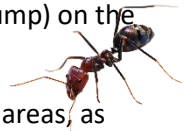
DIVISION OF AGRICULTURE
RESEARCH & EXTENSION
University of Arkansas System

Two Easy Steps to Controlling Fire Ants

Imported fire ants (IFA) were accidentally introduced into the United States from South America about 70 years ago. The first documented infestation of these ants in Arkansas was in El Dorado in 1958. Currently, they infest much of southern Arkansas and have been found in the more northern reaches of the state. Fire ants are reddish brown and range in length from 1/8 to 1/4 inch. In addition to their physical characteristics and aggressive swarming behavior, they are identified by their painful sting, which produces a small pustule (white bump) on the victim within 8 to 24 hours.



Imported fire ants infest home lawns, playgrounds, school yards, parks and other recreational areas, as well as pastures and cropland. Fire ants not only cause problems to homeowners but also economic losses in agriculture, such as the poultry and cattle industries. They construct unsightly mounds, which cause difficulty during mowing and can damage farm and lawn maintenance equipment. In addition, fire ants are attracted to electrical fields. Short circuits and damage to equipment such as air conditioners are the result of numerous fire ants being attracted to the units.

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Imported fire ants are a serious pest, but fortunately their impact upon our lives can be minimized through patience and the use of integrated pest management practices. The most effective chemical control methods for imported fire ants result in queen mortality or prohibit her from producing more worker ants. The control program described below is a cost-effective and proven procedure that provides long term ant suppression in home lawns, ornamental turf, areawide treatment programs and other nonagricultural land. This program is also suited for pasture and rangeland provided the products are labeled for use in these sites. For more information on the two-step controlling method check out fact sheet FSA7036.

The twostep method is suggested for areas with a high IFA mound (colony) density (over 20 per acre) and low numbers of beneficial native ants. This method can effectively control heavy fire ant infestations when conducted at least twice yearly. The first step is to broadcast a bait formulated insecticide over the entire yard on a semiannual basis (spring and fall). The second step occurs seven to ten days later with the individual treatment of problem mounds with approved insecticidal dusts, liquid drenches, baits, granules, aerosols or a nonchemical treatment, such as pouring hot water on the mound.

Millipede and Centipede Control

If millipedes or centipedes are occurring in great numbers indoors, it is usually an indication that there is a large population in the area surrounding the home. To control these pests, the most important step is to remove materials that provide them with shelter in the immediate area around the home. This includes mulch, rocks, boards and similar materials.

Secondly, dethatching the lawn and mowing closely allows for drier conditions, which repels these pests. Watering in the morning rather than the evening also gives the lawn a chance to dry before the millipedes, in particular, become active at night.

Thirdly, prevent them from entering the house by making sure doors and windows fit tightly and cracks and crevices are caulked.

If necessary, insecticides are available that are labeled for outdoor use against millipedes and centipedes. These include products containing carbaryl (Sevin WP), bifenthrin (Ortho-Klor Termite & Carpenter Ant Killer Concentrate, Ortho Bug-B-Gon Max Lawn & Garden Insect Killer Concentrate or Ortho Home Defense Max Perimeter & Indoor Insect Killer Ready-To-Use), lambda-cyhalothrin (Spectracide Triazicide Once & Done, Spectracide Bug Stop Indoor Plus Outdoor Insect Killer Ready-To-Use or Spectracide Triazicide Once & Done Insect Killer Ready-To-Use), cyfluthrin (Bayer Advanced Power Force Carpenter Ant & Termite Killer Plus Concentrate or Bayer Advance Home Pest Control Indoor & Outdoor Insect Killer Ready-To-Use), esfenvalerate (Ortho Bug-B-Gon Multi-Purpose Insect Killer Ready-To-Use) or deltamethrin (Bayer Advance Power Force Carpenter Ant & Termite Killer Plus Ready-To-Use). Apply insecticides around the outside of the home, concentrating where millipedes and centipedes may live or enter the structure. Treat the lower 2 to 3 feet of the foundation wall as well as a band of soil 2 to 4 feet out from the foundation. Applications should be made with just enough water for the insecticide to penetrate through mulch and thatch to reach the soil. Although pesticides are available for indoor use, removal with a vacuum or dustpan and broom is often sufficient.

Pesticides provide only temporary control unless measures are taken to alter the environment outside the home as described above.

When using pesticides, check the label carefully to make certain the product is labeled for the target pest. Also make sure it is approved for use indoors if that is the intended area for treatment. FOLLOW ALL LABEL INSTRUCTIONS AND PRECAUTIONS EXACTLY! Note that professional pest control operators have access to products and methods not available to the general public. If a heavy pest infestation is a problem, contact a pest management professional.

