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PESTICIDE REPORTS

Division of Agricultural Sciences and Natural Resources • Oklahoma State University
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CHEM

EL RENO ADDED AS A NEW TEST SITE FOR JULY AND AUGUST

The Oklahoma Department of Agriculture, Food and Forestry (ODAFF) has added a new test location in El Reno for July and August.

The testing will occur at the Canadian County Fairgrounds Education Building at 220 N Country Club Road. The testing will run from 9:00 am to 1:00 pm. No new applicants wanting to take exams will be accepted after 11:00 am.

Test dates for El Reno are July 16, and August 13.

See the link below for other ODAFF test locations and dates.
https://www.oda.state.ok.us/cps/testsession.pdf
(OSU PSEP July 1, 2019)

STATEMENT ON SULFOXAFLOR SECTION 18 EMERGENCY EXEMPTIONS

EPA has reissued emergency exemptions for the use of sulfoxaflor in 12 states to control tarnished plant bugs on cotton and to control sugarcane aphids on sorghum in 14 states for 2019. The exemptions will authorize treatment of defined geographic areas within each state for a finite period.

The effect of these pests on cotton and sorghum necessitated the emergency exemptions. EPA determined that the devastating spread of the pests and potential economic loss to the growers met the criteria for an emergency exemption. The tarnished plant bug and sugarcane aphid are massive threats to cotton and sorghum crops, respectively. There are few viable options for controlling these problems, and pests have developed resistance to some of the former alternatives. Some alternative treatments can require over 10 applications, while sulfoxaflor is much more effective, with fewer applications in many cases.

Pollinator protection efforts remain critical, even under emergency conditions. For each emergency exemption, mitigation measures were put in place to minimize exposure and reduce the potential for unreasonable risks to the environment. The approvals include advisory guidance for protecting bees, and users must also follow all existing EPA guidance for pollinator protection.

EPA has granted similar emergency exemptions for sulfoxaflor since 2012. In the past, states have not used all the acres applied for in their emergency exemptions.

Additional Information

States have requested use of sulfoxaflor on sorghum and cotton under the Section 18 Emergency Exemption program over the past several years. Section 18 of the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) authorizes EPA to exempt state and federal agencies from provisions of FIFRA if emergency conditions exist that require an exemption.

EPA evaluates requests for FIFRA Section 18 emergency exemptions in accordance with the statutory criteria of FIFRA and the Federal Food, Drug and Cosmetic Act (FFDCA). EPA assesses all requests for emergency exemption for human and environmental safeguards consistent with these statutory requirements.

In addition, each emergency exemption decision details the conclusions of EPA's assessment and the public safety requirements to support the approved use. Thus, the decision to authorize an emergency exemption under FIFRA Section 18 ensures that the pesticide can be used safely, in accordance with federal law. The human health and environmental risk assessments that are done for all Section 18 exemptions are based on the best available data and assessment procedures and require the same safety findings as for uses covered by Section 3 registrations.

EPA responded to a Final Report from the Office of Inspector General (OIG) on recommendations to improve EPA's emergency pesticide exemption process in December 2018. The Agency agreed with all eight recommendations and outlined proposed corrective actions and timeframes for completion where appropriate. EPA will soon address the OIG's concerns for this product specifically.

(EPA, June 20, 2019)
https://www.epa.gov/pesticides/statement-sulfoxaflor-section-18-emergency-exemptions

EPA EXTENDS COMMENT PERIOD ON DRAFT REVISED METHOD FOR ENDANGERED SPECIES ACT PESTICIDE ASSESSMENTS

EPA is extending the public comment period for 45 days on a draft revised method for assessing pesticide risk to endangered and threatened species. The comment period will now close on **Aug. 15, 2019**.
Comments can be submitted to the docket (EPA-HQ-OPP-2019-0185) at www.regulations.gov. The docket also includes information about the public meeting; including the agenda, slides, and a recording.
EPA held a public meeting on June 10 to present the draft revised method and to allow attendees the opportunity to ask clarifying questions and provide comments. EPA is extending the comment period deadline as a result of several stakeholder requests. It is important to EPA to ensure there is adequate time to solicit feedback from all stakeholders, and

therefore the Agency is extending the comment period.
EPA's objective with the draft revised methodologies is to deliver a more sustainable process for assessing pesticide impacts on endangered and threatened species that is efficient, protective, transparent, and scientifically defensible. The draft revised method is expected to meaningfully distinguish species that are likely to be exposed to and affected by the assessed pesticides from those that are not likely, in a manner that remains consistent with the National Academy of Sciences' recommendations.
Under the Endangered Species Act, federal agencies are required to determine whether their actions may affect listed species and their designated critical habitat and biological evaluations are the first step in the interagency consultation process to protect listed species and their habitats. More information is available at www.epa.gov/endangered-species.
(EPA, July 1, 2019)
https://www.epa.gov/pesticides/epa-extends-comment-period-draft-revised-method-endangered-species-act-pesticide

