OKLAHOMA COOPERATIVE EXTENSION SERVICE

PESTICIDE REPORTS

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

July, 2015 CHEM

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 a 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'S RISK MANAGEMENT APPROACH TO IDENTIFYING OPTIONS FOR PROTECTING THE MONARCH BUTTERFLY AVAILABLE FOR COMMENTS

EPA is concerned about the dwindling population of monarch butterflies and has identified actions to protect the monarch and the milkweed plant, an important resource for the monarch butterfly. The document, EPA's Risk Management Approach to Identifying Options for Protecting the Monarch Butterfly, outlines an approach for actions to protect the monarch butterfly. EPA is soliciting public comment on which potential action or a combination of actions would be most effective in reducing the impacts of herbicides on the monarch butterfly and its habitat. The agency is also requesting additional suggestions for protection measures for the monarch.

Since there are many threats to pollinators, including the monarch butterfly, efforts to protect such resources will need to be multifaceted and reflect the interests of various sectors (federal, academic, public interest groups, industry, and others). EPA's efforts will be informed by input from stakeholders, while also balancing the needs of landowners for weed and vegetation management in varied landscapes. EPA invites stakeholders to comment on this document at www.regulations.gov in Docket# EPA-HQ-OPP-2015-0389. EPA will be accept public comments until July 24, 2015.

This EPA effort further supports President Obama's 2014 initiative on pollinator health, which highlights the importance of the monarch butterfly and establishes a task force of federal agencies to develop a strategy to conserve pollinators.

It also advances the efforts of the Canada/Mexico/U.S. Trilateral Committee for Wildlife and Ecosystem Conservation and Management. Consistent with its goals of conserving and managing natural resources across North America, the committee has recognized the monarch butterfly as an emblematic species shared by the three countries and has renewed collaborative efforts to protect the species and its required resources.

Read about other actions EPA is taking to protect pollinators at: http://www2.epa.gov/pollinator-protection/epa-actions-protect-pollinators. (EPA June 24, 2015)
http://www.epa.gov/oppfead1/cb/csb_page/updates/2015/protecting-monarch-butterfly.html

EPA'S PROPOSAL TO PROTECT BEES FROM ACUTELY TOXIC PESTICIDES – PUBLIC WEBINAR AND COMMENT PERIOD EXTENSION

EPA is hosting a public webinar that will provide background information and additional details about its proposed plan to prohibit the use of all highly toxic pesticides when crops are in bloom and bees are present under contract for pollination services. The plan also recommends that states and tribes develop pollinator protections plans and best management practices. EPA has already held webinars with states and tribes. The public webinar will be on June 23 from 3 – 4:30p.m. Eastern and accessible online at https://epa.connectsolutions.com/pollinatorproposal/ .

June 24 Update: Webinar Slides for EPA's Proposal to Protect Bees from Acutely Toxic Pesticides (PDF) (21pp, 450K, about PDF). Recording of the Webinar.

EPA will also be extending the comment period on the proposal an additional 30 days, ending July 29. Please visit the regulatory docket for the proposal to protect bees from acutely toxic pesticides, EPA-HQ-OPP-2014-0818, to read the plan and submit comments.(EPA June 12 and June 24) http://www.epa.gov/oppfead1/cb/csb_page/updates/2015/bees-webinar.html

THE RISE AND FALL OF GERMAN COCKROACHES

Cockroaches are a common pest in any food facility, with German cockroaches being both the most common and the most difficult to control. That said, there are differing viewpoints as to whether cockroaches are more or less common in food-processing facilities today than they were in the past:

"We've found that the German cockroach is making some comeback in food-processing plants. I think they are coming back big time." Dan Collins, president of Collins Pest Management.

"I think cockroaches used to be a much bigger issue in food facilities, but as awareness of food safety has increased and the evolution of third-party audits has increased, it has forced the hand of the food processor to have better processes in place." Hank Hirsch, president, RK Environmental Services.

That, however, is the extent of their differences. Whether considering that there has been a rise or fall in cockroach infestation, Collins and Hirsch agree that the vast majority of German cockroaches that are found in food plants can be traced back to employees and their belongings.

