Resources • Oklahoma State University

<http://pested.okstate.edu>



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FUMIGATION WORKSHOP - SAVE THE DATE

The next Fumigation Workshop will be in Stillwater August 14. The details for the program are still being finalized at this time. Look for more information from Edmond Bonjour later in May or in future editions of this newsletter. For more questions contact Edmond Bonjour Associate Extension Specialist – Stored Products Entomologist at 405-744-8134 or email edmond.bonjour@okstate.edu (PSEP)

JUNE TEST HELP WORKSHOPS

The Oklahoma State University Pesticide Safety Education Program (PSEP) has will be holding test help workshops June 11 in Oklahoma City and June 18 in Tulsa.

The Oklahoma City workshop will be at the Oklahoma County Extension Center at 2500 N.E. 63rd St. in Oklahoma City. The Tulsa workshop will be at the Tulsa County Extension Office at 4116 E 15th in Tulsa.

Registration cost is \$50 before June 9 for Oklahoma City and \$65 after June 9. Registration cost is \$50 before June 16 for Tulsa and \$65 after June 16. Registration will include a copy of Applying

Pesticides Correctly. This is the study manual for the core and service technician exams.

To register for this class please go to the Pesticide Safety Education Program (PSEP) website at <http://pested.okstate.edu/html/practical.htm> and click on the register online link. Class information and an agenda is also at that website. Future 2024 workshop dates can be found on the website as well.
(OSU PSEP)

EPA PUBLISHES UPDATE ON HERBICIDE STRATEGY PROGRESS

The U.S. Environmental Protection Agency (EPA) is releasing an update to its draft Herbicide Strategy, which is part of the Agency's plan to improve how it meets its Endangered Species Act (ESA) obligations. The purpose of this update is to describe some improvements that EPA plans to make as it continues finalizing the strategy to increase flexibility and improve ease of implementation while still protecting federally listed species. The Agency expects to publish the final strategy in August 2024.

The draft strategy, which EPA released for public comments in July 2023, describes whether, how much, and where mitigations may be needed to protect listed species from agricultural uses of conventional herbicides. The goal is for EPA to use the strategy to proactively determine mitigations for registration and registration review actions for herbicides even before EPA, the U.S. Fish and Wildlife Service (FWS), and the National Marine Fisheries Service (NMFS) formally complete the lengthy ESA determination on whether an herbicide has effects on a listed species. By adopting these early mitigations, EPA can begin protecting listed species while FWS and NMFS are making their ESA determinations.

The strategy itself does not impose any requirements or restrictions on pesticide use. Rather, EPA will use the

strategy to inform mitigations for new active ingredient registrations and registration review of conventional herbicides. Thus, for any herbicide, mitigations from the strategy will not become effective until EPA adopts labels (following public comment) for that herbicide as part of a new active ingredient registration or registration review decision.

EPA received extensive comments on the draft strategy, with many reiterating the importance of protecting listed species from herbicides. Commenters also identified concerns with specific aspects of the draft strategy and suggested revisions. EPA plans to make a number of improvements to the draft based on this feedback, with the primary changes falling into three categories.

- Making the strategy easier to understand. Many commenters noted the complexity of the strategy to determine the amount of mitigation a label requires for a particular pesticide—up to nine points of mitigation. In response, EPA is simplifying its approach, such as by using four tiers—none, low, medium, high—to describe the amount of mitigation that may be needed for each herbicide. EPA also plans to create educational materials that concisely explain the four-tier mitigation approach.
- Increasing flexibility for growers to implement the mitigation measures in the strategy. EPA expects to expand its mitigation measures, especially for specialty crops such as cherries and mint, to include new measures such as erosion barriers, reservoir tillage, and soil carbon amendments. EPA is also working with the U.S. Department of Agriculture (USDA) and other organizations to identify other measures to add to the mitigation menu that can reduce pesticide runoff and erosion. In May 2024, for example, the EPA and USDA will host a workshop with agricultural stakeholders to identify other possible measures to add to the menu.
- Reducing the amount of mitigation that may be needed when growers have already adopted voluntary practices to reduce pesticide runoff or where runoff potential is lower due to geography. For example, in areas of the country with flat lands or minimal precipitation where

runoff potential is low, growers may need less or no additional measures to use agricultural herbicides, compared to what is currently in the draft strategy. EPA is also considering whether growers could meet any necessary mitigation requirements if they participate in agricultural conservation programs or work with qualified experts to design and implement mitigation measures.

