

PESTICIDE REPORTS

Division of Agricultural Sciences and Natural Resources • Oklahoma State University
<http://pested.okstate.edu>



August, 2015

CHEM

- 1 ODAFF POLLINATOR PLAN PUBLIC HEARING
- 1 AUGUST TEST HELP SESSION
- 2 EPA PROPOSES TO CANCEL SOME USES OF AN INSECTICIDE COMMONLY USED FOR RESIDENTIAL, INDUSTRIAL AND COMMERCIAL PURPOSES
- 3 EPA RELEASES SCREENING RESULTS OF ENDOCRINE DISRUPTOR SCREENING FOR 52 PESTICIDE CHEMICALS
- 4 IARC DOES NOT ASSESS RISK, REGULATORS DO
- 5 USDA DEREGULATES DOW AGROSCIENCES' ENLIST COTTON TRAIT
- 6 US EPA DENIES REQUEST TO RESTRICT GLYPHOSATE USE
- 6 DOW DETAILS MOLECULAR FORENSIC TECHNOLOGY FOR INSECTICIDES
- 7 US EPA FINDS NO HORMONE RISK FROM GLYPHOSATE
- 7 UK RESEARCH: BED BUGS 'BITE' THE WALLET OF HOTEL OWNERS
- 9 ANT EXPERTS CRITIQUE 'ANT-MAN'
- 10 CEU MEETINGS
- 11 ONLINE CEU LINKS
- 11 ODAFF TEST SESSION INFORMATION

ODAFF POLLINATOR PLAN PUBLIC HEARING

ODAFF will be holding a public hearing for its proposed pollinator protection plan. It will be held August 11 from 1 p.m. to 3 p.m. at the at Langston University's auditorium at its Oklahoma City campus located at 4205 N. Lincoln Blvd., Oklahoma City, OK 73105.

The draft plan can be found at ODAFF's webpage at www.ag.ok.gov. Panel members will be an entomologist, beekeepers, and a representative from the pesticide industry.

Time will be given for comments from the public on the pollinator plan. ODAFF will finalize the plan after the hearing and the Oklahoma State Board of Agriculture will adopt it at a later date.

AUGUST TEST HELP SESSION

The OSU Pesticide Safety Education Program will conduct the next test help sessions for Tulsa on August 20th.

The Tulsa test help session will be held at the Tulsa County Extension Center 4116 E. 15th.

The help sessions will focus on information covered in the core and service tech tests. OSU PSEP will answer any questions over other category tests during this session.

Applicators should acquire and study the manuals before coming to the help session for optimum success. Study manuals can be purchased by using the manual order form available at our website <http://pested.okstate.edu/pdf/order.pdf> or by calling University Mailing at 405-744-5385.

ODAFF Testing fees are not included in the registration fee and must be paid separately.

Register online at the Pesticide Safety Education Program (PSEP) website at <http://pested.okstate.edu/html/practical.htm>. Registration forms can also be downloaded from the website.

Registration will start at 8:45 and the program will run from 9:00 am to 12:30 pm. Testing is scheduled to begin at 1:30 pm.

NO CEU's will be given for this program!

More Test Help Workshop dates are scheduled for 2015. Please go to the website below for more 2015 dates.

<http://pested.okstate.edu/html/practical.htm>

EPA PROPOSES TO CANCEL SOME USES OF AN INSECTICIDE COMMONLY USED FOR RESIDENTIAL, INDUSTRIAL AND COMMERCIAL PURPOSES

The U.S. Environmental Protection Agency (EPA) is proposing to cancel certain uses of the insecticide propoxur after preliminary human health assessment found risks from certain applications.

“Today, we are taking strong steps to protect human health—especially the health of children—from this widely used insecticide,” said Jim Jones, assistant administrator for the Office of Chemical Safety and

Pollution Prevention. “The agency will continue its work to reduce exposure from pesticides that pose the greatest risk to those who are the most vulnerable.”

From 1995 to 2013, EPA has reduced exposure from carbamates, the class of insecticide that includes propoxur. The use of carbamates has fallen by 70 percent.

