

## ***Pest Management News***

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Letter #1

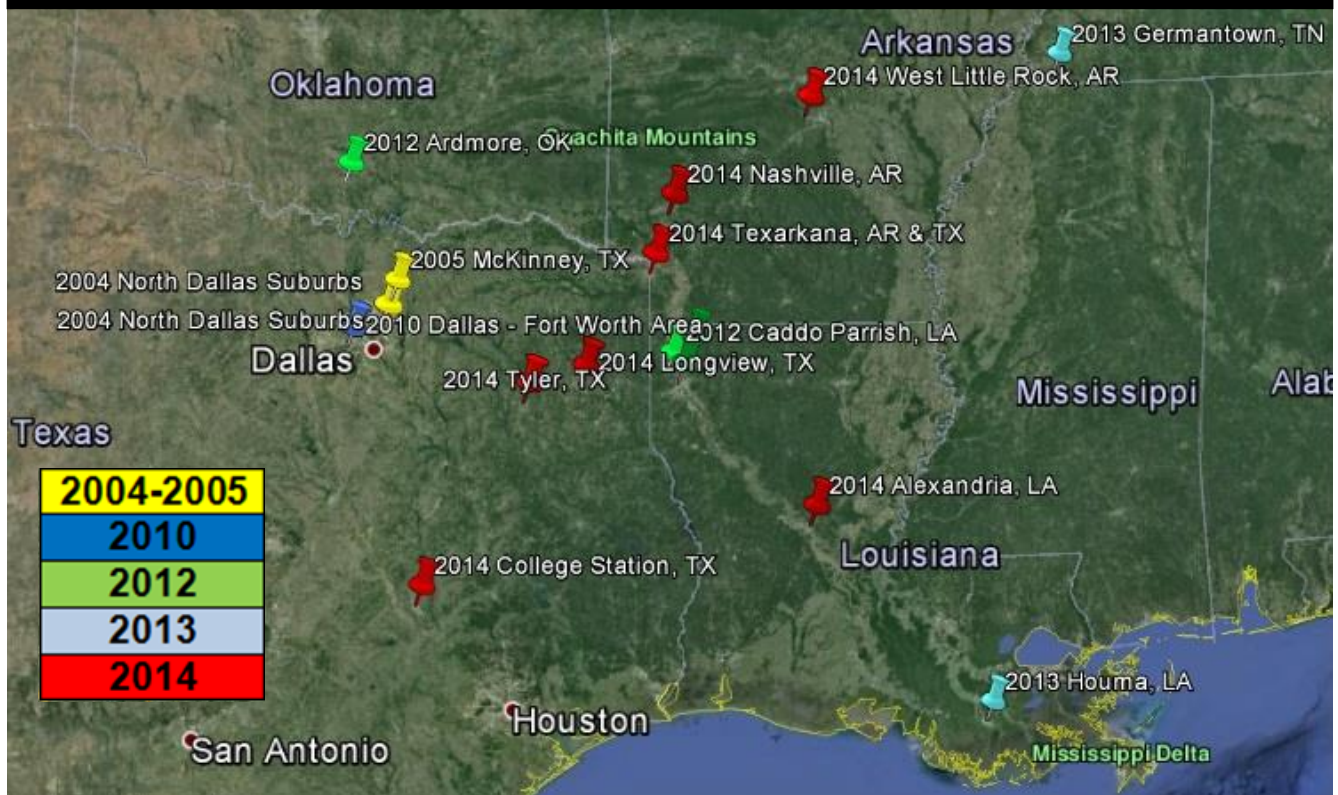
May 31, 2014

### **Be On the Lookout for Crape Myrtle Bark Scale (CMBS)**

John D. Hopkins

If you use crape myrtles in your landscape, you should be aware of a new invasive pest that will adversely affect the aesthetics of this ornamental which is prized for its beauty. The CMBS, *Eriococcus lagerstroemiae*, known to be a pest on crape myrtle in Asia, was initially sighted in 2004 just north of Dallas, TX and has been spreading since then. This insect pest was first confirmed in Arkansas in January 2014 from a residential planting of crape myrtle in west Little Rock. See the map below for additional confirmed locations. (Plus unconfirmed report from Albuquerque, NM 05/27/14)