In addition to these types of improvements, EPA is also working on other changes to the Herbicide Strategy and how it is implemented. For many listed species, the maps used in the draft strategy for determining where mitigation measures would apply are often too broad, covering areas not needed to conserve the species. EPA is working with FWS and others to develop a process for refining maps for hundreds of species. This process could then be used by applicants for registration actions and by others to produce draft maps for the agencies to consider. Through this work, EPA expects that the land area subject to the pesticide restrictions under the final strategy could shrink for many species.

EPA appreciates the thoughtful perspectives from multiple stakeholders on the draft strategy and other ESA efforts. EPA continues to consider the public comments, meet with stakeholders, and collaborate with FWS, USDA, and state agencies. EPA expects to publish the final strategy by August 30, 2024.

The full update, along with additional details regarding the strategy, are available in the public docket EPA-HQ-OPP-2023-0365 at www.regulations.gov and on [EPA's website](https://www.epa.gov/pesticides/epa-publishes-update-herbicide-strategy-progress).

(EPA, April 16, 2024)
<https://www.epa.gov/pesticides/epa-publishes-update-herbicide-strategy-progress>

EPA PROPOSES TO CANCEL ALL BUT ONE USE OF PESTICIDE ACEPHATE TO PROTECT HUMAN HEALTH

Today, the U.S. Environmental Protection Agency (EPA) is releasing a proposed interim decision (PID) to cancel all but one use of the pesticide acephate. This decision is based on EPA's updated human health draft risk assessment (HH DRA) and drinking water assessment (DWA) that were [released last year](#), which showed significant dietary risks from drinking water for currently registered uses of acephate. EPA also identified worker, homeowner, and ecological risks that would be mitigated by the proposed cancellations.

Acephate is an organophosphate (OP) pesticide that is registered for both agricultural uses, such as cotton and soybean, and non-agricultural uses, such as tree injections for forestry and ant mound treatment around homes. Acephate interacts with the nervous system by inhibiting the acetylcholinesterase (AChE) enzyme. This process makes the pesticide effective against insects, but it can also occur in mammals, including humans, depending on the level of acephate exposure. At high levels of OP exposures, AChE inhibition can lead to neurological effects such as tremors, fatigue, and nausea. AChE inhibition has been found to be the most sensitive human health effect for evaluating exposures to acephate.

The Agency is proposing to maintain the use of acephate for tree injection because it does not contribute to drinking water exposure, there are no risks for workers, and, with label changes, would not pose risks to the environment. Tree injections allow the pesticide to move throughout the tree to control pests. This use of acephate is only allowed for use on trees that do not produce food for human consumption.

Acephate is proceeding through EPA's standard registration review process. The revised HH DRA and DWA released in August 2023 and the PID released today are open for public comment for 60 days. Commenters may propose alternative mitigation for the Agency's consideration for some or all uses of acephate, and the Agency will respond to these comments in the Interim Decision. If EPA determines that alternative mitigation options that are voluntarily agreed to by the registrant can address the identified risks to satisfy the standard for continued registration of the pesticide, this could allow EPA to put protections in place faster than the statutorily required process for [involuntary](#)

[cancellation](#) that can take up to five years. Acephate is one of 18 OPs currently in registration review, with many scheduled to have interim decisions between 2024-2026.

For more information on the registration review of acephate and to provide comments on the PID and updated assessments, please visit the acephate docket on [regulations.gov](https://www.epa.gov/regulations.gov) under the docket ID [EPA-HQ-OPP-2008-0915](#).