This may be a surprise to those who have continually focused pest management efforts on the dock and incoming goods. While supplies and ingredient deliveries are a risk and are the secondary cause of German cockroach infestations, the first line of defense needs to be at employee locker rooms, break rooms and any other areas in which belongings are brought or stored.

Collins and Hirsch were in full agreement on that point:

"We are finding that 95 percent of German cockroaches are coming in on employees and their personal belongings, from their homes." — Collins

"The #1 way that German cockroaches get introduced is through the locker rooms because employees are bringing the cockroaches from their homes." — Hirsch

Those employees who live in multi-family housing are particularly susceptible to cockroach infestations in the home, as the cockroaches move easily from apartment to apartment or condo to condo through the walls.

Prevention.

Pests can be divided into two groups: those that pose risk to public health and/or property and those that are simply a nuisance, said Missy Henriksen, vice president of public affairs for NPMA. And with the health risks they cause, cockroaches are definitely in the first group, particularly in relation to foods.

Cockroaches can transmit 32 types of bacteria, Henriksen said, including Salmonella and E. coli. Whatever they crawl across and get on their bodies, they can then transmit to foods and food-contact surfaces upon which they crawl.

Because so many German cockroach infestations can be directly attributed to food-processing employees, it is important that such facilities have programs in place to prevent the spread of any cockroaches that are brought in and minimize potential risk to the food products or food

preparation areas. Such a program also will prevent other employee-originating pest problems, such as bed bugs. To have a comprehensive, effective program:

•Facilities should use a uniform service by which employees put on uniforms in the building, leave their street clothes in lockers, and the service launders the uniforms. Uniforms should never be worn or taken home by employees.

•Employee clothing and belongings always should be segregated from other areas, so that they are never taken from the locker room, break room or other designated employee area. Personal clothing should not be allowed in food areas, e.g., if an employee wears a jacket into the area in the morning, then decides to take it off, he or she may end up setting it on a processing line — which is a haven for pests such as cockroaches.

•Provide a special storage area for personal coolers, limiting the size that may be brought in, and allowing no open containers.

•Locker rooms and break rooms should have regularly scheduled cleaning and inspection in which lockers are cleaned and opened for inspection, break room items cleaned and inspected, etc

•A strong, proactive monitoring program also should be in place throughout these areas, e.g., cockroach monitors can be placed in locker rooms, restrooms, beneath vending machines, sinks, etc.

•Implement a training program to ensure that employees understand not only what they need to be doing, but why. "Employee training and awareness is key," Hirsch said.

If German cockroaches are found in other parts of the food plant, it is likely that, as you work your way back to the source, you will find that the infestation boiled over from employee areas, and is caused by not having these policies in place.

However, other areas should not be neglected. All areas should be inspected for and cleared of cockroach attractants, such as leaky pipes in the restroom, unsanitary trash or recycling bins and areas, and general clutter and debris, Henriksen said. To prevent those cockroaches that do come in from the outside, external areas should not be neglected, and grass and landscape areas should be well maintained.

Incoming Goods.

While the vast majority of German cockroach infestations are introduced by employees, the secondary cause is that of incoming goods, both Collins and Hirsch noted, with Hirsch stating, "The risk is still very real that supplies could be introducing cockroaches — whether it is packaging material or ingredients. That's why a good food safety program includes inbound inspections."

Cockroaches and other pests can even come in with goods from other facilities of the same company, Collins said, adding, food plants "should have a strong gatekeeper program in place with a trained person who checks anything that gets brought in."

And once inside, the cockroaches will quickly scurry to warm, sheltered harborages. Cockroaches live in voids, so to find and eliminate them, Collins said, "You need to become a 'voidologist.' You start looking for voids anywhere you can't get into or see...that's where they are going to be."

Warehouse areas into which the cockroaches are brought can provide all kinds of attractants, food, water and shelter for cockroaches that do come in. To combat this, Henriksen said, facilities should always practice first in/first out rotation of goods to ensure freshness and get rid of food temptations as soon as possible. Also, to ensure the ability of pest management professionals to inspect and clean warehouse areas, all areas should have at least a 12- to 18-inch walkway around walls.