US COURT AGAIN CONSIDERS FATE OF DOWDUPONT'S ENLIST DUO HERBICIDE

A US federal appeals court last week questioned the EPA's process for approving and expanding uses of DowDuPont's herbicide, Enlist Duo (2,4-D choline + glyphosate). But it did little to indicate whether it supports the bid by environmentalists to vacate the registration and pull the product from the market.

A three-judge panel of the US Court of Appeals for the Ninth Circuit on Thursday (May 13th) heard oral arguments in the dispute, which stretches back to the EPA's 2014 registration of Enlist Duo on companion maize and soybeans in six states.

Environmentalists, led by the Natural Resources Defense Council (NRDC), filed suit almost immediately, arguing that the EPA had failed to fully assess the human health impacts of the two active ingredients and ignored its obligations to ensure that legal uses do not pose undue harm to endangered species.

The EPA extended the registration to an additional nine states in the spring of 2015 and contested the lawsuit, but changed course in October 2015 after discovering information on possible "synergistic weed control properties" within a Dow AgroSciences patent application.

The Ninth Circuit remanded the registration back to the Agency in January 2016, allowing Enlist Duo to stay on the market while the EPA considered the new data. In January 2017, the Agency concluded that existing buffers and mitigation measures were sufficient and issued a new conditional registration that expanded approval of Enlist maize and soybeans to 19 additional states and added Enlist cotton to all 34 states.

The environmentalist groups filed a new complaint with the Ninth Circuit, again arguing that the EPA had failed to fully review the impacts of the herbicide on monarch butterflies, ignoring evidence of human health concerns from expanded use of 2,4-D and violated the Endangered Species Act (ESA).

NRDC attorney Margaret Hsieh told the Court that the EPA had failed to correct the deficiencies with the 2014 registration that prompted the initial lawsuit.

"Enlist Duo has now been on the market for five years and no court has ever reviewed if it meets the basic safety standards," Ms Hsieh said during oral arguments. "When we cut through the convoluted history and explanations behind the registration, one thing is clear and that is that EPA had and still has no real idea of whether Enlist Duo poses unacceptable risks because it failed to consider the data on harm to monarchs and human health."

Limited review

The EPA defended its review of the pesticide, but also argued that the NRDC and the other petitioners cannot challenge the 2014 or 2015 approvals.

Once the Court had remanded those registrations and divested itself of jurisdiction, the 60-day window for legal challenges of those orders ran out, said Department of Justice attorney Michele Walter. "There can be no relief on those prior orders," Ms Walter said. "They are legally and factually out of time to be challenged."

Furthermore, the 2017 registration is conditional and technically only approves new uses of 2,4-D on maize and soybeans in 19 additional states and on cotton in 34 states, Ms Walter told the Court. "That is the full universe of what is encompassed in the action that EPA took in 2017," she explained. "The only relief that the Court could order here would be with respect to an additional cotton use and additional use in the other 19 states."

Ms Hsieh countered that the EPA is trying to use the voluntary remand handed down by the Court in 2016 to block its challenge of the earlier registrations.

"That makes no sense and that could be a complete run around the judicial review process," she said. "EPA originally said it was too early to address our challenges and now says it is too late for the Court to do so. But the Agency can't have it both ways. The Court must review all parts of the 2017 registration and if the first part … is unlawful, that means the other two derivatives, the expansions, are unlawful as well."

Skirting the issue

The Court appeared wary of the EPA's jurisdictional claims and sympathetic to the concern that the Agency is trying to block a judicial review.

When the original registrations were remanded, the EPA told the petitioners that the 2014 and 2015 orders could still be challenged, said US Circuit Judge N Randy Smith.

It seems that the EPA is "trying to skirt the issue", Judge White said.