(EPA, April 30, 2024)

<https://www.epa.gov/pesticides/epa-proposes-cancel-all-one-use-pesticide-acephate-protect-human-health>

EPA ANNOUNCES THE IMPLEMENTATION OF MITIGATION MEASURES FOR INSECTICIDES CHLORPYRIFOS, DIAZINON, AND MALATHION TO PROTECT ENDANGERED SPECIES

The U.S. Environmental Protection Agency (EPA) is implementing measures to protect federally threatened or endangered (listed) species and their designated critical habitats from the effects of the insecticides chlorpyrifos, diazinon, and malathion. The measures include changes to pesticide labeling requirements and issuing of Endangered Species Protection Bulletins that set geographically specific limitations on pesticide use.

Chlorpyrifos, diazinon, and malathion are organophosphate insecticides commonly used to control foliage and soil insect pests. Pesticide products containing chlorpyrifos are registered for use on agricultural crops and on nonfood sites such as ornamental plants in nurseries, golf course turf, or as wood treatment. Diazinon is used on a variety of fruit and vegetable crops, orchards, outdoor nurseries, and in cattle ear tags to control flies. There are no residential uses of chlorpyrifos or diazinon. Malathion is used in the production of a wide variety of food and feed crops to control many types of insects such as aphids,

leafhoppers, and Japanese beetles, by home gardeners for outdoor residential uses including to protect vegetable gardens, fruit trees, and a variety of ornamentals, as well as for controlling mosquitoes.

Mosquito-borne diseases, such as those caused by the West Nile and Zika viruses, are among the world's leading causes of illness and death and pose a significant risk to people in the United States. Climate change also increases the risk of human exposure to mosquito-borne diseases, as studies show that warmer temperatures associated with climate change can expand the range and breeding season of mosquitoes, as well as accelerate mosquito development, biting rates, and the incubation of the disease within a mosquito. Using pesticides like malathion to control mosquito populations is important to maintaining public health, particularly in densely populated areas in overburdened communities.

Under the Endangered Species Act, EPA is responsible for ensuring that its actions – including many pesticide registration actions -- do not jeopardize listed species or destroy or adversely modify their critical habitats. When EPA determines in its biological evaluation that a pesticide may affect these species or habitats, EPA must consult with the National Marine Fisheries Service (NMFS), the U.S. Fish and Wildlife Service, or both (collectively referred to as the “Services”). Once consultation is complete, the Services develop a Biological Opinion (BiOp) that, among other things, determines if the pesticide is expected to jeopardize listed species or adversely modify their critical habitats, and if so, require measures to protect these species and habitats.

For chlorpyrifos, diazinon, and malathion, EPA determined in 2022 that the currently registered uses of these insecticides have the potential to adversely affect one or more listed species. After consultation between EPA and NMFS, and the chlorpyrifos, diazinon, and malathion registrants, on June 30, 2022, NMFS issued a “no jeopardy” BiOp for all three pesticides. During that consultation, the registrants committed to amend their product labels and registrations to include measures that reduce runoff and spray drift from treated areas into species’ habitats. EPA also committed to issuing Endangered Species Protection Bulletins, available on the Bulletins Live! Two website, which set forth

geographically specific pesticide use limitations that would protect listed species and their critical habitats.

Bulletins for all three pesticides include restrictions on when to apply and restrictions on tank mixing. The mitigations included in the Bulletins for diazinon only include use limitations related to runoff, whereas the mitigations for chlorpyrifos include use limitations related to both runoff and drift. The chlorpyrifos and diazinon Bulletins also include wind speed restrictions. The malathion Bulletins include a requirement to maintain a buffer between application area and specific habitats, with the size of the required buffer depending on the application rate, application method, and wind direction.

Registrants have submitted these product labeling amendments to EPA, as well as amendments describing how to report ecological incidents associated with pesticide applications, should users observe any. Amended label guidance will be included on the next printing of product labels, with a 12-month existing stock provision included in the agreement. EPA has also posted agreed-upon Bulletins. Collectively, these measures will not only protect listed species but also reduce exposure to non-listed species.