#### **Crape Myrtle Bark Scale Distribution Map – 2004 thru mid-2014**



This scale can be easily identified since it is the first and only known bark scale to occur on crape myrtles in the U.S. Adult females appear as white or gray felt-like encrustations on small twigs to large trunks, often appearing near pruning wounds or in branch crotches on older wood. On the most current flush of growth and under heavy infestation, distribution may be more uniform. Up close, CMBS is white to gray in color and approximately 2 mm in length. Most people will be alerted to CMBS by the ugly black sooty mold which grows on the sticky honeydew excreted by this pest.



**Adult female CMBS on crape myrtle bark**



**CMBS Infested branches with black sooty mold**



**Crape myrtle heavily infested with CMBS and covered in black sooty mold**

Adult females lay eggs under their felt like protective covers and when the eggs hatch, CMBS nymphs, called crawlers, disperse to new locations. When a suitable location on the plant is reached, the crawler settles, inserts its mouthpart, and begins to feed. Once settled, these nymphs begin exuding white filaments that ultimately form the felt cover.



**Attached CMBS adult female**



**CMBS crawlers on crape myrtle pruning cut covered with sooty mold**



**Settled CMBS nymphs beginning to exude white filaments that will form the felt cover**

Control measures are still being formulated, however, information from Dr. Mike Merchant, Texas A&M AgriLife Extension Service, suggests that for plants of value in the landscape:

- 1) Reachable heavily infested trunks and limbs should be washed with a soft brush and mild solution of dishwashing detergent to help remove attached females and egg masses and improve the effectiveness of insecticidal control measures. Washing will also help remove the buildup of sooty mold;
- 2) A winter application of dormant oil may be beneficial but thorough coverage is essential;

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- 3) A drench application with a systemic neonicotinoid insecticide to the root zone has shown the most promise in tests to date. Imidacloprid (Merit® or Bayer Advanced™ Garden Tree and Shrub Insect Control), thiomethoxam (Meridian®) and dinotefuran (Greenlight Tree and Shrub Insect Control with Safari) have shown best control when applied between May and July. When drenching the soil with a systemic insecticide, allow several weeks for the product to be distributed throughout the plant. Additionally, acetamiprid and clothianidin, also neonicotinoids, have demonstrated good control;
- 4) Certain insect growth regulators (IGRs) are recommended for scale control in woody ornamentals (MP144 - Insecticide Recommendations for Arkansas) but have not yet been evaluated on CMBS;
- 5) Scale predators should be preserved. The twice stabbed lady beetle is an efficient predator of the CBMS.

If you become aware of a Crape Myrtle Bark Scale infestation in your area, please notify Dr. John Hopkins, 501-671-2217, [jhopkins@uaex.edu](mailto:jhopkins@uaex.edu) or Dr. Jim Robbins, 501-671-2237, [jrobbins@uaex.edu](mailto:jrobbins@uaex.edu)

Additional information may also be obtained from [FSA7086 Crape Myrtle Bark Scale: A New Insect Pest](#). This initial factsheet will be updated as new information becomes available.

**All chemical information provided is given with the understanding that no endorsement of named products is intended, nor is criticism implied of similar products that are not mentioned. Individuals who use pesticides are responsible for ensuring that the intended use complies with current regulations and conforms to the product label. Before purchasing or using any pesticide, always read and carefully follow the label directions.**

## **New Online Resources for School IPM**

John D. Hopkins

The Northeast School IPM workgroup developed a new best management practices website. This online resource provides easy to use information to assist implementation of Integrated Pest Management on school property and facilitate reduced dependence on pesticides. Integrated pest management, or IPM, is a science-based approach to dealing with pests, and uses sensible methods the both protect human health and the environment, and generally reduce the cost of traditional pest treatments. Pests can be insects, plant diseases, weeds, or animals.