EPA and the registrant reached an agreement to voluntarily cancel certain uses of propoxur. At the same time, EPA is proposing to cancel certain other pesticide registrations. Voluntary cancellation is the quickest way to fully address these risks, and best protect public health. EPA is proposing to cancel all indoor aerosol, spray and liquid formulations of propoxur inside hospitals and other commercial or institutional facilities where children may be present and all use in food-handling establishments.

After these cancellations, there would be no remaining food uses, and no tolerances levels for propoxur. In 2007, EPA cancelled the use of propoxur sprays inside homes, day care facilities, and schools, and in 2014, EPA cancelled propoxur pet collars. Today’s action was conducted as part of the agency’s registration review program.

EPA is requesting a 30 day comment period that will begin upon publication in the Federal Register at: www.regulations.gov and searching for EPA-HQ-OPP-2015-0296.

EPA is posting a pre-publication copy at: <http://www2.epa.gov/safepestcontrol/proposed-cancellation-certain-uses-propoxur> (EPA July 1, 2015) <http://yosemite.epa.gov/opa/admpress.nsf/bd4379a92ceceac8525735900400c27/1039131d0c0f6c9a85257e75005c4431!OpenDocument>

EPA RELEASES SCREENING RESULTS OF ENDOCRINE DISRUPTOR SCREENING FOR 52 PESTICIDE CHEMICALS

The U.S. Environmental Protection Agency has released its reviews of the Tier 1 screening assay results for the first 52 pesticide chemicals (active and inert ingredients) in the Endocrine Disruptor Screening Program. This is an important step in a multi-step process to protect public health and the environment by ensuring that exposure to chemicals does not result in adverse effects that can occur from the disruption of hormones. The Tier 1 screening data are the best way to determine whether a chemical has the potential to interact with the endocrine system and requires more thorough testing.

EPA currently uses a two-tiered screening program that examines chemicals to determine whether they have the potential to affect endocrine systems. The first step is Tier 1 screening, which uses a battery of 11 assays to determine whether chemicals have the potential to interact with the estrogen, androgen or thyroid hormonal pathways. For each chemical, EPA decides whether additional (Tier 2) testing is necessary. These decisions are based on weighing whether the evidence from the assay results and other scientifically relevant data, shows more potential for endocrine bioactivity than the evidence that it does not.

Tier 2 testing includes multigenerational, longer-term testing across various species (e.g., frog, fish, bird and rat) and is designed to confirm interaction with the endocrine system, identify any adverse endocrine-related effects caused by the substance and establish a quantitative relationship between the dose and that endocrine effect.

The first 52 chemicals to be screened were not selected because of their potential to interact with endocrine systems but rather for their potential for human exposure. It is important not to equate a chemical's bioactivity with the conclusion that the chemical harms the endocrine system in humans and wildlife. Bioactivity is an indicator that a chemical has the potential to alter endocrine function, but without further testing, one cannot determine (1) whether the chemical actually alters endocrine function and (2) whether that altered function produces an adverse outcome in humans and animals.

The Tier 1 screening assays include five in vitro (cell systems) and six in vivo (live animal) systems for determining the potential of a chemical to interact with the estrogen, androgen or thyroid hormonal pathways. In determining whether a chemical interacts with those pathways, we evaluated the number and type of effects induced and the magnitude and pattern of responses observed. We also considered the conditions under which effects occur, in particular, whether or not the dose(s) at which endocrine-related responses occurred happened concurrently with general systemic toxicity.

EPA is moving toward new technologies that would substantially speed up screening of chemicals for their potential to disrupt hormones in humans and wildlife and reduce animal use in screening. Thus far, these technologies provide alternatives to the three estrogen-related screening tests but not the androgen and thyroid tests. New tests for those hormonal systems are under development. Science is evolving, and EPA will continue to incorporate new methods involving high-throughput assays and computational toxicology.