At this time, labels have been approved for chlorpyrifos products with only non-food uses. EPA requested and NMFS granted an extension to August 2024 to implement the BiOp with updates for those labels with food uses. This will allow EPA the additional time needed to cancel all food uses except for the 11 food crops [specified previously](#) in EPA's 2020 chlorpyrifos Proposed Interim Decision.

For additional information on the NMFS BiOp for these three insecticides, visit [EPA's website](#). The registration review process for chlorpyrifos, diazinon, and malathion is ongoing. In early 2025, EPA plans to issue an amended Proposed Interim Decision (PID) for chlorpyrifos for public comment followed by an Interim Decision (ID) in late 2025. EPA plans to issue the malathion Proposed Final Decision in July 2024 and the Final Decision in January 2025. In late 2025/early 2026, EPA plans to issue a PID for diazinon followed by the ID in the summer of 2026.

(EPA, April 2, 2024)

<https://www.epa.gov/pesticides/epa-announces-implementation-mitigation-measures-insecticides-chlorpyrifos-diazinon-and>

NCGA WARNS 2,4-D DUTY HURTS FARMERS

The president of the National Corn Growers Association on Thursday called on the U.S. International Trade Commission to reject a petition for tariffs to be levied on imported 2,4-D from India and China.

On March 14, Corteva Agriscience LLC filed a petition calling for antidumping and countervailing duties on imports of the herbicide. The company claims 2,4-D imports are injuring or threatening to injure the U.S. ag chemical industry.

Following the public hearing on Thursday, the trade commission is expected to render a decision within 45 days. If the ITC finds that dumping occurred, the cases will move to the U.S. Department of Commerce where preliminary antidumping and countervailing duty margins would be calculated.

Corteva said in its original petition that 2,4-D producers from India and China were exporting subsidized products into the U.S. Dumping takes place when a foreign producer sells a product in the U.S. at a price below a producer's sale price in its country of origin.

Harold Wolle, president of NCGA and a farmer from Madelia, Minnesota, told the commission in prepared testimony that placing duties on 2,4-D imports could lead to higher prices and shortages for farmers.

According to Corteva's petition, Chinese and Indian 2,4-D made up 81% of the chemical's imports into the U.S. Corteva is the sole U.S. producer of 2,4-D.

That petition estimates the dumping margin for 2,4-D is between 142% and 388% for China and 55% to 139% for India. Corteva said in the petition that because of the dumping, U.S. producers "continually lost sales and

revenues" and that led to Corteva's lost market share and declining sales.

"In recent years we have seen the market price for these products and other inputs steadily increasing," Wolle said.

"Costs of production per bushel of corn are currently near record highs. Meanwhile, the price received for corn has been decreasing. This scenario under consideration has the potential to limit imports of an important product and create a supply shortage, in an already tight market."

Corteva did not respond to DTN's request for comment before publishing time.

NCGA said in a news release on Thursday, that the bulk of imported 2,4-D comes from Asia -- meaning duties could place a hardship on U.S. farmers.

"We are thankful companies like Corteva have invested in new technologies, including seed traits and herbicides, that allow us to continue producing more effectively and efficiently every year," Wolle told the commission.

"However, farmers simply cannot rely upon a sole supplier for nearly all of our 2,4-D needs. That will undoubtedly lead to shortages and delays in an industry that must have timely delivery."

In 2022, NCGA testified before the commission on a similar case involving a urea ammonium nitrate investigation. The commission voted against levying duties on UAN (<https://www.dtnpf.com/...>).

"We see a lot of similarities between the UAN case and this case," Wolle told the commission.

"Both cases were brought by a single, dominant domestic supplier seeking to further consolidate its market position. Imports were not injurious in the UAN case and we do not believe that they are injurious here."

The petition couldn't come at a worse time, Wolle said, as the price of corn has declined more than 40% during the past two years and the average cost of producing

corn was higher than the average selling price of corn in 2023.

"Our members have provided feedback on experiencing supply shortages at the time of the COVID-19 pandemic," he said, "along with paying increased prices for 2,4-D in recent years. I too have experienced this on my farm. We don't want to feel an even sharper burden as we look to improve our competitiveness in climate-smart agriculture practices domestically and around the world."