The Ninth Circuit panel that opted not to vacate in 2016 likely "did not anticipate" that the EPA would subsequently argue that the 2014 and 2015 orders could not be challenged, added US Circuit Judge Ryan D Nelson. "I could understand an institutional concern here if we start allowing these things to be remanded without being vacated," he said. "I don't know how petitioners are ever going to get [to challenge] the merits of … the original registration."

Ms Walter said the plaintiffs can seek judicial relief on the 2014 and 2015 registration decisions, but must first wait for EPA to act on a petition filed by the NRDC in 2016 that calls on the Agency to reconsider those approvals. "Once EPA does act on that, that is a final action that can be challenged," she told the Court.

Judge Nelson pressed Ms Hsieh on the fate of the petition, asking if the lawsuit moots that administrative action.

"It is not mooted out, it is a separate proceeding pending before the Agency," she replied.

Judge Nelson said he was "actually shocked" by the NRDC attorney's acknowledgment the petition is not moot. "You just conceded that EPA and Dow are correct that the original petitions are currently still pending before EPA," he said.

The Court has jurisdiction because the 2017 registration reaffirmed and incorporated the 2014 and 2015 decisions, Ms Hsieh replied.

"I don't know about that," Judge Nelson said. "They have reaffirmed a decision that is currently before EPA. I give you it is an odd procedural position. There is no question about that."

DowDuPont touts benefits

DowDuPont echoed the EPA's jurisdictional arguments while also urging the Court to consider the environmental benefits of its herbicide. "NRDC conceded today that they don't think their original cancellation petition is moot," said DowDuPont attorney Margaret Sullivan. "We agree strenuously with EPA that all that is before you is the 2017 conditional amendment."

Enlist Duo combines two active ingredients that have been used by farmers for decades into a herbicide with an "environmentally favourable profile" that is very effective at killing weeds, Ms Sullivan told the Court. "When Enlist Duo is sprayed on the field, it stays in the field," she said.

The American Farm Bureau Federation and other farm groups -- representing some 6 million US farmers -- filed a brief with the Court supporting DowDuPont, touting Enlist Duo as an "irreplaceable tool" needed to help growers fend off glyphosate-resistant weeds. Vacating the registration would "upset the apple cart" and drive farmers back to less safe alternatives, Ms Sullivan said. (Pesticide & Chemical Policy/AGROW, May 21, 2019)

DICAMBA BATTLE LINES DRAWN

At a state pesticide regulatory meeting this week, some state officials threatened to stop reporting their dicamba damage incidents to the EPA during the 2019 growing season, after their past reporting efforts did not bring about substantial changes to agency's dicamba registrations.

"They felt like they provided a lot of information [in 2018], and it took a lot of their staff time to generate that information, but they don't feel that was reflected in any of the dicamba label statements, so states are kind of questioning whether that was a good use of their time," explained Rose Kachadoorian, president of the Association of American Pesticide Control Officials (AAPCO), who led the meeting of the organization's State FIFRA Research and Evaluation Group (SFIREG) in Arlington, Virginia, on June 3-4.

Last year, state officials participated in weekly phone calls with the EPA and submitted an array of data on dicamba injury reports. This year, EPA is proposing that state regulators continue to collect injury data throughout the growing season and then use it to answer a single, end-of-the-season survey for the federal agency to review.

Brian Verhougstraete, a Michigan pesticide regulator, represented the EPA Region 5 states of Illinois, Indiana, Michigan, Minnesota, Ohio and Wisconsin at the meeting. He said several of those states may not cooperate with the proposed survey at all, based on their experience of reporting injury data in 2018.

"To be quite blunt: What did we get out of it?" he said. "The way most states saw it is we got more...labels with vague and unenforceable terms, and we also now have a bunch of extra work on our certification programs. There will be some serious thoughts by states on whether they will participate -- and they may not even have the time, because they'll be too busy with [dicamba] investigations."

While dropping these communication efforts might save time for states, it will also leave EPA with fewer independent sources of information on off-target dicamba injury. In the past, the agency has relied primarily on Extension scientists, state regulators and dicamba registrants to supply information on injury reports and causes.

Several state pesticide regulators also objected to the questions EPA is asking on a draft version of the 2019 end-of-the-season survey on dicamba injury. Many of the proposed questions are aimed at helping EPA write better labels, but none address the extensive time and resources required to address dicamba injury in some states, Kachadoorian told DTN. Nor do any of the questions evaluate the potential human health impacts of state pesticide regulators neglecting their routine inspections to focus solely on a barrage of dicamba complaints, she said.