One example outside the warehouse area that Collins gave is that of a bakery where the cockroaches were living in electrical panels. Because these were directly adjacent to the food-processing area, the cockroaches would hide out in the warm void behind the panel, crawl down the cord to feed, then climb back up into their warm harborage. Collins has seen cockroaches infest very cold processing rooms in similar ways, even living within the mixing equipment where the motor kept the area warm.

German cockroaches anywhere in a food plant are a problem, but when they are living this close to the food that is being processed, the risk can be significant. “Anything that can contaminate or adulterate product is a risk to product integrity and human health,” Hirsch said. Cockroaches will walk across garbage then across your food lines — carrying disease bacteria on their bodies that contaminate the lines, then your food.

Cockroach control.

In the past, German cockroaches were controlled through fogging and space treatments, Collins said, which actually only pushes the cockroaches further back into the voids. “There used to be scheduled spraying in the food environment, but our industry has moved away from that approach.” Now cockroach control is inspection based, with inspection and monitoring as a priority, then precise, targeted application of gel baits where approved and applicable. “When roaches are in a processing environment, it has to be approached in a systematic way,” he said.

Today’s targeted programs minimize risk to product and people’s health, as well as reducing the invasiveness of the food plant processes and the need to shut down the lines, then clean the food surfaces afterward, Hirsch said.

American Cockroaches.

Although they are generally less of an issue than German cockroaches, American cockroaches can be an issue in food plants. Because they live in deep, dark areas, tunnels and roof vents, “American cockroaches are really overlooked in food-processing plants,” Collins said. And because they enter from utility systems, such as steam tunnels and sewer lines, then spread through a facility, the means of control are completely different.

For American cockroach control, Collins said, it’s a matter of finding the entry points and excluding them.

“American cockroaches are more of an environmental issue,” Hirsch added. They are not being brought from homes and are not as likely to be brought in on supplies without being observed. Because they do live in sewer systems, entering through floor drains and cracks in slabs and the foundation, you can never really eliminate the source. Rather exclusion techniques, such as tight screening of floor drains, sealing cracks and crevices, and regular inspection of all potential areas, need to be incorporated to keep them from coming in.

Five steps to success. Cockroach control is a five-step process built on a partnership between the food facility and the pest control company, Collins said. The five steps are:

1. Identify the pest. Correct identification of the pest and species is critical for control.
2. Take system-based and corrective action. The source of the infestation and severity of population should be established to ensure proper action is taken. For example, if a German cockroach is found on a monitor, was the source an employee’s belongings or incoming goods? How far has the infestation spread?
3. Eliminate conducive conditions. Conditions that are conducive or potentially conducive to ongoing threat from this pest need to be determined. For example, what is the cleanliness of locker rooms? Are employee belongings being segregated? Are steps being taken to stop cockroaches that may come in? “That which can be foreseen can be prevented,” Collins said.
4. Treat. What is the best pest management practice? Can sanitation and cleaning or exclusion and sealing solve the problem? In a food plant, unless there is a large, widespread cockroach issue, it is usually a cleaning or cultural issue, he said.
5. Follow up. If after this, cockroaches are still or again found, start back at #1: Conduct a supplementary inspection, determine corrective action, eliminate conducive conditions, treat as needed, then follow up again.

Too often, plant management and/or pest management professionals want to go directly from step #1 to #5, Collins said. But success is based on following all five steps with partnering and teamwork between the service provider and the food-processing plant. “It’s a partnership,” he said.

"When I walk into a facility, the Collins shirt comes off and the facility's shirt goes on." (PCT Online June 22, 2015) http://www.pctonline.com/pct1114-german-cockroaches-management.aspx

WSSA: IT TAKES A VILLAGE…TO ERADICATE RESISTANT WEEDS

Weeds resistant to glyphosate and other herbicides can become a costly problem – crowding out valuable crops, dramatically reducing yields and increasing weed control expenses. But scientists with the Weed Science Society of America (WSSA) say growers can regain the upper hand, especially if they are willing to partner with their neighbors in community-based weed control programs.

