

## ***Pest Management News***

Dr. John D. Hopkins, Associate Professor and Extension Entomologist – Coeditor  
Dr. Kelly M. Loftin, Associate Professor and Extension Entomologist – Coeditor

### **Contributors**

Dr. Becky McPeake, Professor and Wildlife Extension Specialist  
Dr. Bob Scott, Professor and Extension Weed Scientist  
Sherrie E. Smith, Plant Pathology Instructor, Plant Health Clinic Diagnostician

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### **Mosquito Bite Prevention Should Be On Your Mind**

John D. Hopkins

With exotic diseases making headlines in the news, we should continue to be aware of a mosquito borne viral disease (West Nile virus) that had its first reported cases in New York in 1999 and is now endemic across the U.S. West Nile virus (WNV) is most commonly transmitted to humans by mosquitoes. There are no medications to treat or vaccines to prevent WNV infection. Fortunately, most people infected with WNV will have no symptoms. About 1 in 5 people who are infected will develop a fever with other symptoms. Less than 1% of infected people develop a serious, sometimes fatal, neurologic illness.



© James Gathany, Centers for Disease Control & Prevention (CDC)

As of October 14, a yearly total of 47 states and the District of Columbia have reported West Nile virus infections in people, birds, or mosquitoes. Overall, 1,444 cases of West Nile virus disease in people have been reported to CDC. Of these, 830 (57%) were classified as neuroinvasive disease (such as meningitis or encephalitis) and 614 (43%) were classified as non-neuroinvasive disease.

To view a map breaking down activity of WNV and other mosquito vectored viruses on a state-by-state basis, [Click here](#).

To view Centers for Disease Control and Prevention (CDC) West Nile virus FactSheet, [Click here](#).

You can reduce your risk of being infected with WNV by using insect repellent, wearing protective clothing to prevent mosquito bites, and eliminating mosquito breeding sites. Homeowners should take the following steps to prevent mosquitoes from breeding on their property:

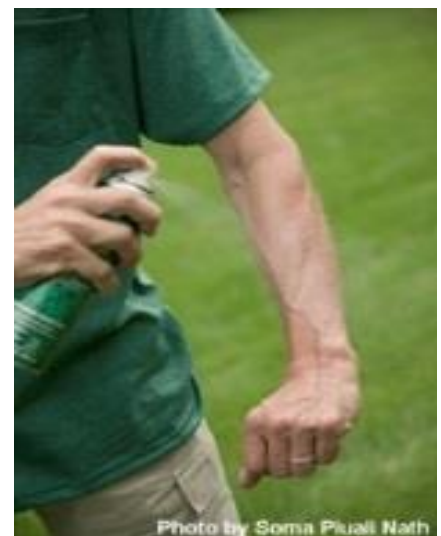


Photo by Soma Puall Nath

- Remove standing water that may accumulate on the property (check lawn ornaments, flower pots, etc.).
- Destroy or dispose of tin cans, plastic containers or any other object that can hold water. Pay special attention to old tires.
- Empty and refresh pet water dishes, watering troughs and birdbaths at least once a week.
- Ensure that garbage cans have tight fitting lids. Drill holes in the bottom of recycling bins so that water cannot accumulate if they are stored outdoors.
- Clean debris from rain gutters and remove any standing water under or around structures or on flat roofs. Check around faucets and air conditioner units and repair leaks or puddles that remain for several days.
- Keep swimming pools and spas chlorinated. If not in use, cover. Make sure water does not collect on the cover.

Additional Information may be found by clicking on the links below:

FSA7059 [Mosquito Control Around the Home and in Communities.](#)

FSA7060 [Developing a Community Mosquito Abatement Program.](#)

## **A New Dichlorvos Formulation for Pest Management Professionals**

John D. Hopkins

Nuvan<sup>®</sup> Directed Spray<sup>™</sup> Aerosol is an extension of the Nuvan<sup>®</sup> Prostrips<sup>®</sup> product line for Pest Management Professionals. Nuvan Directed Spray kills bed bugs, bed bug eggs, ants, cockroaches, bees, wasps, flies, fleas, ticks, and other labeled pests on contact and through its vapor action. Nuvan Directed Spray can be applied in hard to reach areas where pests hide because mortality is also caused by the resulting vapor, even if pests do not come in direct contact with the spray. People and pets can enter the treated area after the spray has dried and can reoccupy treated areas two hours after application.



This product is labeled for localized surface application in homes, cabins, garages and basements. Also for use in and around apartments, commercial buildings, factories, hotels, motels, warehouses, and other commercial and industrial buildings.