<http://www.northeastipm.org/bmps-for-school-ipm/>

The American Clearinghouse on Educational Facilities (ACEF) has posted School Integrated Pest Management: The Four Laws for Keeping Schools Pest-Free on our website. The interactive lesson can be found at the following link:

[http://online.tarleton.edu/ACEF/SchoolIPM3\\_17\\_14/](http://online.tarleton.edu/ACEF/SchoolIPM3_17_14/)

**From Janet A. Hurley, Texas A&M AgriLife Extension Service, School Pest News, Volume 13, Issue 4, April 2014**

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# **Ticks are Abundant This Year**

Kelly M. Loftin

I've had several ask if this past winter would kill our ticks. As you have likely experienced, the answer was no. Long, cold winters may reduce the populations of some arthropods but not so for ticks. Tick activity may have been delayed a bit in some regions but that was the extent of this past winter's impact. Tick species found in Arkansas are adapted to survive harsh winters. Some species survive the winters in leaf litter, soil and other protected sites while a few others may pass survive the winter on their host.

Presently, we are seeing an abundance of lone star (*Amblyomma americanum*) and American dog ticks (*Dermacentor americanum*). For the lone star tick, adults and nymphs are active from late winter through late spring and early summer. Later on, usually in August, a second peak in the nymphal population occurs. Larval lone star ticks are most abundant later in the summer through early fall. American dog tick adults are active from April through September, nymphs from June through September and larvae from March through July. Other tick species found here include the black-legged tick (*Ixodes scapularis*), the winter tick (*Dermacentor albipictus*), the Gulf Coast tick (*Amblyomma maculatum*) and the brown dog tick (*Rhipicephalus sanguineus*).

Most of our important tick species are three host ticks. This means that each stage (larva, nymph and adult) feeds on a different host. This is an important factor in tick-borne disease transmission because the pathogen that causes disease is usually acquired by the previous stage feeding on an infected host. Each tick stage is fairly distinctive. The larval tick is the tiny six-legged tick known by many as the "seed" tick. The tick nymph is the stage following the larval stage and is small (but bigger than the "seed" tick) and has eight legs. The nymph may also be referred to as the "yearling" tick. The adult tick is obviously larger than the nymph, has eight legs and is the reproductive stage.

Tick host preference varies somewhat depending upon tick species and stage. For example, immature lone star ticks generally feed on small and intermediate-sized hosts (birds, rodents, coyotes, dogs, etc.) that inhabit the ground. Large animals, such as cattle, deer and horses, generally serve as hosts for lone star adults. Host preference aside, lone star tick larva, nymphs and adults are also opportunistic feeders and will readily feed on humans. White-tailed deer and wild turkeys are considered an important host for lone star ticks in woodland habitats. Many experts suggest that the increase in white-tailed deer population have caused the increased abundance and expansion of the lone star tick. The American dog immature ticks generally feed on small mammals and adults on larger animals such as dogs, cattle, horses and humans.

The American dog tick is considered the primary vector of Rocky Mountain Spotted Fever (RMSF) and can also vector *Francisella tularensis*, the organism causing tularemia. In addition, it can cause tick paralysis. Tick paralysis may occur when the tick attaches at the base of the skull and feeds for several days. The tick is thought to release a salivary gland protein into the body that causes the paralysis. If the tick is not removed, respiratory failures can be fatal. Normally once the tick is properly removed, recovery usually occurs within one to three days. Tick paralysis may occur in cattle, dogs and humans. Although human cases are rare, severe cases usually occur in children when tick feeding may go unnoticed.

