

New World Screwworm

New World screwworms are fly larvae (maggots) that can infest livestock and other warmblooded animals, including people. They most often enter an animal through an open wound and feed on the animal's living flesh. If not treated, infestations can be fatal. While New World screwworm (*Cochliomyia hominivorax*) has not been widely present in the United States since the 1960s, it is still found in most of South America and in five Caribbean countries. If this pest became established in the United States again, it could cause more than \$1 billion in losses for our country's livestock industry.

The U.S. Department of Agriculture (USDA) works diligently to protect the health of our Nation's livestock and keep New World screwworm from reentering the United States. You can help support these efforts by observing your animals and reporting any signs of a screwworm infestation to State or Federal animal health officials.

Description

The adult screwworm fly is about the size of a common housefly, or slightly larger, but different in color and appearance. The screwworm fly has orange eyes and a metallic dark blue to blue-green or grey body. It also has three dark stripes running down its back, with the middle stripe shorter than the outer two.

A female screwworm fly typically mates once in her lifetime and lays her eggs on or near an open wound or the mucous membranes of an animal's nose, mouth, or ears. In her lifespan, the screwworm fly can produce thousands of offspring. The eggs hatch into larvae within a day and then feed on the animal's tissue for 5 to 7 days before maturing. The mature larvae then tunnel into the ground and emerge as adults, ready to mate and continue the cycle.

While they can fly much farther under ideal conditions, adult flies generally do not travel more than a couple of miles if there are suitable host animals in the area. New World screwworm is more likely to spread long distances when infested animals move to new areas and carry the pest there.

Signs To Look For

Screwworms are typically found on warmblooded animals that have a draining or enlarging wound. Almost any type of wound can become infested with screwworm larvae, including those caused by feeding ticks, castration, dehorning, branding, shearing, barbed wire fences, and even shedding of antler velvet in deer. The navels of newborn mammals can also become infested.

It can be very difficult to see the early stages of screwworm larvae feeding in a wound. The most obvious sign is a change in the wound's appearance—as larvae feed, the wound gradually enlarges and deepens. An infested wound also gives off an odor and some bloody discharge. Even if the actual wound on the skin is small, it could still have extensive pockets of screwworm larvae beneath it.

Infested livestock usually show signs of discomfort, and they may go off their feed and produce less milk. Typically, these animals will separate themselves from the rest of the flock or herd and seek shady or secluded areas to lie down. Infested animals that are not treated in 7 to 14 days may die.

While human cases of New World screwworm are rare, they have occurred. People infested with screwworm usually have discomfort or itching at the wound site. If it affects the eyes, mouth, sinuses, or lungs, infestation may be incapacitating.

Treatment

Screwworm infestation in livestock is treated by topical application of a pesticide or by a pesticide dip to kill the larvae. Treated wounds should be inspected daily until completely healed. The examining veterinarian will remove larvae from the wound with tweezers, place them in alcohol, and submit them to USDA's National Veterinary Services Laboratories (NVSL) for positive identification.

History of USDA's Screwworm Eradication Program

The New World screwworm likely originated in South America and moved into North America by the early 1800s. In the 1930s, screwworms were present in the Southeastern United States, causing livestock producers to lose millions of dollars annually.

In the 1950s, USDA's Agricultural Research Service developed a new method to help eradicate the pest using a form of biological control, called the sterile insect technique. Infertile male flies are released in infested areas. When they mate with local females, no offspring result. With fewer fertile mates available in each succeeding generation, the fly, in essence, breeds itself out of existence.

USDA began using this technique in Florida in 1957 and eradicated the flies from the entire Southeastern United States by 1959. The technique was next applied to the more extensively infested Southwest in 1962. By 1966, self-sustaining screwworm populations were eliminated from the United States. However, there were still infestations in Mexico, and animals crossing the border were causing some reinfestations in the United States. USDA worked with Mexican officials to reduce the flies in that country. After 1982, there were no more reinfestations in the United States, and Mexico was officially declared free of screwworms in 1991. USDA then partnered with the countries of Central America to eradicate New World screwworms. Today, USDA and its partners maintain a permanent sterile fly barrier at the Darien Gap between Panama and Colombia to prevent the establishment of any screwworm flies that enter from South America.

Keeping Screwworms Out of the United States

Keeping New World screwworm out of the United States is an ongoing process. In September 2007, screwworm larvae were found on a dog that had recently entered the United States from Trinidad and Tobago. An alert private veterinarian detected the larvae and submitted them to the NVSL for identification. State and Federal animal health authorities immediately took measures to track the dog's movements from Florida to Mississippi, disinfect sites where the dog spent time, and prevent any spread of the pest.

In May 2010, a similar incident occurred when a private veterinarian found screwworm larvae on a dog that traveled from Venezuela to Florida. The Florida location was thoroughly treated to destroy any larvae that may have exited the wound.

In both cases, awareness by animal owners and veterinary practitioners was critical in preventing a damaging screwworm outbreak in our country. Cooperation among animal owners, veterinarians, and animal and human health officials continues to be fundamental in our work to protect the United States from a screwworm infestation.

Report Suspicious Cases

If you suspect an animal may be infested with screwworm larvae, immediately contact State or Federal animal health authorities.

Learn More

For more information on New World screwworm and other animal pests and diseases, visit USDA's Animal and Plant Health Inspection Service (APHIS) Web site at www.aphis.usda.gov. Click on "Animal Health" and then "Animal Disease Information."

Or, contact us at:

Veterinary Services
USDA/APHIS
4700 River Road, Unit 41
Riverdale, MD 20737-1231
Phone: (301) 851-3595
Fax: (301) 734-7817

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