Online Pesticide License Recertification

Due to Covid-19, currently no face-to-face pesticide applicator training is being conducted but is now available online at www.uaex.edu/pat and is valid for both initial certification and recertification. The cost of the training is $20.00, which does not include license fees that must be paid to the state. Certification is good for five years, and private applicators may get a one-year or five-year license. The training is formatted as a series of narrated slide shows, with quiz questions embedded in the presentation, which lasts about 2.5 hours.

Parasites in Small Ruminants

One of the biggest health problems faced by small ruminant producers in the southeast and southcentral U.S. is internal parasites. Internal parasite management, especially of Haemonchus contortus (barber pole worm), is a primary concern for the majority of sheep and goat producers. **These parasites have become more difficult to manage because of developed resistance to nearly all available dewormers.**

We have all become accustomed to having several highly effective drugs to select from for the treatment of worms, but as the level of parasite drug resistance increases, these drugs are not the easy solution they once were. Drug resistant worms are spreading, and new products are not available. As a result, producers must begin thinking more creatively about how to effectively control worms in their animals. No longer can we recommend control programs based on drug treatment alone that will be satisfactory for most producers. Producers must design an integrated parasite control program because the numbers of worms, their impact on your herd and their level of resistance to drugs will vary from farm to farm.

The most important worm parasites are the gastrointestinal trichostrongyles. This is a whole family of worms, but the really important one is the **barber pole worm** (Haemonchus contortus) -- it causes many small ruminant deaths every year. This is a bloodsucking parasite that causes anemia but usually not scouring. Some other near relatives of the barber pole worm can cause scouring but are not the annual cause of disease and death like barber pole worm.

In order to use anthelmintics (dewormers) and other means of parasite control most effectively, there are some facts about the life cycle, which are important to understand. Adult female worms produce eggs that are passed in manure. Larvae hatch out and go through several stages of development in the environment before they can infect the next host. During the warm months of the year, enormous numbers of larvae can build up on your pasture.

Virtually all these worms need grass for successful development; they do not successfully develop on dirt.

The success of larvae outside the host depends on the climate. Moisture and warmth (50 degrees F and above) are necessary for development and survival. Dry weather is very hard on these larvae once they are out on the grass.

Haemonchus larvae can also undergo a process called ARRESTED DEVELOPMENT where they sit quietly in the stomach following infection and don't become adults until several months later. This is an important adaptation for keeping the worm around through cold winters when eggs and larvae don't survive well on pasture.

The worms that became arrested in the fall resume development in the spring and reproduce.

This information can be used in several ways to target parasite control for times of the year when it will have the greatest impact.

Worms are a part of the natural sheep and goat world. We cannot eradicate them as long as sheep and goats are on pasture. The goal is to maintain the parasites at a level that will not produce any illness or economic loss.

Because the problem of drug resistance is steadily increasing it is important for each producer to look at his/her management system as a whole and find things beside drugs that will help control parasites and create a holistic management program. Remember, anytime we rely on a single product or method of control the worms will eventually adapt and outwit us.

If you include some of the following techniques, the need for frequent deworming treatments should be reduced

Check Your Animals: With some parasites, like coccidia, signs of scouring will alert you to a problem. With barber pole worm there is no scouring but there is anemia with pale mucous membranes. Get into the habit of checking the color of the membranes around the eye (FAMACHA scoring)-this is the easiest place to see anemia and will alert you when a problem is developing.

Don't Pinch Pennies on Diet: Many experiments over the years have shown that animals on a high nutritional plane are more resilient to the adverse effects of parasites than those on marginal diets. Protein and minerals, as well as energy, are important in resisting the effects of barber pole worm because new red blood cells must be generated to replace those lost to the parasites. Nutrients are also needed to develop an immune response to the parasites.

Appreciate Normal Immune Responses to Parasites: Animals will develop some immunity against worm parasites, If we list categories of animals from least to most immune it would generally be: a) Kids and lambs (require a full grazing season to develop immunity), b) pregnant and lactating does/ewes, c) Bucks and d) Dry does/ewes.

Concentrate your worm control efforts on the animals that need it the most and remember that immunity will be overcome if sheep and goats are exposed to high numbers of worm larvae.

Consider resistance to parasites in your selection program. There is definitely a genetic component in resistance to parasites that is most likely related to the immune response. If you have animals that get anemic before the others, consider culling them. Similarly, keep the ones that never seem to get anemic.

Use Drugs Wisely: All of the available chemical dewormers fall into 3 major classes of dewormers. You need to recognize which ones are in each class because once worms become resistant to one drug in a class, they will be resistant to the other drugs of that class. Drugs that are not FDA approved for use in sheep and/or goats can only be used following consultation with your veterinarian. Use the Correct Dose - Under dosing promotes the development of resistance.

Don't Bring Resistance to Your Farm: If you get new animals, do not let them bring in worms with drug resistance. Quarantine new animals before co-mingling them with your existing herd.

Sincerely,

Samantha Kroll

County Extension Agent-Agriculture