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Important human diseases potentially transmitted by the lone star tick include southern tick-associated rash illness (STARI), ehrlichiosis and tularemia. In addition to tick-borne disease associated with bacterial pathogens, the lone star tick has been implicated in a condition called Alpha-gal. Alpha-gal is the name often given to delayed anaphylaxis to red meat. This condition is related to serum IgE antibodies to alpha-gal (or oligosaccharide galactose-alpha-1, 3-galactose, a sugar found in red meat). Studies have shown a marked increase in serum IgE antibodies to alpha-gal in a few individuals following tick bites. Research indicates that lone star tick bites are a cause of the IgE specific antibodies for alpha-gal in the southeastern United States. Evidence to support this conclusion include a correlation between a history of tick bites and IgE antibodies to alpha-gal; evidence that the alpha-gal IgE antibodies are more common in areas where the lone star tick is common; and a correlation between IgE antibodies alpha-gal and IgE antibodies to proteins from the lone star tick. The first reported case of alpha-gal occurred in 2008 and since that time other cases from the U.S. have been reported, primarily from regions where the lone star tick occurs (Arkansas, Tennessee, Kentucky, Virginia, and southern Missouri). We can expect more information about alpha-gal as additional research is completed.

Below are some tips to avoid tick bites and potential tick-borne disease exposure.

1. Avoid tick-infested areas when possible. Tick-infested areas may include dense vegetation or tall grass, and the “edge” between open and forested areas.
2. Use tick repellents and apply according to label instructions. Insect repellents containing DEET or **clothing only** repellents containing permethrin are most commonly used. Other repellents such as Bio UD (2-undecanone) have been effective in repelling ticks.
3. Find and remove ticks.
  - a. Check yourself, your children and pets frequently for ticks.
  - b. Wear light-colored clothing when in tick infested areas, as dark ticks are more easily spotted against a light background.
  - c. After returning home, thoroughly inspect yourself with aid of a mirror.
  - d. Parents should check their children for ticks under the arms, in and around the ears, inside the belly button, behind the knees, between the legs, around the waist, and especially in their hair.
  - d. Bathe or shower as soon as possible after returning from a tick infested area to wash off crawling ticks and locate attached ticks.
4. Promptly remove ticks when found. If a tick is removed within a few hours after attachment, the chance of that tick transmitting a pathogen is greatly reduced.
  - a. Use clean, fine-tipped tweezers to grasp the tick as close to the skin’s surface as possible.
  - b. Pull upward with steady, even pressure. Don’t twist or jerk the tick; this can cause the mouth-parts to break off and remain in the skin. If this happens, remove the mouth-parts with tweezers. If you are unable to remove the mouth-parts easily with clean tweezers, leave it alone and let the skin heal.
  - c. After removing the tick, thoroughly clean the bite area and your hands with rubbing alcohol, an iodine scrub or soap and water.
  - d. Examine gear. Ticks can ride into the home on clothing and pets, then attach to a person later, so carefully examine pets, coats and day packs.

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- e. Tumble clothes in a dryer on high heat for an hour to kill remaining ticks. (Some research suggests that shorter drying times may also be effective, particularly if the clothing is not wet.)
5. Create a tick-safe zone in your yard (from Connecticut Agricultural Experiment Station's [Tick Management Handbook](#))
  - a. Clear tall grasses and brush around homes and at the edge of lawns,
  - b. Place a 3-ft wide barrier of wood chips or gravel between lawns and wooded areas and around patios and play equipment. This will restrict tick migration into recreational areas.
  - c. Mow the lawn frequently and keep leaves raked.
  - d. Stack wood neatly and in a dry area (discourages rodents that ticks feed on).
  - e. Keep playground equipment, decks, and patios away from yard edges and trees and place them in a sunny location, if possible.
  - f. Remove any old furniture, mattresses, or trash from the yard that may give ticks a place to hide.
6. Know the symptoms of tick-borne disease. If you become sick and see a healthcare provider, alert them to any tick exposure.
7. Insecticide application and habitat modification are methods used to reduce tick populations around the home. Follow all label requirements when applying insecticide. Consult the Insecticide Recommendations for Arkansas (MP-144 <http://www.uaex.edu/publications/mp-144.aspx>) for products labeled to use against ticks in residential and recreational areas. Consult your local Cooperative Extension Office for more information.