"While there are steps individual growers can take to battle herbicide resistance by varying the weed control tactics they use, seeds from resistant weeds can still be transported from farm to farm and make the job harder," says Lee Van Wychen, Ph.D., science policy director for WSSA. "Resistance management works best when all farmers in a community band together – especially those who grow similar crops and face the same weed control challenges."

Community-based approaches are proving their worth in Arkansas where cotton and soybean producers are battling herbicide-resistant Palmer amaranth, commonly known as pigweed. Pigweed grows prolifically and can have a devastating financial impact. Studies show yield losses of nearly 70% when pigweed is allowed to compete with cotton. In addition, a single pigweed plant can produce hundreds of thousands of seeds, making early control a must.

Some farmers are now banding together to adopt a "zero tolerance" policy towards pigweed and remove the weed wherever they can find it – hopefully before it can set seed.

One successful community-based, zero-tolerance program is found in Clay County, AR. Farmers on the eastern side of the county agreed to work together to battle pigweed. With support from Clay County extension specialists, field days and production meetings quickly became a forum for education, problem-solving and mutual encouragement.

Participating growers have broadened their weed management program to incorporate a variety of new management tactics designed to battle resistance. One example: They have reintroduced preemergence and postemergence herbicides previously abandoned in favor of the sole use of glyphosate. Spot spraying and hand weeding have become the tools of choice to remove pigweed plants that escape controls and are found amid crops, under irrigation lines, along field borders, in ditch banks and in turn rows.

Jason Norsworthy, professor of weed science at the University of Arkansas and a member of WSSA, says the results have been impressive. After a single year of the zero tolerance approach, the time required to hand-weed escaped plants in a single 50-acre cotton field dropped from 110 hours to five hours. In another field, seed presence in the soil was reduced by 65% in a single year. By the second year, seeds could no longer be detected.

Those positive results have kept the program on track, along with peer pressure and cheerleading by the Clay County extension team.

"We haven't beaten pigweed, but our fields are much cleaner," says Andy Vangilder, Clay County extension chair. "You see far less pigweed in the eastern half of the county where we have a community-based approach than you do in the

western half where resistance management remains an individual effort."

Tips for forming your own community-based program

David Ervin, professor emeritus of environmental management and economics at Portland State University and a senior fellow of the Institute for Sustainable Solutions, says farmers in other communities can learn from the Clay County experience. During a summit on herbicide resistance sponsored by WSSA, he presented several guiding principles gleaned from the efforts of similar communities around the world:

•Clearly define the boundaries of the zone where a community-based initiative will be of benefit. Know who is in and who is out.

•Plan and implement a science-based program for resistance management that responds to local conditions. There simply is no "one size fits all" approach that will apply across all weeds, all crops or all communities.

•Involve farmers and others who influence weed control in a "bottom-up" process that uses their local knowledge and assures broad participation of key stakeholders.

•Engage university researchers, extension personnel, industry experts and others who may be able to support your efforts and provide insights.

•Establish graduated sanctions that will apply to rule violators, backed by easy-to-follow procedures for resolving conflicts.

•Stay the course over time. Resistance management isn't a one-shot fix. It will require ongoing commitment to new integrated approaches to weed control.

"Most farmers are very independent and self-reliant, but if they overcome those tendencies and collaborate with their neighbors, they can produce larger net gains and help sustain their operations for the long term," Ervin says.

A University of Arkansas fact sheet on community-based, zero-tolerance Palmer amaranth initiatives is available at www.uaex.edu/publications/pdf/FSA2177.pdf. Additional information on herbicide resistance management techniques can be found at http://wssa.net/weed/resistance.
(CropLife June 9, 2015)
http://www.croplife.com/crop-inputs/herbicides/wssa-it-takes-a-village-to-eradicate-resistant-weeds/

US LAWMAKERS TAKE AIM AT CWA PESTICIDE PERMITS

Members of the US Congress are again trying to rally support for legislation that would eliminate a controversial requirement that some pesticide users obtain Clean Water Act (CWA) permits. A bipartisan group of Senators introduced their bill last week, calling it the "Sensible Environmental Protection Act (SEPA)."