"There is a price tag to this registration, and that price tag is not being borne by the pesticide registrants or the EPA, but by the state's budgets," she said. "It is a possibility" that some states will not respond at all to the agency's survey this year if EPA continues to ignore these issues, she added.

"But we hope that if [EPA] adds more questions that will actually benefit states by documenting their efforts and the cost to their state, that they'll be more apt to do it," she said.

2019 DICAMBA APPLICATIONS LOOM OVER DISTRESSED STATE AGENCIES

With only 39% of soybeans planted in the U.S. as of June 3, dicamba applications have been minimal in most states, but some regulators are already a year or more behind any future injury complaints, noted Tim Creger, a Nebraska pesticide regulator who represented the EPA Region 7 states of Iowa, Kansas, Missouri and Nebraska at the meeting.

The Missouri Department of Agriculture, which is still processing dicamba injury complaints from 2016, only recently started processing 2017 cases, and has not touched their 2018 workload of 220 complaints yet, Creger noted in his written notes submitted to the meeting. Regulators in Kansas and Iowa are only halfway through processing their 2018 dicamba injury complaints, he added.

"One of the primary take-home messages we've seen in the last two years on dicamba is it's become extremely difficult to keep field staff employed when they get burned out on dicamba investigations," Creger told the meeting participants. "We had one state that lost nine inspectors in the last 18 months because of dicamba, and now they've had to almost fully restock their entire field staff," he said of the Missouri Department of Agriculture.

Creger said many of the Region 7 states are using a "triage" mindset when it comes to addressing dicamba injury complaints in 2019. The Nebraska Department of Agriculture will now require photographic evidence of 20% leaf damage or greater after the V4 growth stage before regulators respond to most crop injury reports, he said. Non-crop injury reports will be handled on a case-by-case basis.

"You would like to think everyone is treated equally, but resources are limited," he said. "People don't get treated equally, and it's become a very difficult, untenable situation for us."

Verhougstraete also said some Region 5 state officials witnessed companies mismanaging the dicamba training sessions that were required for applicators to use dicamba this year. Some were described as "sales pitches," or only lasted 30 minutes instead of the advertised two hours, with people openly wandering in and out of the sessions.

"Is that not fair when states are being held to a higher standard when it comes to ensuring applicators are getting certification training?" he asked EPA representatives in attendance. "Shouldn't the registrants be held to the same standard?"

(Progressive Farmer, June 4, 2019)
https://www.dtnpf.com/agriculture/web/ag/crops/article/2019/06/04/states-threaten-cut-communication

SOYBEAN SEED LEFTOVERS

What to Do With Unplanted Treated Soybean Seed

As bad weather continues to delay soybean planting in some parts of the country, some growers could be left with unused bags or bins of treated soybean seed -- and few good options for dealing with them.

"Growers need to know that if they order treated soybean seeds, those seeds are theirs," explained Kris Ehler, a sales agronomist with Ehler Bros., a family seed and crop consulting company in Illinois. "Even if they don't put them in the ground, they still own them."

While most seed companies will readily reclaim unused treated corn seed, they are less likely to allow growers to return treated beans. "Corn can last two to three years in storage and still maintain

its germination rate," Ehler explained. But, thanks to their oil content, soybeans are less stable in storage.

"Soybeans will degrade much more rapidly, and it's hard to store them for even just a year and have confidence that you will get good germination," Ehler said. In fact, an Iowa State study found that soybean seed germination rates dropped below 20% after 16 months in a warehouse with no climate control.

Because treated soybean seeds generally contain some combination of pesticides, usually a fungicide and insecticide, growers cannot send them into the commodity stream for food, feed, oil processing or export. Nor can they discard them casually; they have to follow federal and state regulations on the disposal of treated seed.

Growers should still check first with their seed dealer to see if their treated beans can be returned. If not, it's time to evaluate their other options, which boil down to storing, burying, planting or destroying the treated soybeans. Each comes with a host of challenges and considerations.

STORING TREATED SOYBEANS

When attempting to store treated soybeans, cool and dry conditions are best -- and if both are not possible, dryness is the most important factor, said Susan Goggi, a seed scientist with Iowa State University.