This product may be used in non-food/feed areas of food/feed processing, food/feed manufacturing and food/feed service establishment sites including, but not limited to, garbage rooms, lavatories, floor drains (to sewer), entries and vestibules, offices, locker rooms, mechanical rooms, boiler rooms, garages, mop closets, and storage rooms after canning or bottling.

In the home, cover all food contact surfaces during treatment and thoroughly clean before using for food preparation or service.

Use in residential sites as a crack and crevice or space spray is prohibited. Use on lawns, turf or ornamentals is prohibited. Do not use on pets or animals. Nuvan Directed Spray Aerosol is intended for sale to and use by pest management professionals only. This product is NOT intended for sale to or use by homeowners. Click to see a copy of the [NUVAN Directed Spray Specimen Label](#)

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# **Cattle Lice and Grubs**

Kelly M. Loftin

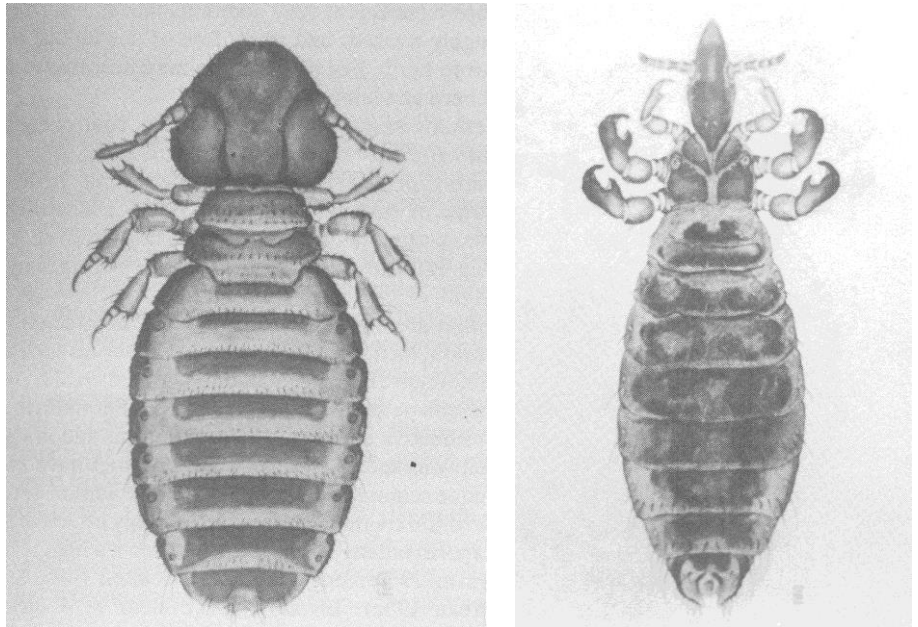
Lice are potential wintertime pests of several livestock species, especially stressed animals. Producers should be aware of potential louse infestations on their cattle this upcoming winter. In some cases, severe direct economic losses in cattle production caused by biting or sucking lice may occur. Heavy louse infestations add to the stress of cold weather, shipping, poor nutrition and internal parasite load. Lice are generally most abundant on animals during the period of greatest winter stress and continue through early spring.

Lice are winter pests because, generally, they do not survive well in the summer because hot

temperatures are lethal. However, one or two percent of animals may serve as chronically infested “reservoir” animals. A few lice on the reservoir animals survive on cooler areas of the body such as the ear tips. As temperatures cool, lice may move onto uninfested animals. Crowded conditions that often occur at winter feed troughs exasperate this spread.

Lice are small (1/10 to 1/8 inch), wingless, species-specific external parasites of livestock and poultry. In cattle, one species of biting lice, the cattle biting louse (*Bovicola bovis*) and three species of sucking lice; the shortnosed cattle louse (*Haematopinus eurysternus*), the long-nosed cattle louse (*Linognathus vitula*), cattle tail louse (*Haematopinus quadriptusus*) and the little blue cattle louse (*Solenoptes capillatus*) occur. Sucking lice pierce the skin and suck blood while the biting lice move about on the animal chewing hairs, skin and secretions. Both types of lice are problems during the winter and early spring but as mentioned earlier reproduce year-round at least on some animals. Lice are spread from animal to animal by direct contact such as shipping or feeding. Animals infested with lice will have an unkempt coat, scaly skin and possibly raw areas on the skin. Infested animals will scratch and rub to relieve the itching caused by lice. Often in heavy infestations, clumps of hair will fall off. Weight loss or reduced weight gain can occur with heavy louse infestations.

Lice can produce multiple generations per year, thus allowing numbers to become high if uncontrolled. All louse stages (egg, nymph and adult) are found on the animal. Adult female lice glue eggs (called nits) to hairs, eggs hatch into nymphs in about 10 to 15 days, and after three molts, nymphs become adults. It requires about 1 month for an egg to develop into an adult.



