

New World Screwworm

New World screwworms (NWS) are larvae or maggots of the NWS fly (*Cochliomyia hominivorax*) that cause the painful condition NWS myiasis. This guide is provided to educate and address concerns related to a NWS outbreak in the United States.

About New World Screwworm

NWS was last eradicated from the United States in 1966, through costly efforts by federal and state animal health officials, livestock producers, and veterinary practitioners. Since this time, eradication programs continued to successfully push the pest progressively south through Mexico and Central America. The Darien Gap, known as “the barrier,” helps prevent NWS from reentering Central and North America, but the pest remains endemic in Cuba, Haiti, the Dominican Republic, and South America.

Between 2000 and 2023, reintroductions of NWS occurred in free areas of Central and North America and were successfully eradicated. The re-emergence of NWS in Costa Rica, Nicaragua, Honduras, and most recently Guatemala beginning in mid 2023 and early 2024, increases the threat of reintroduction to the United States markedly.

Economic Impact

During the 20th century, the presence of NWS cost the United States livestock industry more than \$100 million annually. Reintroduction of NWS into the United States could cause tremendous financial burden due to livestock losses, trade embargoes, and eradication effort costs. Economic impacts from a NWS outbreak effect the livestock industry directly and the general economy.

Consumer Impact

[The United States Department of Agriculture’s Food Safety and Inspection Service](#) (FSIS) is the regulatory agency responsible for ensuring that the nation’s commercial supply of meat, poultry, and egg products is safe and properly labeled. Under the [Federal Meat Inspection Act](#) (FMIA),

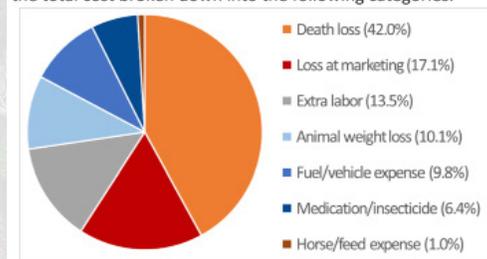
FSIS inspection personnel are required to conduct inspection of all amenable species that are not otherwise exempt or State inspected. Any evidence of screwworm infection would be identified during these inspection processes, and adulterated product derived from the affected animal would not be allowed to go into commerce. All imported meat and poultry products must first meet U.S. Customs and Border Patrol (CBP) and APHIS animal health requirements, and are subsequently reinspected at a federally inspected facility prior to entry into U.S. commerce.

Animal Health Impact

NWS primarily infest wounds or other body openings of livestock, but can also affect mammals, including humans, and birds. NWS larvae burrow into openings causing the painful condition NWS myiasis that can eventually cause secondary infections. Left untreated, animals may die within one week of being infested. Production levels of meat and milk; veterinary, medication, and labor costs in livestock production; and the health status of wildlife populations are all impacted by a NWS outbreak.

Example Breakdown of Producer Costs

An analysis of producer costs due to an NWS outbreak in Texas in 1976 indicated that producers spent \$132.1 million (not adjusted for inflation) that year in response to the pest, with the total cost broken down into the following categories:



*Graphic and data from *The United States Department of Agriculture*



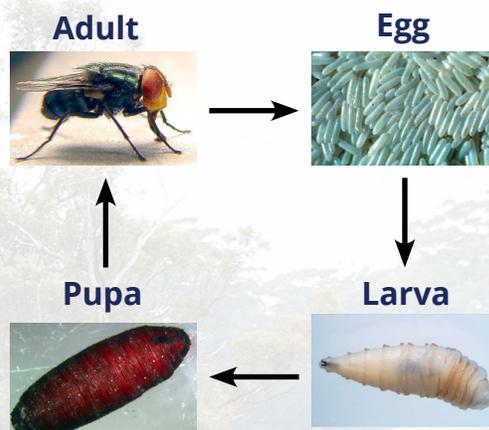
Life Cycle

Adult: An adult fly emerges from soil about the size of a common housefly (or slightly larger) with red-orange eyes, a metallic blue or green body, and three dark stripes along its back. Females mate after three days and males mate within 24 hours. The lifespan of the adult NWS fly is about 10-30 days.

Egg: NWS eggs are laid on the edge of an open wound or orifice. Adult female NWS flies can lay 200-300 eggs at a time. Eggs are white, oval shaped, and usually hatch within 10-12 hours.

Larva: After the eggs hatch, the larvae (maggots) burrow into the wound and begin feeding. The larvae may be visible after the third day of infestation and may continue to burrow deeper into a wound. After about a week, the more mature larvae falls off and burrows into the ground to pupate.

Pupa: Mature NWS larvae burrow into soil, and develop into a pupa inside darkening red-brown skin. Depending upon weather, pupae mature for seven to 65 days.



Preventing, Reporting, & Eradicating

Monitor pets and livestock for clinical signs of NWS, myiasis, or secondary infections, including and not limited to the presence of fly larvae (maggots) in wounds, evidence of fly strike, and smell of decaying flesh and immediately report suspicions. The TAHC must be notified within 24 hours of all suspected and confirmed cases of NWS. Reports can be made to any TAHC region office by anyone, not just veterinarians or diagnostic laboratories.

NWS eradication is possible through the sterile insect technique that releases sterile male NWS pupae in an area where a known population has been established. The sterile male NWS flies mate with fertile females, who only mate once in their lifetime, leading to the laying of nonviable eggs. The population decreases without the addition of new larvae and dies off naturally over a few life cycles.

Additional Information & Resources

While NWS are typically found on livestock, all mammals, including humans, can be affected. It is important for travelers to be diligent in monitoring signs of NWS, myiasis, and secondary infections, especially when visiting NWS affected areas. Additional information and human health resources are available through the [U.S. Centers for Disease Control and Prevention](#). General pest information is available through the [United States Department of Agriculture Animal and Plant Health Inspection Service](#).