More information, including the screening assessment results, can be accessed at <http://www2.epa.gov/ingredients-used-pesticide-products/endocrine-disruptor-screening-program-tier-1-assessments>. (EPA June 30)
http://www.epa.gov/oppfead1/cb/csb_page/updates/2015/endocrine-disruptor.html

IARC DOES NOT ASSESS RISK, REGULATORS DO

Few people in the crop protection industry had heard of the International Agency for Research on Cancer (IARC) before this year. Today, however, the work of the specialized cancer agency of the World Health Organization (WHO) has fueled sensationalist headlines, calls to ban pesticides, and knee-jerk regulatory decisions around the world.

In March, the agency convened a one-week meeting in Lyon, France, to assess the carcinogenicity potential of five crop protection products. Three were classified as “possibly” and two as “probably” carcinogenic to humans, the most high profile of which was glyphosate. In June IARC assessed 2,4-D, DDT and lindane.

Notwithstanding our concerns about how the classifications were reached, the failure to spell out that IARC classifications are based purely on a hazard identification, not a risk assessment, has led to great confusion – and often misinformation – being propagated through the media to farmers, regulators, our stakeholders, the NGO community and the general public.

Industry critics have taken advantage of the confusion and are seeing the fruits of their campaigning – for example the Colombian and Bermudan governments have agreed to suspend certain uses of glyphosate, citing the IARC classification as a primary reason, while a German DIY chain has stopped stocking glyphosate products.

But to ban or restrict a product solely on the IARC classification is entirely baseless. Over the years, IARC has generated hazard identification

classifications on many everyday products, including coffee, Aloe Vera, talcum powder, and even cell phones. But there is no call to ban these products, just as we shouldn’t call to ban crop protection products on this basis.

The point is that IARC uses a limited data set to carry out a “hazard identification” of an agent. This is in stark contrast to regulatory bodies that use a much more extensive range of scientific studies to assess risk and risk management in real world conditions. Several regulatory bodies have been moved to publicly reiterate this distinction. For example Health Canada said of the IARC classification: “...it is important to note that a hazard classification is not a health risk assessment. The level of human exposure, which determines the actual risk, was not taken into account.”

With this distinction in mind, we can say that existing risk assessments carried out by the Joint FAO/WHO Meeting on Pesticide Residues (JMPR) and by major regulatory agencies remain valid – there is no need for any regulatory action as a result of the IARC classification.

Human health and responsible use of crop protection products is and must always be our highest priority. As an industry we take pride in the extreme rigor by which we assess our products, our detailed submissions to regulators and the subsequent confidence this gives to crop protection product users and the public at large.

CropLife International has therefore asked WHO Director General Margaret Chan to publicly clarify that IARC classifications do not look at risk, and therefore do not constitute a real and present danger to human health. In 2011, IARC classified the electromagnetic fields associated with the use of cell phones as “possibly” carcinogenic and WHO subsequently clarified the need for a risk assessment to avoid unnecessary alarm. We believe an immediate clarification about crop protection products is also in the public interest. (Farm Chemicals International July 14, 2015)

<http://www.farmchemicalsinternational.com/crop-protection/iarc-does-not-assess-risk-regulators-do-2/>

USDA DEREGULATES DOW AGROSCIENCES' ENLIST COTTON TRAIT

The USDA today issued its decision deregulating Dow AgroSciences' Enlist cotton trait in the U.S. The USDA has now completed its regulatory review process for all Enlist traits — corn, soybeans and cotton.

Enlist cotton, one component of the innovative Enlist Weed Control System, provides tolerance to Enlist Duo herbicide — a proprietary blend of new 2,4-D choline and glyphosate — as well as full tolerance to glufosinate. With three tolerances, Enlist cotton offers more weed control options in one convenient system.

Once registered by the U.S. EPA for use on Enlist cotton, growers will be able to apply Enlist Duo herbicide on Enlist cotton from burndown up to mid-bloom. Dow AgroSciences developed Enlist Duo with growers in mind. The herbicide features Colex-D Technology, which will provide near-zero volatility, minimized potential for physical drift, lower odor and better handling characteristics.

