

Protect Yourself And Livestock From Black Fly Infestation

LITTLE ROCK, ARK.

This spring's heavy rainfall that caused flooding in many parts of the state had another effect: an explosion in the population of blood-sucking black flies – small pests that can cause irritation in humans and serious health problems in livestock.

"Black flies breed in flowing water, especially near culverts under roads or attached to plants trailing in the water," says Dr. Kelly Loftin, extension entomologist with the U of A Division of Agriculture.

Loftin says, "Black fly is the common name for the flies in the black fly family, which is Family Simuliidae." Female black flies lay 200 - 800 eggs on plants in running water or just below the water surface. Immature black flies eventually float to the surface of the water, emerge into adults and proceed to attack nearby humans and animals.

"Black flies are commonly found swarming around the heads of people, warm-blooded wildlife and livestock," says Loftin. They bite by cutting into the skin and feeding on the pool of blood that forms in the newly-formed hole. Buffalo gnats and turkey gnats are two of the most important livestock and poultry pest species of the black fly group in Arkansas.

"Only the female black flies are biting blood-feeders," Loftin says, adding that "Black flies are effective in causing a great deal of blood loss because of the strong anticoagulant in their saliva that encourages bleeding of the host."

The anticoagulant that black flies inject under the skin can cause mild to severe allergic reactions in sensitive individuals. "Large black fly populations and strong bite reactions can be life threatening and have been reported to kill domestic animals," he says.

Black fly bites are very painful because of the hole that is cut in the skin, the anticoagulants, other injected materials and the immunological differences between insect and hosts' tissues.

Loftin says, "Black flies are daytime biters and prefer low wind conditions. They are attracted to hosts from a distance by smell, heat and by sight." Each black fly species may prefer one type of host over another, as indicated by their name.

The vast number of potential breeding sites makes it difficult to control black fly populations. For human protection, Loftin says, "Avoidance of the outdoors during daytime hours or applications of insect repellent are the best options." Wearing hats with fine mesh netting extending over the face and shoulders can also help guard against black fly bites.

To protect livestock from heavy swarms of black flies such as buffalo gnats or turkey gnats, Loftin recommends sheltering animals in stables or barns during the daytime. "Insecticides such as pyrethroids applied directly to livestock may provide short-term relief from black fly biting," he says. Some of the more commonly used chemicals in recent times have been permethrin solutions and insecticide-impregnated ear tags. Horse owners sometime apply white petroleum jelly to the inside of horses' ears to reduce the number of bites.

Using chemical control of black flies to target their breeding sites is difficult, due to the limited number of chemical control options for black fly larvae that develop in areas of running water. Loftin says, "The only available effective treatment is a microbial insecticide containing *Bacillus thuringiensis israelensis*. This insecticide needs to be metered into the water prior to periods of peak black fly activity." Loftin notes that Texarkana, Texas, and Ark. have an organized abatement program to control buffalo gnat larvae that develop in the Sulphur River.

Fortunately, adult black fly activity declines after temperatures get above 80 degrees. By now, the waters have warmed enough to deter the development of immature black flies. Loftin says, "I haven't had a call regarding black fly problems in at least two weeks."

The Cooperative Extension Service plays a key role in ensuring that this black fly treatment program along the Sulfur River is effective by routinely monitoring and sampling the immature black fly habitat to properly time insecticide applications.

For more information about black flies, please contact your county extension agent or visit www.uaex.edu. The Cooperative Extension Service is part of the U of A Division of Agriculture.

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