Back in 2013, Goggi conducted a study to evaluate how well treated and untreated soybeans handled storage. She collected samples of commercially available soybean varieties with a range of maturity groups and protein and oil content. She treated the seed with insecticide or a mixture of insecticide and fungicide and left some untreated.

The good news was that treated soybeans handled storage better over the course of 20 months than the untreated soybeans, Goggi recalled. The bad news is that both treated and untreated beans required near-ideal storage conditions -- a controlled climate of 50 degrees Fahrenheit and 50% relative humidity -- and high starting quality of the beans to maintain their viability.

Under those conditions, treated soybeans' germination rates only dropped from their starting range of 95% to 98% to just 92% after 20 months. In a warm, but dry storage unit -- 77 degrees and 30% relative humidity -- germination rates of treated seed dropped to 89%. But when the soybean seed was kept in a warehouse with no climate control, germination rates dropped to 80% in 12 months and fell quickly below 20% by 16 months.

Keep in mind that growers storing seed in 2019 would likely see much lower germination rates than this study produced, due to the lower starting quality of the soybean seed out there, cautioned Ohio State University Extension plant pathologist Anne Dorrance.

"The issue is that a lot of soybean seed from 2018 was really poor quality," she said. "We had reports from all my counterparts across the Midwest seeing high levels of Phomopsis and Diaporthe infections in soybean seed." Seed with 80% to 85% germination rates was not uncommon this spring. See the DTN story here: https://www.dtnpf.com/….

Nonetheless, if you have a significant amount of unused treated soybean seed, you could possibly recapture some of its value by storing it for the spring of 2020, rather than take a complete loss on it, Ehler said.

"You would need to find the most consistent environment you can, such as an insulated or air-conditioned shed," he advised. "In February, pull samples, get a germination test and find out what you've got." Even germination rates as low as 75% could be blended with higher-quality soybean seed of the same maturity group next year, he noted. At germination rates below 50%, the seed is probably no longer worth your time and resources to plant, Goggi said.

You could also do the math and see if it is worth renting some space in a storage facility with controlled temperature and humidity, Goggi and Ehler added. "You'll have to calculate -- if my germination drops to this level, I will have to bump

my seeding rate to this level, and will cost me that much money versus what it costs for this controlled environment," Ehler explained.

If your treated seed is stored in bins, Goggi recommends sampling from the middle of the bin, not the top. "Skim the top part of the seed off and take a sample from deeper in the bin -- where there is going to be less fluctuation in temperature and relative humidity -- and use that to determine germination," she said. Using the same logic, sample germination rates from both outside bags and inner bags when evaluating the viability of seed stored in a large pile of paper bags, she added.

PLANT, BURY OR BURN

When storage isn't an option, what's left? First, check the label of your treated seed. Seed treatment active ingredients may come with a host of specific restrictions on disposal. Your state pesticide regulators might have their own rules, too. You can find their contacts here: https://aapco.org/…. Then consider the following:

-- Plant it: Small quantities of leftover treated seed can be planted, at proper seeding depths, into "fallow or other non-cropped areas of the farm," according to the Pesticide Environmental Stewardship (PES), an industry- and university-led group that gives guidance on legal and safe pesticide management. Increasing soybean seeding rates to accommodate for late planting and lower germination rates could also help use up excess soybean seed, Ehler noted.

-- Make it a cover crop: In 2013, USDA's Risk Management Agency agreed to allow farmers with prevented soybean planting claims to use their bags and bins of leftover soybean seed as a cover crop -- and the agency could do something similar this year. But, in the meantime, consult your crop insurance agent before you make any attempt to plant leftover soybeans as a cover, Dorrance urged.

-- Bury it: Seed burial is an option, but only if it is allowed by the label, and growers avoid burying it near water sources.

-- Outsource it: Some state municipal landfills can dispose of treated seed as hazardous waste. Other facilities can incinerate them, such as waste management facilities, power plants, cement kilns, ethanol plants and even some elevators. See more details on each state's hazardous waste programs here: https://www.epa.gov/….

What NOT to do: Trying to broadcast or spread the seed at a high seeding rate and then incorporate it is risky and could leave seed exposed or violate the label of certain seed treatment active ingredients, the PES warned. Composting pesticide-treated seed or burning it in a home or shop stove is also illegal and unsafe, the group added.