(Progressive Farmer, April 4, 2024)

<https://www.dtnpf.com/agriculture/web/ag/crops/article/2024/04/04/ncga-asks-trade-commission-reject-2>

NEW RESEARCH REINFORCES COCKROACH-SANITATION LINK

Your mom's advice on keeping a home free from cockroaches and bed bugs is reinforced by science.

To keep these pests from invading, follow the common-sense rules of cleanliness. To kill them, use traps and bait. Don't bother using foggers, sprays and aerosols, which are less effective and can contaminate food, floors and counters.

These insights were confirmed by a seven-month collaboration between Rutgers University-New Brunswick and the New Brunswick Housing and Redevelopment Authority and led by Changlu Wang, professor of entomology at the School of Environmental and Biological Sciences. The resulting study is published in the *Journal of Economic Entomology*.

Wang and his team did their survey in a public housing project with 258 apartments in 40 buildings. Their first step was to find out which pests, and how many of each pest, lived in those buildings. Cockroaches were present in 28 percent of the apartments; rodents in 11 percent;

bed bugs in 8 percent. Surprisingly, this kind of pest data for an entire community is hard to come by, Wang said.

“The usual way to figure out how many of what pests are in a community is to count complaints,” Wang said. “And complaints are just not very reliable, because not everybody complains.”

Wang and his team visited all accessible apartments in the community and set traps in strategic spots in each apartment, which not only helped them identify pests but identify where they were coming from. They then treated those apartments using baits and traps and reduced the number of cockroach infestations by 85 percent over seven months.

As they counted cockroaches and laid traps, Wang’s team also talked to the residents about how to avoid cockroaches in the first place and how to deal with them once they arrived.

Wang treats an apartment with baits to reduce cockroach infestations. Four sticky traps set up by Wang’s team in a single apartment to identify cockroaches.

“With cockroaches, the best way to keep them away is to keep the kitchen clean,” Wang said. “Don’t leave food around; wash the dishes often; reduce the clutter in your kitchen as much as possible.”

And once the little beasts show up, call the maintenance people. “Our maintenance people do a routine visit every month,” said John Clarke, the authority’s executive director. “But a lot can happen in a month. If you see a cockroach on day three, and wait until our guys come on day 28...well, let’s just say it would have been better to call us on day three.”

Wang’s team also took samples from kitchen and bedroom floors in 17 apartments to measure the presence of insecticide residue from the past use of pesticides at the beginning of the study and seven months later. They found both the numbers of insecticides present and the amount significantly reduced. The results prove that using a combination of education, baits and traps is more effective than using foggers, sprays and aerosols.

“Sprays are less effective because cockroaches are increasingly resistant to them,” Wang said. “Plus, they can contaminate the food, the surfaces of floors and counters. They’re especially dangerous to children because children crawl around on the floor.” The study was funded by a \$20,000 University Community Research Partnership for New Brunswick grant, administered by Rutgers’ Department of Community Affairs. It was the second such grant for Wang, who previously worked on reducing bed bug infestation in one of the Housing Authority’s properties. “This study was a big help to our residents and our staff,” Clarke said. “My only wish is that we could have another grant like this every two or three years.”

(PCT, April 24, 2024)

<https://www.pctonline.com/news/new-research-reinforces-cockroach-sanitation-link/>

AG ‘DRONE SWARMS’ CLEARED FOR TAKEOFF

A recent Federal Aviation Administration ruling, prompted by Texas-based Hylío, could pave the way for “drone swarm” farming, a potentially lower-cost method of spraying crops compared to traditional methods.

The FAA’s drone swarm rule exemption lets a single Hylío pilot simultaneously fly up to three 165-pound AG-230 drones at night. While the ruling was prompted by Hylío, it could mean a big lift for ag drone spraying everywhere, in effect putting the practice on a par with traditional ground spraying equipment.