**Cattle biting louse (left) and long-nosed cattle louse (right). Source: Lancaster, J.L. and M.V. Meisch. (1986) *Arthropods in Livestock and Poultry Production*. Published by Ellis Horwood Limited. West Sussex, England.**

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In cattle, light louse infestations are easily overlooked. Heavier infestations are easier to recognize by animals' rubbing and loss of hair. A louse population on cattle can be estimated by examining five one inch square areas on the face, face, dewlap, neck, back and base of the tail. Lice populations on cattle are usually categorized as very slight (less than 5 per square inch), slight (5-10 per square inch), moderate (10-20 per square inch), severe (20-50 per square inch) and very severe (over 50 per square inch).

Good nutrition usually reduces the negative effects of lice infestations on livestock and is the foundation of a louse control program. Sufficient nutrition will allow the animal to better deal with blood loss and irritation. Another very important component of lice prevention is to assume that all purchased or "new" animals are infested. With this said, new animals should be isolated from the rest of the herd until a full course of louse treatment is completed.

Before treating louse infested cattle, one very important question must be asked and answered. Were your cattle treated for cattle grubs between Aug. 1 and Oct. 15? The answer dictates which products should be used to control lice in the winter and late spring. If cattle were treated at the appropriate time (between Aug. 1 and Oct. 15) with systemic insecticides (primarily endectocides containing doramectin, ivermectin or moxidectin to control cattle grubs), then systemic insecticides can be used to treat cattle for lice. If not, non-systemic insecticides must be used to control lice in the winter and early spring. Treatment with systemic insecticides after Oct. 15 in cattle that were not treated for cattle grubs can result in toxic reaction to dying grubs. When common cattle grubs die in the esophagus, cattle will have difficulty breathing and may vomit, salivate and die. If northern cattle grubs die in the spinal cord, cattle may exhibit posterior paralysis and weakened back legs but usually recover.

Insecticides used for louse control are divided into two major categories; systemic products and non-systemic products. For winter treatment of lice on cattle, selection of the right insecticide is crucial. If cattle were treated with systemic products (endectocide) containing doramectin, ivermectin or moxidectin at the appropriate time for cattle grubs, then endectocides can be used to control lice in the winter. Pour-on endectocides will kill both biting and chewing lice while injectable insecticides kill only sucking lice.

However, if cattle were not treated with a systemic insecticide for cattle grubs at the appropriate time, then non-systemic products should be used. Non-systemic insecticides effective against lice include the pyrethroids such as permethrin, cyfluthrin, zeta-cypermethrin, gamma-cyhalothrin, and lambda-cyhalothrin. Pour-on pyrethroids effective against lice include those containing permethrin, permethrin and diflubenzuron (an insect growth regulator), cyfluthrin, lambda-cyhalothrin and gamma-cyhalothrin. In addition, dust bags containing pyrethroids have shown efficacy against lice. Although organophosphate products containing coumaphos, famphur, fenthion, phosmet and trichlorfon kill lice, they can exhibit systemic activity in treated animals. Remember to follow label directions and that not all insecticides labeled for use on beef cattle are registered for use on dairy cattle. To see a listing of insecticides available for louse control, consult the animal section of **MP144, Insecticide Recommendations for Arkansas**. <http://www.uaex.edu/publications/mp-144.aspx>

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# **Armadillo Damage Control**

Becky McPeake

Nine-banded armadillos (Figure 1) are unique-looking mammals whose burrowing and digging activities occasionally cause problems around homes, pastures, golf courses, and levees. Several options for reducing damage are available, of which live trapping and relocation is often the best option. Live trapping and relocation is allowed under state law, but county and local ordinances need to be checked as well.



**Figure 1. Armadillos were first reported in Arkansas in the southwest part of the state in 1921, and were present statewide by 1990. (Photo courtesy ICWDM.org and USDA/WS.)**

many unwanted species as wooden traps.

Trap placement is key to success. Place a trap in an armadillo's natural pathway or burrow entrance. A trap's effectiveness can be enhanced by using "wings" of 1 x 4 inch or 1 x 6 inch boards about 6 feet long to funnel the animal into the trap (Figure 2).

Some suggest using two-door traps with wings on both sides as in Figure 2. While some wildlife professionals contend two-door traps double your chance at capturing an animal, others believe it doubles the chance of escape. If one end of the trap falls partially on an armadillo's tail, it is possible for the animal to escape.