“The deregulation of Enlist cotton marks a tremendous milestone for the cotton industry,” says John Chase, Enlist commercial leader, Dow AgroSciences. “In the South, growers are all too familiar with the challenges created by resistant weeds. Enlist cotton will open the door to other options for in-season weed control with multiple modes of action.”

Growers share on-farm experience with Enlist cotton

This summer, growers throughout cotton-growing regions are participating in Enlist grower research plots, raising PhytoGen cottonseed with the Enlist trait on their farms.

As part of their research plot experience, participating growers applied Enlist Duo herbicide to Enlist cotton in-crop. The growers are now sharing firsthand knowledge of the system's benefits and advantages, including reduced off-target movement and excellent weed control.

“Enlist Duo does not have the volatility that we're used to seeing with old 2,4-D compounds,” says Mike Griffin, Virginia grower and research plot participant. “Volatility is beyond my control as an operator and for a company to have basically formulated a compound where volatility is not something I have to worry about, that's probably my single most exciting factor about this.”

Grower research plot participant Trey Koger, Ph.D., farms in Belzoni, Mississippi, and has seen how Enlist Duo helps control glyphosate-resistant Palmer amaranth.

“We deal with glyphosate-resistant weeds and primarily glyphosate-resistant palmer pigweed in this geography,” Koger says. “We fight that weed species in every one of our crops. There are a lot of benefits I see out of this technology in addition to the ability to control glyphosate-resistant Palmer pigweed.”

While the U.S. Environmental Protection Agency has approved Enlist Duo for use with Enlist corn and soybeans, the EPA is currently reviewing the use with Enlist cotton and registration for this use is pending.

Pending regulatory approvals, Dow AgroSciences expects to launch Enlist cotton in proven, consistent, high-yielding PhytoGen cottonseed in 2016. (CropLife July 23, 2015)

<http://www.croplife.com/crop-inputs/herbicides/usda-deregulates-dow-agrosciences-enlist-cotton-trait/>

US EPA DENIES REQUEST TO RESTRICT GLYPHOSATE USE

The US EPA has rejected a petition by environmentalists that called on the Agency to aid monarch butterflies by imposing stricter limits on glyphosate herbicide. The EPA told the Natural Resources Defense Council (NRDC) that "at this time [it] has not determined that glyphosate causes unreasonable adverse effects" to the iconic black and orange butterfly.

The NRDC filed its petition with the Agency in March 2014, arguing that "pervasive use" of the herbicide has devastated natural milkweed, the sole source of food for Monarch butterfly larvae, and contributed to the decline of the species.

Monarchs migrate through large areas the US as part of their lifecycle, particularly the farm-rich Mid-West. The NRDC says that the species has lost some 150 million acres (61 million hectares) of habitat in the US since 1996 due to the widespread use of glyphosate on genetically modified maize and soybeans.

Recent surveys of monarchs in their Mexican wintering grounds found their numbers have dwindled to less than 20% of their recent annual average. This year's overwintering count estimated some 56.5 million monarchs, the second-lowest population count since surveys began in 1993 and far below the 1 billion counted in 1997.

The NRDC's petition called for the EPA to launch an immediate review of glyphosate and its impact on monarchs, while also imposing restrictions on some uses to help the species. But the EPA responded last month that there was no need to expedite its ongoing review of glyphosate and said that it was already taking steps to aid Monarch butterflies.

The Agency has noted that is working with Canada and Mexico to protect the species and is keen to boost partnerships with other federal agencies and stakeholders to improve butterfly habitat.

The EPA last month asked the public to provide new information on how it should evaluate and

mitigate pesticide impacts on butterflies and said that it would take comments on the issue until July 24th. "EPA concludes that its ongoing efforts to protect bees, in conjunction now with this effort to protect the monarch butterfly, are in line with the objectives of the NRDC petition," the Agency said.