Tick-borne diseases can also cause serious illness in domestic animals. Pets that are allowed to come into contact with ticks can become infected with tick-borne illnesses, so frequently inspect pets and remove any attached or unattached ticks. Examples of tick-borne disease in pests include cytauxzoonosis (bobcat fever) in domestic cats and canine ehrlichiosis in dogs. Anaplasmosis in ruminants (spread by ticks, some blood sucking flies and contaminated needles, etc.) can also be of concern. With pets and livestock, consider use of tick-control products recommended by veterinarians.

**Lone star tick (male left, female right) is the primary vector of human ehrlichiosis, STARI and one of the vectors of tularemia. (Mat Pound, USDA Agricultural Research Service, Bugwood.org)**



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Male, female, engorged female and nymphal lone star ticks on the ear of a deer. (Mat Pound, USDA Agricultural Research Service, Bugwood.org)



American dog tick female (left) and male (right). The American dog tick is the primary vector of RMSF and one of the vectors of tularemia. (Gary Alpert, Harvard University, Bugwood.org)

## **Encountering Snakes**

Becky McPeake

Nothing gets the heart pumping or the feet jumping like a chance encounter with a snake. Fortunately, most snake species in Arkansas are non-venomous. Venomous snakes include copperheads, cottonmouths, Western diamondback rattlesnakes, timber rattlesnakes, Western pigmy rattlesnakes, and Texas coral snakes. All but the coral snake are pit vipers which have retractable fangs and inject venom to subdue their prey.

Most snakebites occur between April and October when outdoor activities are popular and snakes are active. You can avoid snakebites by taking the following steps:

- Avoid places where snakes live, which includes tall grass, brushy or rocky areas, fallen logs, bluffs, swamps, marshes, and deep holes in the ground.
- Watch where you step and where you sit when outdoors.

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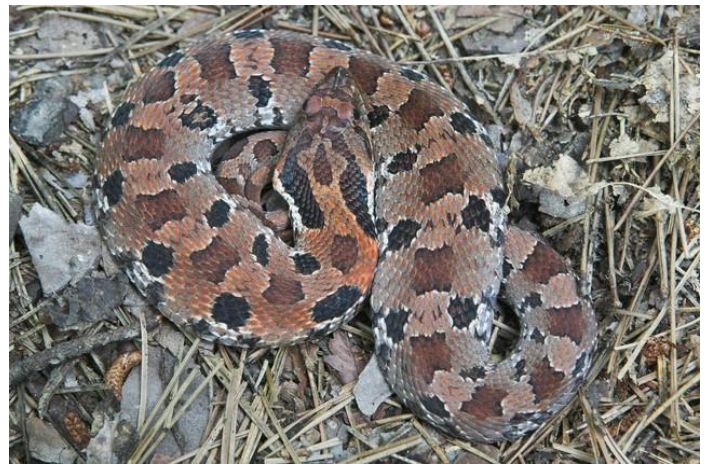
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- When walking through tall grass or dead leaves, poke at the ground in front of you with a long stick to scare away snakes.
- Wear loose, long pants and high, thick boots.
- Never handle a snake, even if you think it is dead. Recently killed snakes may still bite by reflex.

Surprisingly, more people die from bee stings or lightening strikes than snakebites. In the United States, the [Center for Disease Control](#) estimates 7,000 to 8,000 people are bitten each year by a venomous snake resulting in about 5 deaths. The number of deaths would be higher if people did not seek medical care immediately. Rattlesnakes typically are responsible for the majority of fatalities because of their relatively potent venom and efficient injection system.

If bitten by any venomous snake, do not attempt to catch or kill the snake. More snake bites can occur from these actions – let the snake go! Try to remember the color of the snake to help with treatment of the snakebite.