The legislation would reverse a 2009 court ruling that required the US EPA to develop a National Pollutant Discharge Elimination System (NPDES) permit for pesticide applications over or near water. The EPA finalized the permit requirements in October 2011. The new permitting regime has drawn the ire of the pesticide industry, farm groups and mosquito control officials, who contend that it is unnecessary and costly.

The bill's sponsors agree and say that concerns about water contamination from pesticides are addressed by the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). "We do need to protect human health and the environment, but when we can achieve that goal with one permitting

programme, it makes no sense to require farmers to go through another permitting regimen to achieve the same goal," says Senator Claire McCaskill, a Missouri Democrat and co-sponsor of the Senate bill. "This bill is a common-sense step toward a more efficient and effective process and still provides all the protections needed."

The House Agriculture Committee approved a bill voiding the NPDES permits in March, but the measure still faces an uphill battle. In both 2011 and 2013, Senate Democrats blocked legislation approved by the full House, arguing that there was little evidence that the permit requirements were a problem and suggesting that the FIFRA failed to adequately protect waters from pesticides. (Pesticide & Chemical Policy/AGROW, June 9, 2015)

DISCOVERY COULD LEAD TO NEW INSECTICIDE MODES OF ACTION

Scientists from BASF Crop Protection and the University of Göttingen in Germany have found a new insecticide target protein. The discovery marks the first identification of vanilloid receptors, the TRPV ion channels (transient receptor potential vanilloid), as insecticide targets. The results, published in the scientific journal Neuron on May 6, 2015, could help to better manage insecticide resistance and have implications for research and insecticide usage.

In their study, the scientists focused on the mode of action of the insecticides pymetrozine and pyrifluquinanzon. They identified a novel TRPV ion channel complex as the target protein of the two substances. In insects, two TRPV channels exist, which occur together in certain stretch receptors that are present in joints, for example in the antennae and legs. By sensing mechanical stimuli, these stretch receptors provide insects with their senses of balance, hearing and coordination. The two insecticides only act selectively on these stretch receptors because they activate an ion channel complex formed by the two TRPV channels. By activating this TRPV channel complex, the insecticides overstimulate the stretch receptors, disturbing insect locomotion and feeding. Substances with this mode of action are effective against many plant-sucking pests, particularly whiteflies and aphids.

By knowing the exact target of pymetrozine and pyrifluquinazon, the industry can now provide better advice on spray programs to farmers. “For instance, we would not want to treat fields with these two substances one after the other. The more you attack one particular target site, the faster insects will become resistant. The findings help us to use insecticides more wisely and more sustainably,” concluded Vincent Salgado, biologist at BASF Crop Protection.

“The fact that the two insecticides target a TRPV channel complex is particularly interesting,” says the Göttingen neuroscientist Prof. Dr. Martin Göpfert. “For a long time we thought that the two insect TRPVs might form a complex in those stretch receptors, but only the insecticides allowed us to show that this is what they do.”

The study thus encompasses exciting biology: It identifies a novel ion channel complex that plays a key role in the detection of mechanical stimuli. Furthermore, the methods employed by the study can be applied to other insecticides, and they may help in the identification of new insecticides with similar modes of action. (CropLife, May 7, 2015) http://www.croplife.com/crop-inputs/discovery-could-lead-to-new-insecticide-modes-of-action/

COURT TELLS US EPA TO RESPOND ON CHLORYPRIFOS BY MONTH END

A federal appeals court has ordered the US EPA to formally respond to a petition filed by environmentalists that calls on the Agency to ban the insecticide, chlorpyrifos. The EPA has until June 30th to tell the court if it intends to finalize the preliminary denial of the petition, according to a decision by the US Ninth Circuit Court of Appeals.

The order is the latest twist in a long-running dispute between the EPA and two environmentalist groups, Pesticide Action Network North America (PANNA) and the Natural Resources Defense Council (NRDC), over the future of chlorpyrifos.