The NRDC called the decision "inexcusable." NRDC senior scientist Sylvia Fallon is skeptical. "The EPA apparently plans to study the monarch migration to extinction," she says. (Pesticide & Chemical Policy/AGROW, July 9, 2015)

DOW DETAILS MOLECULAR FORENSIC TECHNOLOGY FOR INSECTICIDES

Just like each human fingerprint is unique; microbes that have been developed to produce naturally based crop protection products are also uniquely distinct. Dow AgroSciences, a wholly owned subsidiary of The Dow Chemical Co., has developed highly sensitive and specific molecular forensic technology to actively ensure the integrity of its spinosyn insecticide products. Insecticides containing spinosad are a combination of natural spinosyns produced by a proprietary bacterial strain in a fermentation process. The company's new proprietary forensic technology enables its scientists to quickly determine a sample's "fingerprint," essentially the origin of the production strain used in the fermentation process.

Thanks to these molecular forensic methods, the company can now clearly identify and take appropriate action if the sample is counterfeit. This scientific expertise helps protect customers by ensuring the products they are using are of the highest quality and meet performance expectations.

"Protecting the integrity of our products is important to helping farmers do the necessary work of raising food for the growing world," says Santosh Mangalam, global business leader, Insecticides, Dow AgroSciences. "Our ability to detect and identify the origin of the production

strains via proprietary molecular forensic methods is a scientific achievement that translates into value for our customers and reinforces their confidence in our products.” (CropLife, June 10, 2015)

<http://www.croplife.com/crop-inputs/dow-details-molecular-forensic-technology-for-insecticides/>

US EPA FINDS NO HORMONE RISK FROM GLYPHOSATE

The US EPA has concluded that the herbicide, glyphosate, does not pose a risk to the human endocrine system. The Agency recently completed a review of glyphosate through its Endocrine Disruptor Screening Program (EDSP) and found "no convincing evidence of potential interaction with the estrogen, androgen or thyroid pathways."

The new assessment means that the EPA will not require any Tier 2 testing for glyphosate under the EDSP. A weight of evidence approach is employed to determine whether chemicals require Tier 2 testing. Last month, the Agency concluded 18 of the 52 pesticides and inerts that underwent Tier 1 testing under the EDSP warranted the additional testing.

The assessment is a spot of good news for Monsanto and other proponents of the popular herbicide, which has been under added scrutiny because of concerns it may pose a cancer risk. "We are pleased that EPA has completed a rigorous, comprehensive and science-based review of glyphosate," said Steve Levine, a senior scientist with the company. "This assessment should give farmers, consumers and other users of glyphosate added assurance about the safety of this important pesticide product."

Recent controversy surrounding glyphosate has been largely sparked by the UN WHO's International Agency for Research on Cancer's (IARC) conclusion that the herbicide is a probable human carcinogen. Industry groups say that the IARC assessment is wrong, but it has given environmental groups in the US and the EU new ammunition to push for restrictions on glyphosate. So far the EPA and authorities in the EU have rebuffed pressure from glyphosate critics. The FAO/WHO Joint Meeting on Pesticide Residues (JMPR) has also set up an expert panel to re-examine safety standards set for the herbicide. (Pesticide & Chemical Policy/AGROW, July 13, 2015)

UK RESEARCH: BED BUGS 'BITE' THE WALLET OF HOTEL OWNERS

While finding a bed bug at home can be unnerving, discovering one in a hotel room can be nightmarish for guests and hotel managers alike. Now, new research from the University of Kentucky's College of Agriculture, Food and Environment has revealed findings about the financial impact bed bugs can have on the travel and hospitality industry.

UK entomologist Michael Potter, a Provost's Distinguished Service Professor, teamed with Agricultural Economics Professor Wuyang Hu, and doctoral student Jerrod Penn, in the Department of Agricultural Economics, to conduct this research. Very little was known about the economic impact of bed bugs prior to the study.

Potter has been working on the front lines of the bed bug resurgence for several years. "While bed bugs are not known to transmit diseases, the bites are often unsightly and itchy," Potter said. "It's hard to understand how upsetting an infestation can be unless you've experienced one yourself. Unlike ticks and mosquitoes, bed bugs live indoors and breed in our beds."

"The goal of the research was to understand consumer preferences when choosing a hotel for business or leisure travel, and how the risk of bed bugs influences their decision," said Penn, the lead author of the study which was funded through a grant from Protect-A-Bed®, a global producer of protective bedding products.