“It’s definitely going to increase adoption of drones because you can’t just write drones off as cool for spot-spray,” says Arthur Erickson, Hylío CEO. “Now they’re a mainstay for farmers, even large row crop farmers.”

Before the approval of Hylío’s petition, a single large drone heavier than 55 pounds had to be operated by a minimum of two people — the pilot and a line-of-sight spotter — making them impractical for commercial spray operations. The exemption paves the way for

greater adoption, even though it still requires line-of-sight flying.

Regulators notably considered many concerns when making their decision, including input from the [National Agriculture Aviation Association](#), which submitted a public letter raising safety concerns for manned crop-duster pilots.

“UAS [unmanned aerial systems] performing the same mission in the same airspace present a significant hazard [to manned airplanes], particularly during seasonally busy application windows,” the letter reads.

Another letter submitted by the Small UAV Coalition offered a counter argument. “Hylio will operate its drones very close to the ground, 10 to no more than 30 feet AGL [above ground level], over predetermined, uninhabited, private, or controlled-access property. With a geo-fence boundary and operations within the visual line-of-sight of the pilot, there is little to no air risk or ground risk requiring any additional mitigation,” the letter reads.

For now, the FAA’s permission extends exclusively to Hylio pilots. In the next few months, Erickson says the FAA is expected to generalize its approval through a “summary grant,” expediting similar petitions based on Hylio’s precedent-setting ruling. The swarm exemption is added to the FAA’s aerial applicator drone license, which pilots must carry to legally fly them.

“It’s a good first step, that’s for sure,” Erickson says. “Technically speaking, we’ve been able to swarm with our software [for some time], more than three drones.”

The number of Hylio drones that can be operated by one person is theoretically only limited by screen size. “Yes, the drones are autonomous,” he says. “But for safety’s sake, you want a human pilot to be able to intervene if something goes on.”

Changing regulations

For some time now, drone technology has outpaced federal rules. Regulators are trying to change that so U.S. farmers can keep up with their foreign counterparts.

Many countries already allow commercial drone swarms.

An FAA statement about the ruling notes, “Current FAA rulemaking efforts are focused on developing a [standard set of rules](#) for operations beyond visual line-of-sight to make these kinds of [spray] operations routine, scalable and economically viable.”

The FAA created committee in 2021 to consider commercial drone safety implications, with specific guidelines for precision agriculture and commercial spraying.

“We are currently reviewing their [the committee’s] final report, which includes a recommendation to the FAA to establish certification and operating requirements for higher weight (in excess of 200 pounds) drones operating beyond visual line-of-sight,” the statement says. Letting pilots fly commercial drones beyond their sightline would greatly expand their usefulness.

Compared to ground sprayers, drones are much less expensive. Erickson says a swarm of Hylio drones, which range in hauling capacity from 2.5 to 18 gallons, can spray more than 200 acres per hour. The pilot defines field parameters on an interface, and then selects spray gallons per acre and flight height. “You press takeoff, and the drone goes and does it,” he says.

Once the product has been expended, the drone automatically returns to be refilled and have its batteries swapped out. Hylio’s four drones range in price from \$25,000 to \$80,000.

At the top-end price, “that’s enough batteries to run it back to back to back. They’re in rotation so you never run out of battery power,” Erickson says. “Let’s not forget that you could have two swarms. You could have two people out there with six drones.”

(Farm Progress, April 4, 2024)

<https://www.farmprogress.com/technology/ag-drone-swarms-cleared-for-take-off>

PESTICIDE LABELS ARE CHANGING, AND GROWERS SHOULD TAKE NOTE

Anyone applying agricultural pesticides (certified applicator or not) needs to be aware of changes coming to pesticide labels across the United States.

In an effort to address concerns related to the impact of pesticides on threatened or endangered species and in response to [ongoing litigation](#), the U.S. Environmental Protection Agency has developed an online system called Bulletins Live! Two that determines if additional pesticide use limitations are needed to protect listed species or habitat based on the site location, pesticide product and application month.

The system is intended to avoid blanket use restrictions and instead limit restrictions to geographic and time-specific use patterns that should be avoided to protect endangered species and their habitat.