If you don't know whether it is a venomous snake, study the teeth pattern of the wound. If two circular wounds are present from fang marks (sometimes one or three puncture wounds), seek medical attention immediately. Take off jewelry, shoes, or other restrictive clothing near the bite, as swelling will occur. (Do NOT make cuts or constrict blood flow.) Wash the bite site with alcohol or soap and water, if available. Be sure to wipe in the direction away from the wound. Lay or sit down with the bite below the level of the heart on the trip to the hospital.



**This Eastern hognose (juvenile) is a common non-venomous snake found throughout Arkansas. Photo by Kory Roberts.**

If bitten by a non-venomous snake, treat the wound as you would for any type of bite. Keep it clean and apply antibiotics to reduce the risk of infection. A bite from a non-venomous snake may feel like a pinch or pin prick and may itch, but shouldn't sting like a venomous snakebite. The bite wound will correspond with the rows of sharp, pointy teeth found in a snake's mouth. The bite may bleed more than one might expect, due to the sharpness of the teeth and anticoagulant properties of the snake saliva.

An exception to teeth-mark identification of Arkansas-native venomous snakes is the coral snake. Their teeth pattern would be similar to a non-venomous snake. Snakebites from coral snakes are rare, possibly because of their secretive lifestyle and restricted range to southernmost Arkansas. Their patterned rings of red, yellow and black are distinctive and easy to remember using a memory rhyme (e.g., "red on black, friend of Jack; red on yellow, kill a fellow"). Non-venomous coral snake mimics are present in Arkansas and should not be killed.

All snakes, including venomous snakes, are protected by law and are illegal to kill, unless they pose a reasonable threat or endangerment to persons, such as a venomous snake in your yard where children are playing. Some evidence indicates rattlesnakes and other snake species are declining due habitat destruction and human activities. The [Arkansas Wildlife Action Plan](#) identifies thirteen

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reptiles of concern including two venomous snake species, the Western diamondback rattlesnake and the Texas coral snake.

Keep snakes from your yard by mowing the lawn regularly and removing piles of logs, brush, rocks or debris where mice and other prey may live. Keep mulch in flower beds to a minimum and avoid low-growing plants particularly near the home. Use caulk, weather stripping, spray foam, mortar, or other material to seal openings around foundations, and plumbing, heating/cooling and electrical ducts.

An Extension fact sheet about venomous snakes is available at [Encountering Native Snakes in Arkansas](#). The Arkansas Game and Fish Commission provides a free [Arkansas Snake Guide](#) (800-364-4263) online and pocket guides at their regional offices, or check the [Herps of Arkansas](#) website sponsored by the Arkansas Herpetological Society.

## **Swarming Honey Bees**

Jon Zawislak

Spring is in full swing, and so is honey bee swarming season. Good weather and lots of flowers in bloom help a bee colony build up its population very rapidly as soon as the weather turns warm. When a bee hive gets too crowded, a new queen will be produced in preparation for swarming. The new queen inherits the established hive, while the older, more experienced queen will leave with 50-60% of the worker bees, and settle in a temporary location nearby. This large mass of bees may contain 10,000 to 20,000 individuals, and can be a terrifying concern to homeowners when it appears in their front yard.

While a swarm of honey bees may be a frightening phenomenon to some, they are rarely aggressive. The majority of bees are inactive, to conserve energy and keep their queen protected. A small number of bees explore the area, scouting for new potential home sites, and report what they find to the rest of their family through an intricate dance. Depending on the weather and location, the house-hunting process may take a little as an hour or two, or as long as several days. If left undisturbed, the entire swarm will soon fly away, to establish a new nest in a hollow tree or some other cavity. In places with few old hollow trees, honey bees will sometimes take up residence in walls or other hollow cavities. Homeowners may not notice their new tenants at first, when the colony is small. But as the colony in their wall grows in population, and has food and family to protect, they can sometimes become defensive about their new home.