The survey was conducted in May via online market research firm Qualtrics. Respondents included almost 2,100 people representing all 50 states and the District of Columbia ? 1,298 who travel mainly for leisure and 790 who do so largely for business.

The researchers put some hard numbers to the economic impact of online reports of bed bugs in hotels, as well as the value of protective services. Results show that on average, a single report of bed bugs in recent traveler reviews lowers the value of a hotel room by \$38 and \$23 per room per night for business and leisure travelers respectively.

"The higher loss of hotel room values for business travelers is not surprising given that they tend to stay in pricier rooms," Hu said.

In absolute terms, compared to other hotel aspects, the monetary value for travelers' concern about bed bugs makes it one of the more important considerations when selecting or grading a hotel. A second mention of bed bugs in recent traveler reviews further decreases the value of a hotel room, but proportionately to a lesser extent than the first alleged report of the pests.

When presented with various problematic issues encountered in hotel rooms, finding signs of bed bugs had the largest proportion of respondents choosing to switch hotels. Reactions to other concerns (smoke odor, unclean bathroom, dirty sheets, etc.) mostly involved reporting the concern to the front desk and requesting another room.

On the bright side, information about some protective services with regard to bed bugs received positive reaction from travelers. Both business and leisure travelers placed the greatest economic value

on protective mattress encasements as a form of protection, followed by periodic (e.g., semiannual) room inspections by professional pest control firms. "But travelers placed a relatively small dollar value on regular inspections by housekeeping staff," Penn said.

"We also asked people about likely reactions specific to bed bugs," Penn said. "Survey respondents were asked how they would respond to reading an online review that reported bed bugs while looking to book a room for an upcoming trip. A majority of business and leisure travelers said they would not select that particular hotel."

In a second scenario where travelers were asked how they would react to finding a live bed bug while staying in their hotel room, "The three most likely responses among business and leisure travelers were to switch rooms with added compensation, leave the particular hotel, and to report finding bed bugs on social media," said Hu, who serves as Penn's major professor in ag economics. "Considering how popular social media has become, it's important that hotels recognize the potential spread of negative information, regardless of whether the online report of bed bugs is accurate."

Travelers reading about or finding bed bugs in a hotel were more inclined to hold the particular establishment responsible than blame the entire brand name or hospitality industry as a whole.

Four out of five travelers felt hotels should be required to inform guests if their assigned room had a previous bed bug problem. Half of all leisure travelers indicated they would want to know of any problems occurring in the past year, and one-third wanted to know if there had been bed bugs ever. Business travelers were somewhat more lenient, with half wanting to know of incidents extending back six months.

"If hotels are required to disclose previous problems with bed bugs ? as landlords in some cities must do for prospective tenants ? the implications could be far reaching," Potter said. "Such disclosure could necessitate taking rooms out of service for prolonged periods even after the risk of bed bugs has diminished."

Other noteworthy findings from the study: More than two-thirds of travelers were unable to distinguish a bed bug from other household insects. More than half said they never worry about bed bugs while traveling. Although about one in three business travelers and one in five leisure travelers either know someone who has gotten bed bugs or had them themselves. Business travelers are better at correctly identifying bed bugs, have more personal experience with the pests, and have reported them in online reviews much more often than leisure travelers.

When it comes to bed bugs, the hospitality industry is often caught between a "rock and a hard place," Potter said. "With high turnover of guests, occasional bed bug incidents in hotels are understandable, as in similar types of locations. Many hotel chains already take bed bugs seriously in terms of prevention and early detection. The current study further underscores the importance of being hyper-vigilant." (PCT Online, July 14, 2015) <http://www.pctonline.com/article/University-Kentucky-bed-bug-hospitality-travel-impact>

ANT EXPERTS CRITIQUE 'ANT-MAN'

Movie critics aren't the only ones paying special attention to "Ant-Man," the soon-to-be released insect-inspired superhero movie. Ant experts are weighing in as well.