The Endangered Species Act of 1973 provides a framework to conserve and protect endangered and threatened species and their habitats domestically and abroad. An endangered species is an organism threatened by extinction. Threatened species are likely to become endangered soon. Together, threatened and endangered species are commonly referred to as listed species. The ESA requires listing determinations to consider only scientific and commercial information; economic factors are not allowed to be regarded as part of the listing process. Species may also be removed from the list if they no longer need protection or have a change in status. Michigan currently has 26 known endangered or threatened species.

The EPA ensures that the use of pesticides does not jeopardize listed species or adversely impact their designated critical habitat. If the EPA determines that use of a pesticide may impact listed species, it initiates consultation with U.S. Fish and Wildlife Service or the National Marine Fisheries Service to identify potential negative impacts. The agencies also develop and propose measures to mitigate these negative impacts. Based on the outcomes of this process, the EPA may require additional pesticide use limitations. These limitations are

often included in the environmental hazards section of the pesticide label.

However, if it is determined that pesticide use limitations are only needed in specific geographic areas to protect listed species or critical habitat locations, the EPA implements these changes through Endangered Species Protection Bulletins that define pesticide use limitation areas based on the site location, pesticide product and application month. These bulletins are made available via the Bulletins Live! Two system, which allows applicators to check their planned application parameters to determine if any additional pesticide use limitations are required to protect listed species or their habitat. Applicators are only required to consult the Bulletins Live! Two system if the label that came with the pesticide container in their possession directs them to. Bulletins with PULA directives will typically not disclose the listed species or critical habitat the pesticide use limitations are meant to protect.

Applicators are only required to consult the Bulletins Live! Two system if the label that came with the pesticide container in their possession directs them to. Pesticide manufacturers will be adding the Bulletins Live! Two directive to updated labels as required in the coming years, but it will take time for the newer labels to reach the market and applicators to use up existing stocks. Currently, most of the impacted labels with additional pesticide use limitations are agricultural herbicides and insecticides, but additional products are added regularly with the inclusion of fungicides and other pesticides anticipated in the future.

There are use patterns (products, areas and uses) in Michigan that are currently impacted by these new pesticide use limitations and require applicator compliance. Pesticides that require the Bulletins Live! Two system will indicate so on the label, often under the environmental hazards section. The label will direct applicators to visit the map-based system known as Bulletins Live! Two and view the bulletin for the intended application parameters (site location, pesticide product and application month). If a pesticide label directs you to Bulletins Live! Two, you are required to follow the pesticide use limitations found on both the label and on the bulletin generated by [Bulletins Live! Two](#).

To generate a bulletin, you will need the following information:

1. Location that you can navigate to manually or enter as an address or coordinates
2. Application month and year
3. The product EPA registration number that is found on the pesticide label.

The bulletins themselves are simply a document that describes any additional pesticide use limitations based on the proposed application site. It includes a map of the location, the application timing and product.

It is important to note that there may not be any additional specific use limitations based on the application parameters. This could be because EPA has not yet identified if additional pesticide use limitations are needed or if there are no additional geographically specific use limitations based on the use pattern. Though not required, applicators are encouraged to print or save the bulletin along with their pesticide records, even if no additional pesticide use limitations apply.

Compliance with all label directives including using Bulletins Live! Two is mandatory and the applicator’s responsibility. Applicators can generate bulletins up to six months before an application and should do so as far in advance as possible to check for any additional pesticide use limitations that might impact their ability to utilize the pesticide as intended. Ideally, applicators will carefully check the labels of products they are considering before purchase to fully understand any use limitations on their site. Because Bulletins Live! Two will continue to add new pesticides continuously, applicators need to continue to check all product labels carefully for this new directive.

For more information on navigating Bulletins Live! Two, view the EPA tutorial. For more information on the changes related to the Bulletins Live! Two system, visit the Michigan State University Extension Bulletins Live! Two webpage. For more information on how Michigan State University Extension is supporting efforts to conserve Michigan biodiversity, including listed species and critical habitat, visit the Michigan Natural Feature Inventory website.