Armadillos can be trapped successfully without using bait. Using a bait increases the chance of capturing nontarget animals. An armadillo trapping trial in Georgia used the following attractants: live night crawlers, live crickets, rotten chicken feed, whole eggs, rotten eggs, bananas,

The Arkansas Game & Fish Commission ([www.agfc.com](http://www.agfc.com), 800-364-4263) has specific regulations about live trapping nuisance animals. The trap must be labeled with one or more of the following: (a) name and address, (b) vehicle operator's license number, or (c) current vehicle license number registered to the trap user. The trapped animal must be released unharmed outside the municipality's boundaries within 24 hours of capture.

Armadillos can be captured in 10 x 12 x 32 inch or slightly larger live traps, which can be either purchased or homemade. A Mississippi State University study found wooden traps caught significantly more armadillos than wire traps. They also found wire traps caught four times as



**Figure 2. Boards can be used to funnel armadillos into cage traps. (Photo courtesy ICWDM.org and USDA/WS.)**

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marshmallows, sardines, vanilla wafers, moistened soil, and a commercially-available lure. They found no difference in capture rates for baited and un-baited traps.

Armadillos are known to carry the bacteria *Mycobacterium leprae*, the causative agent of Hansen's disease, also known as leprosy. In 2011, a genetic study at the National Hansen's Disease Program reported armadillos may be a source of infection in the southern United States. Feared as a highly contagious and devastating disease, it is actually not highly transmissible and very treatable with antibiotics. With early diagnosis and treatment, Hansen's disease is not disabling. The first signs of Hansen's disease are usually pale or slightly red areas or a rash on the trunk or extremities. Frequently, but not always, there is an associated decrease in light touch sensation in the area of the rash. A loss of feeling in the hands or feet may also be the first signs. A doctor can make the diagnosis by doing a skin biopsy. People with compromised immune systems may be more at risk of catching Hansen's disease.

Although the likelihood of contracting Hansen's disease from trapping armadillos is low, take precautions such as wearing disposable gloves to further minimize this risk. Also disinfect the trap with diluted chlorine after use.

A U of A Cooperative Extension Service fact sheet about armadillos is being prepared for review and publication.

## **Fire Blight on Blackberry and Raspberry**

Sherrie E. Smith

Fire blight, caused by the bacterium *Erwinia amylovora*, attacks all members of the rose family, with the exception of the stone fruits. Pears, apples, crabapples, cotoneaster, quince, hawthorn, photinia, spirea, pyracantha, roses, blackberry and raspberry are all hosts for Fire blight. Raspberries and some cultivars of blackberries are very susceptible. Most seasons' Fire blight is not a serious problem in blackberries because the damage is removed during normal pruning. However, primocane blackberries that bloom more than once have a greater chance of infection when the environment is right for disease development. Losses occur from flower and fruit blast, and from tip dieback of primocanes. The tips of infected canes turn black and bend over, giving a "shepherds crook" appearance. Infections may progress downwards for more than 8 inches. Whole canes may be blighted when the cultivar is extremely susceptible and environmental conditions are favorable for disease. Fruit clusters become infected at bloom. The stalks of the fruit clusters turn black and the young berries become brown to black, dry and become hard. The strain of *Erwinia amylovora* that attacks brambles is different from the one that attacks pears and apples. Therefore,

**Blackberry Fire blight-*Erwinia amylovora***



Sherrie Smith University of Arkansas Cooperative Extension

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the strain that attacks apples and pears will not infect raspberries and blackberries and vice versa, with the exception of “Boyne” raspberries that can be infected by the apple strain. Fire blight is spread primarily at bloom through insects, wind, and splashing water. Rain or overhead irrigation, high humidity, and day temperatures of 75-85°F and night temperatures above 55°F favor the disease. Management consists of pruning out the damage as soon as it is noticed, cutting 6-8 inches below the infection. Dip pruners in a 10% bleach solution (one cup bleach to 9 cups water) between cuts. Avoid working in the berries when the foliage is wet as this may help spread the Fire blight. Lime sulfur applied during the dormant season, (dormant only) may be helpful. Some copper fungicides are labeled for use on blackberry for a different bacterium (*Pseudomonas*), but do not specifically address Fire blight in cane berries.

### Raspberry Fire blight-*Erwinia amylovora*



Sherrie Smith University of Arkansas Cooperative Extension

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## **Name That Weed**

Bob Scott

There are 3 weedy sedges that cause most of the agronomic problems for rice farmers in Arkansas. FYI all three have now been shown to have populations that are resistant to ALS chemistry (Permit/Sedgehammer). Be the first to give me the correct common names of all three and win a prize! Email your responses to me at [bscott@uaex.edu](mailto:bscott@uaex.edu).



## **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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