Slate.com reached out to three scientists — Rachele Adams (Ohio State University), Fred Larabee (Smithsonian Institution's AntLab) and Deborah Gordon (Stanford University) — to "help design an awesome Ant-Man inspired by real ants."

The scientists took aim at several of the movie's depictions, notably the fact that Ant-Man should really be Ant-Woman. Said Larabee, "Male ants have this well-deserved reputation for being useless. They go off, mate with future queens, and die immediately."

Larabee also told Slate.com that although ants can lift things much larger than themselves, the idea of shrinking and becoming overwhelmingly strong is "preposterous."

"Ants are very small and can lift a huge amount of weight relative to their body size," he said.

[Click here](http://www.pctonline.com/article/University-Kentucky-bed-bug-hospitality-travel-impact) to read the entire article. (PCT Online, June 13, 2015)
<http://www.pctonline.com/article/Ant-movie-critique-ant-experts>

CEU Meetings

Date: August 5-6, 2015

Title: National Strip-Tillage Conference
Location: Coralville IA
Contact: Sheila Gostisha (800) 645-8455
www.StripTillConference.com
Course #: OK-15-073

CEU's:	Category(s):
1	1A
1	10

Date: September 10, 2015

Title: Rose Rosette Disease Workshop
Location: OSU-OKC, Oklahoma City
Contact: Jenifer Olson (405) 744-9961
Course #: OK-15-079

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

Date: September 17, 2015

Title: Operation Safe Fly-In
Location: El Reno OK
Contact: Sandy Wells (405) 341-3548
Course #: OK-15-020

CEU'S:	Category(s)
2	A
2	10

Date: September 18, 2015

Title: OSU-OKC Pesticide Application Workshop
Location: OSU-OKC Oklahoma City
Contact: David Gerken (405) 945-3382
www.osuokc.edu/turf
Course #: OK-15-

CEU's:	Category(s):
4	3A
4	10

Date: October 7-8, 2015

Title: OKVMA Fall Conference
Location: Hard Rock Hotel Catoosa OK
Contact: Kathy Markham (918) 256-9380
www.okvma.com
Course #: OK-15-

CEU's:	Category(s):
6	A
5	3A
7	6
6	5
7	10

CCA ONLY Conference (No ODAFF CEU)

Date: August 18, 2015

Title: Oklahoma Irrigation Conference Location:
Fort Cobb OK
Contact: David Nowlin (405) 247-3376
www.oces.okstate.edu/caddo/oklahoma-irrigation-conference

CEU's:	Category(s):
5	Soil & Water (CCA)
1	Crop Production (CCA)

ODAFF Approved Online CEU Course Links

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

Green Applicator Training
<http://www.greenapplicator.com/training.asp>

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/>

Southwest Farm Press Spray Drift Mgmt
<http://www.pentonag.com/nationalsdm>

SW Farm Press Weed Resistance Mgmt in Cotton
<http://www.pentonag.com/CottonWRM>

Western Farm Press ABC's of MRLs
<http://www.pentonag.com/mrl>

Western Farm Press Biopesticides Effective Use in Pest Management Programs
<http://www.pentonag.com/biopesticides>

Western Farm Press Principles & Efficient Chemigation
<http://www.pentonag.com/Valmont>

For more information and an updated list of CEU meetings, click on this link:
<http://www.state.ok.us/~okag/cps-ceuhome.htm>

ODAFF Test Information

Pesticide applicator test sessions dates and locations for August/September 2015 are as follows:

August		September	
7	OKC	2	Altus
13	Tulsa	10	Tulsa
20	Enid	11	OKC
21	OKC	24	Tulsa
27	Tulsa	25	OKC

Altus: SW Research & Extension Center
 16721 US HWY 283

Atoka: KIAMICHI TECH CENTER 1301
 W Liberty Rd, Seminar Center

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

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

Hobart: Kiowa County Extension Center
 Courthouse Annex, 302 N. Lincoln

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

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

OKC: OSU OKC Room ARC 196,
 400 N. Portland. (New Location)

Tulsa: NE Campus of Tulsa Community

Pesticide Safety Education Program