A swarm of bees in their resting state is often very simple for a beekeeper to collect and remove. Once bees have taken up residence in a homeowner's walls, it is no longer considered to be a



**Young beekeepers collecting a honey bee swarm**

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swarm, it is now a feral colony. Removing a feral colony can be very difficult, time consuming, and potentially very expensive. Each situation is unique, depending on how the home is constructed and where the bees have begun to build their nest. Sometimes a job requires only a few pieces of siding to be removed, while other situations require bricks to be removed. Occasionally access to the bees is best made from inside the house, behind sheetrock or under floorboards.

To properly eliminate an established colony, the bees must be removed, often with a specialized vacuum that sucks them into a box, to be put into a new hive later. Then the honey combs must be removed, and all traces of wax should be scraped away. Finally the hollow space should be filled with insulation or spray-in expanding foam, and sealed up. Failure to fill the void and seal the wall up will often result in another swarm of bees taking up residence in the wall in the future. Because of the difficulty, labor and liability involved, most hobbyist beekeepers are unwilling to attempt removing a colony of honey bees from a structure.

Simply spraying insecticide into the hole where bees are seen is rarely effective. The bees may have multiple entrances, and the nest may be located several feet from the opening, so that the product may not reach many of the bees at all. And if the bees are killed, thousands of dead bees inside the walls will leave a revolting odor for several weeks. Also, without bees to protect it, the combs of honey and pollen will become a very attractive food source for other pests, including cockroaches, flies, wasps, and rodents. For these reasons, many exterminators will not spray for honey bees.

It is a violation of state laws to charge a fee for the removal honey bees from a structure without a valid pest control operator's license or honey bee removal license. However, several individuals are licensed for bee removal, and may travel anywhere in the state if needed.

For a current list of licensed honey bee removal specialists, consult the Arkansas State Plant Board: <http://plantboard.arkansas.gov/PlantIndustry/Apiary/Pages>

To find a beekeeper who is willing to collect honey bee swarms in your area, consult the county listings at <http://arbeekeepers.org/swarms.html>

For more information, refer to our Extension website: <http://uaex.edu/farm-ranch/special-programs/beekeeping/swarms.aspx>

## **Name That Weed**

Bob Scott

The weed this month is an herbaceous plant with alternate, simple leaves, on thick, green stems. The leaves are serrated, and range from unlobed to deeply lobed, with the lobe pattern superficially resembling wild lettuces, which are in the same family but not more closely related. The flowers are yellow, borne in fall. The flowers are followed by a cluster of small, wispy seeds. The plant often branches and grows in a clump with multiple stems. The flowers are pollinated primarily by wasps. The seeds are wind-dispersed, and are used as a minor food source by birds.

This species benefits from fire, and is often one of the earliest pioneer species (weeds) of areas that have recently burned, hence some of its common names. It prefers moist sites but can handle gravelly soil and some degree of dry conditions. It also grows well in urban areas and around humans. It can often be found following early spring applications of Roundup, atrazine or simazine and

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other spring yard treatments. It has the ability to germinate in the lawn thatch and thereby avoid herbicide contact until established.

POST applications of Trimec alone or with Manor will provide good control POST in yards, but keep these herbicides away from broadleaf ornamental species.

This picture was taken from my yard in Cabot under that exact scenario, or it's possible that it was an applicator problem...probably not. Anyway, be the first to email me at [bscott@uaex.edu](mailto:bscott@uaex.edu) with the proper common or scientific name of this weed and win a prize!



## **To The Readers**

Please offer any suggestions for Urban or Livestock Integrated Pest Management topics (insect pests, plant diseases, weed problems, wildlife control problems) that you would like to see – **OR** – feel free to submit an article that you have prepared. Kelly and I will be glad to include it (subject to editing). Send feedback to [jhopkins@uaex.edu](mailto:jhopkins@uaex.edu) or [kloftin@uaex.edu](mailto:kloftin@uaex.edu)

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