(AG Daily, April 24, 2024)

<https://www.agdaily.com/crops/pesticide-labels-changing-growers-take-note/>

CEU Meetings

Please note that some of these meetings are virtual using Zoom or Microsoft Teams. Please contact the meeting host directly if you have any questions.

Date: May 7, 2024

Title: Grady County Ag. Producers Meeting

Location: Chickasha Contact for Location

Contact: Liberty Galvin (405) 334-7676

CEU's:

1

1

Category(s):

Private

1A

Date: May 7, 2024

Title: Fungal Disease Management for Ornamental Plants

Location: US Environmental Protection Agency (Virtual)

Contact: Dr. Marcia Anderson (908)-577-2982
<https://www.epa.gov/ipm/upcoming-integrated-pest-management-webinars>

CEU's:	Category(s):
1	3a
1	3C
1	10

Date: May 10, 2024

Title: Oklahoma State University Southeast Oklahoma Forest Health Workshop

Location: Contact for Location
Contact: Ryan DeSantis (405) 744-5463

CEU's:	Category(s):
3	2
3	10

Date: June 4, 2024

Title: Oklahoma State University 2024 Cross Timbers Forest & Range Management Field Day

Location: Contact for Location
Contact: Ryan DeSantis (405) 744-5463

CEU's:	Category(s):
3	2
3	10

Date: October 1, 2024

Title: ENSYSTEX 2024 Workshop
Location: TBA Tulsa OK
Contact: Don Stetler (281) 217-2965
<https://ceuworkshop.com/>

CEU's:	Category(s):
1	7A

ODAFF Approved Online CEU Course Links

Online Pest Control Courses
<https://www.onlinepestcontrolcourses.com/>

PestED.com
<https://www.pested.com/>

Certified Training Institute
<https://www.certifiedtraininginstitute.com/>

WSU URBAN IPM AND PESTICIDE SAFETY EDUCATION PROGRAM
<https://pep.wsu.edu/rct/recertonline/>

CEU University
<http://www.ceuschool.org/>

Technical Learning College
<http://www.abctlc.com/>

All Star Pro Training
www.allstarce.com

Wood Destroying Organism Inspection Course
www.nachi.org/wdocourse.htm

CTN Educational Services Inc
http://ctnedu.com/oklahoma_applicator_enroll.html

Pest Network
<http://www.pestnetwork.com/>

Veseris
<http://www.pestweb.com/>

AG CEU Online

<https://agceuonline.com/courses/state/37>

Target Specialty Products Online Training

<https://www.target-specialty.com/training/online-training>

MarKev Training <https://www.markevtraining.com/>

For more information and an updated list of CEU meetings, click on this link:

<http://www.kellysolutions.com/OK/applicators/courses/searchCourseTitle.asp>

ODAFF Test Information

Testing will be done at testing centers in multiple locations around the state by PSI Services LLC.

For more information and instructions, please go to <https://bit.ly/3sF4y0x>.

Reservation must be made in advance at www.psiexams.com/ or call **855-579-4643**

PSI locations.

Oklahoma City 3800 N Classen Blvd, Ste C-20,
Oklahoma City, OK 73118

Tulsa 2816 East 51st Street, Suite 101, Tulsa, OK
74105

McAlester 21 East Carl Albert Parkway (US Hwy 270),
McAlester, Oklahoma 74501

Woodward 1915 Oklahoma Ave, Suite 3, Woodward,
OK 73801

Lawton Great Plains Technology Center, 4500 West
Lee Blvd Building 300- RM 308, Lawton, OK 73505

Enid Austry Technology Center, 1201 W. Willow Rd,
Enid, OK 73703

Ponca City Pioneer Technology Center, 2101 N Ash,
Ponca City, OK 74601

If you have questions on pesticide certification. Please
email or call:

Kevin Shelton
405-744-1060 kevin.shelton@okstate.edu or

Charles Luper
405-744-5808 charles.luper@okstate.edu

**Pesticide Safety
Education Program**