For more guidance on how to handle unused treated soybean seed, see:

-- The Pesticide Stewardship Alliance's guide here: https://pesticidestewardship.org/…

-- This guide from the American Seed Trade Association (ASTA): https://seed-treatment-guide.com/…

-- This fact sheet from the University of Minnesota: https://drive.google.com/…

(Progressive Farmer, June 20, 2019)
https://www.dtnpf.com/agriculture/web/ag/crops/article/2019/06/20/unplanted-treated-soybean-seed

RAPID CROSS-RESISTANCE BRINGING COCKROACHES CLOSER TO INVINCIBILITY, PURDUE RESEARCHERS REPORT

Cockroaches are serious threats to human health. They carry dozens of types of bacteria, such as E. coli and salmonella, that can sicken people. And the saliva, feces and body parts they leave behind may not only trigger allergies and asthma but could cause the condition in some children.

A Purdue University study led by Michael Scharf, professor and O.W. Rollins/Orkin Chair in the Department of Entomology, now finds evidence that German cockroaches (Blattella germanica L.) are becoming more difficult to eliminate as they develop cross-resistance to exterminators' best insecticides. The problem is especially prevalent in urban areas and in low-income or federally subsidized housing where resources to effectively combat the pests aren't as available.

"This is a previously unrealized challenge in cockroaches," said Scharf, whose findings were published in the journal Scientific Reports. "Cockroaches developing resistance to multiple classes of insecticides at once will make controlling these pests almost impossible with chemicals alone."

Each class of insecticide works in a different way to kill cockroaches. Exterminators will often use insecticides that are a mixture of multiple classes or change classes from treatment to treatment. The hope is that even if a small percentage of cockroaches is resistant to one class, insecticides from other classes will eliminate them.

Scharf and his study co-authors set out to test those methods at multi-unit buildings in Indiana and Illinois over six months. In one treatment, three insecticides from different classes were rotated into use each month for three months and then repeated. In the second, they used a mixture of two insecticides from different classes for six months. In the third, they chose an insecticide to which cockroaches had low-level starting resistance and used it the entire time.

In each location, cockroaches were captured before the study and lab-tested to determine the most effective insecticides for each treatment, setting up the scientists for the best possible outcomes.

"If you have the ability to test the roaches first and pick an insecticide that has low resistance, that ups the odds," Scharf said. "But even then, we had trouble controlling populations."

Rotating three insecticides, the researchers were able to keep cockroach populations flat over a six-month period, but they could not reduce them. The two-insecticide mixture did not work, and cockroach populations flourished.

In one of the single-insecticide experiments, Scharf and colleagues found that there was little starting resistance to the chosen insecticide, and they were able to all but eliminate the cockroach population. In the other, there was about 10 percent starting resistance. In that experiment, populations grew.

In later lab tests of the remaining cockroaches, Scharf and the team found that cross-resistance likely played a significant role. A certain percentage of cockroaches would be resistant to a particular class of pesticide. Those that survived a treatment and their offspring would be essentially immune to that insecticide going forward. But they also gained resistance to other classes of insecticide, even if they hadn't been exposed to them and had not had previous resistance.

"We would see resistance increase four- or six-fold in just one generation," Scharf said. "We didn't have a clue that something like that could happen this fast."

Female cockroaches have a three-month reproductive cycle during which they can have up to 50 offspring. If even a small percentage of cockroaches is resistant to an insecticide, and those cockroaches gain cross-resistance, a population knocked down by a single treatment could explode again within months.

That's why an integrated pest management approach is critical, Scharf said. He recommends combining chemical treatments with traps, improved sanitation and vacuums that can remove cockroaches.

"Some of these methods are more expensive than using only insecticides, but if those insecticides aren't going to control or eliminate a population, you're just throwing money away," Scharf said. "Combining several methods will be the most effective way to eliminate cockroaches."

The U.S. Department of Housing and Urban Development the O.W. Rollins/Orkin endowment in the Purdue Department of Entomology supported this research. (PCT Online, June 25, 2019) https://www.pctonline.com/article/rapid-cross-resistance-cockroaches-purdue/

BANNING NEONICOTINOIDS NOT CURE-ALL FOR BEE HEALTH, RESEARCHERS FIND

New research shows a neonicotinoid ban in the United States may not be a risk-free solution to the problem of declining bee populations. According to research from GianCarlo Moschini at the Center for Agricultural and Rural Development at Iowa State University and Ed Perry at Kansas State University, a total agricultural ban in U.S. maize, similar to one introduced in the European Union in 2013, could have unintended consequences.