The environmentalist groups filed their petition in 2007, calling on the EPA to ban all agricultural uses of chlorpyrifos and revoke all food tolerances. The petition notes that the insecticide poses serious developmental risks to children and contends that the EPA has ample scientific evidence to support a ban on all uses. The groups have been waging a nearly eight-year legal battle to force the EPA either to grant or deny their petition.

The Agency is currently reviewing comments on a revised human health assessment for the chlorpyrifos it released in January, along with a preliminary rejection of the petition. The comment period for the assessment closed in April. During oral arguments before the Court last week, a Department of Justice attorney that the EPA expected to be finished with its review of the comments by the end of June. The attorney explained that if the Agency decided to go forward with that assessment, it could finalize a denial order to the petition by mid-September.

Those dates apparently seemed reasonable to the Court. "If [the] EPA intends to deny the administrative petition, the final denial shall be issued no later than September 15, 2015," according to the Court order. If the Agency decides to grant the petition "in whole or in part, [the] EPA shall inform the Court of the date by which it intends to issue a final ruling to that effect", the three-judge panel concluded. "Further, [the] EPA shall provide the Court with an explanation as to why it believes the proposed date is a reasonable, good faith timeline for final resolution of the petition."

The order gives the plaintiffs until July 15th to reply to the EPA's status update and raise any objectionswith the Court.

The plaintiffs' lawyer praised the decision. "[The] EPA has dragged its feet for far too long in the face of harm to children and workers," said Earthjustice attorney Patti Goldman.

A formal denial of the petition is unlikely to quell the controversy. Ms Goldman told the Court last week that the plaintiffs intend to challenge any rejection of their petition through the EPA's administrative process. (Pesticide & Chemical Policy/AGROW, June 11, 2015)

MICROSOFT DEVELOPING DRONES TO CATCH MOSQUITOES

Microsoft researchers are developing autonomous drones that collect mosquitoes to look for early signs that potentially harmful viruses are spreading, with the goal of preventing disease outbreaks in humans.

Project Premonition, launched by American tech company Microsoft, is developing a system that aims to detect infectious disease outbreaks before they become widespread.

Project Premonition could eventually allow health officials to get a jump start on preventing outbreaks of a disease like dengue fever or avian flu before it occurs, whether or not it is a disease spread by mosquitoes, researchers said.

It will do that by relying on what Ethan Jackson, the Microsoft researcher who is spearheading the project, calls 'nature's drones' -- mosquitoes -- to look for early signs that a particular illness could be on the move.
(PCT Online, June 18, 2015)
http://www.pctonline.com/microsoft-drones-mosquitoes.aspx

SAN ANTONIO RAINS BRING OUT FIRE ANTS

The recent rains have brought fire ants closer to the surface, both literally and as a matter of concern for area property owners, said a Texas A&M AgriLife Extension Service expert based in San Antonio.

"Rain doesn't necessarily make fire ants more abundant," said Molly Keck, AgriLife Extension entomologist and integrated pest management program specialist for Bexar County. "They were always there; they just weren't as noticeable. When it rains, the ground becomes saturated and the fire ants move their colonies higher, giving some people the impression there are more of them than there were during dry months."

Keck said unless homeowners have been treating regularly, it's a safe assumption they already have or will be getting at least one fire ant mound in their yard.

"I have found mounds when weeding my garden, in my vegetable beds, along the sidewalk, next to my newly planted fig tree and in the middle of the yard," Keck said. "They are huge, ugly, and look fairly ominous." (PCT Online, June 17, 2015) http://www.pctonline.com/Texas-San-Antonio-rains-fire-ant.aspx

CEU Meetings

Date: July 11-14, 2015
Title: Cultivate 15
Location: Columbus OH
Contact: Michelle Gaston (614) 884-1142
www.americanhort.org/cultivate
Course #: OK-15-067

CEU's:	Category(s):
3	3A
1	3B
12	3C

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-

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-

CEU's:	Category(s):
2	3A
2	3C
2	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 July/August 2015 are as follows:

July			August	
9	Tulsa		7	OKC
10	OKC		13	Tulsa
23	Tulsa		20	Enid
24	OKC		21	OKC
			27	Tulsa

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