Neonicotinoids, which were first commercially introduced in the early-1990s and gained popularity as an insecticide throughout the 1990s and 2000s, are now the most popular insecticide in the world. Moschini and Perry found that from 1998 to 2014, adoption of neonicotinoids helped drive a significant reduction in traditional insecticide use. "We show that the major observed reduction in traditional insecticide use was driven in large part by the adoption of two new methods for insect control—genetically engineered insect-resistant traits and neonicotinoid seed treatments," Moschini said. "What's more, our results suggest that neonicotinoid seed treatments actually reduced insecticide use by more than GE traits. Specifically, we found that neonicotinoid seed treatments reduced the use of pyrethroids by 52% and organophosphates by 47%."

Neonicotinoid use has not been without recent controversy, however, as some lab studies have linked neonicotinoids to the decline of bee populations. Similar studies were a driving factor behind the EU's 2013 decision to ban neonicotinoids. However, that ban has been shown to have some unintended consequences, just as Moschini says could happen in the United States.

"The results of the ban are still playing out, but some recent research has found that, in response to the ban, EU farmers switched to using other types of insecticides such as pyrethroids. Pyrethroids are also highly toxic to bees," Moschini said. "Whether the ban has been effective in addressing declining bee populations is also still being assessed—some have noted that bee health did not improve following the implementation of the 2013 restrictions."

Moschini and Perry's research shows if the United States were to ban neonicotinoids, a two-step process is likely to play out. First, some farmers would substitute organophosphates and pyrethroids, as some EU farmers did, in place of neonicotinoids. Second, the switch to neonicotinoid alternatives could result in greater toxicity risk for other groups such as fish and mammals. Neonicotinoids are much less toxic to humans and other mammals than organophosphates and have been classified as a reduced-risk alternative by the Environmental Protection Agency since 2001.

Instead of an outright ban that could lead to increased usage of other insecticides, Moschini said the United States should consider a more balanced approach. This approach would not only aim to address bee population declines, but also neonicotinoid insect resistance. "What would a balanced approach look like? One possibility would be to be to use something like refuges, as with GE

insect resistant crops. Another possibility is to require farms to not use neonicotinoid seed treatments once every X years," he said. "Regulators may also want to consider where bee issues are more problematic—thus, restrictions would be location specific."

Moschini and Perry's research is based on roughly 89,000 farm-level surveys on pesticide use for U.S. maize farmers from 1998 to 2014—the same underlying pesticide use data the U.S. Geological Survey uses in The Pesticide National Synthesis Project.

Moschini said one caveat for their work is that it only focuses on maize farmers. "While this is the crop with the most neonicotinoid use, there are other crops, such as soybeans, where neonics are frequently used as well. Our results may not apply to these crops, as their insect control options may differ in important ways from those in maize," he said. (Southwest FarmPress, June 26, 2019) https://www.farmprogress.com/herbicide/banning-neonicotinoids-not-cure-all-bee-health-researchers-find

Find us on Twitter at @OkstatePestEd

CEU Meetings

Date: September 10, 2019
Title: General Pest Services (Defined by label/What does this mean to you?)
Location: Hampton Inn Tulsa, OK
Contact: Donald Stetler (281) 217-2965
www.ensystex.com www.for-thor.com

CEU's:	Category(s):
4	3A
2	7A
3	7B

Date: September 11, 2019
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CEU's:	Category(s):
4	3A
2	7A
3	7B

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/

Univar USA
http://www.pestweb.com/

AG CEU Online
https://agceuonline.com/courses/state/37

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

Pesticide applicator test sessions dates and locations for July/August are as follows:

July			August	
9	McAlester		6	Lawton
11	Tulsa		8	Tulsa
16	El Reno		13	El Reno
25	Tulsa		22	Tulsa
25	Enid			

El Reno: Canadian County Fairgrounds
Education Building
220 N Country Club Rd

Enid: Garfield County Extension Office,
316 E. Oxford.

Goodwell: Okla. Panhandle Research &
Extension Center, Rt. 1 Box 86M

Lawton: Great Plains Coliseum,
920 S. Sheridan Road., Prairie Bldg

McAlester: Kiamichi Tech Center on
Highway 270 W of HWY 69

Tulsa: Tulsa County Extension Office
4116 E 15th St.

Pesticide Safety Education Program