TEXAS A&M AGRILIFE EXTENSION

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What to Do if You Suspect New World Screwworm in Your Herd

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If New World screwworm (NWS) is suspected in livestock, immediate action is critical to prevent further spread and protect animal health. This guide outlines the steps to take if NWS is suspected, starting with the core response approach: **Inspect. Collect. Protect.**

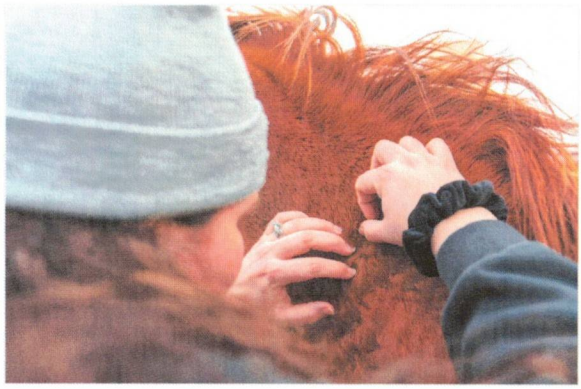
Immediate Actions

If screwworm infestation is suspected:

1. Contact authorities:
   - **Texas Animal Health Commission (TAHC)** for livestock and pets: 800-550-8242
   - **Texas Parks and Wildlife Department (TPWD)** for wildlife: 512-389-4505
2. Notify the animals' private veterinarian.
3. Do not delay reporting. Early detection limits spread and minimizes long-term consequences.

For full response procedures and identification steps, see *Rethinking Livestock Management to Consider Screwworm*, July 2025 (tx.ag/NWScrewworm)

Inspect



It is vital to frequently monitor livestock and look for signs of NWS, such as:

- The smell of rotting tissue,
- Visible burrowing larvae, and
- Sickly looking wounds on both livestock and wildlife.

Suspected cases should be reported even if unsure.

Collect

If NWS is suspected, report it to the Texas Animal Health Commission. Contact a local veterinarian and/or AgriLife Extension County agent. Follow the instructions of the veterinarian or animal health professional on next steps.

Protect

Work with a veterinarian for a treatment plan for the affected animal and the rest of the herd. Always follow the veterinarian's treatment plan. Potential options can include:

Topical treatments:

- Permethrin sprays: Over-the-counter; kill and repel flies
- Permethrin ear tags: Add protection during active months.

Systemic treatment:

- Coumaphos: Requires a certified applicator license due to toxicity. Applied topically but works systemically.

Wound care:

- Clean wounds thoroughly and apply disinfectant.
- Cover if possible during fly season.
- Monitor healing daily.

Why Reporting Matters

- Early detection enables fast containment.
- Delays in reporting could allow widespread infestation.
- While temporary movement restrictions may occur, long-term industry impact from established populations would be far worse.

Conclusion

Suspecting screwworm? Act quickly to inspect, collect, and protect. Call the vet and state officials, collect samples, and follow treatment protocols. Proactive communication and early action can protect livestock and neighbors.

For additional guidance and a detailed action plan, consult *Rethinking Livestock Management to Consider Screwworm*, July 2025 (tx.ag/NWScrewworm)

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Protocols for the Potential Detection of New World Screwworm in Livestock

Livestock Producer Guidance

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 livestock producers for general information and instructions related to NWS in Texas livestock.

Know the Pest

NWS flies are attracted to the odor, serum, and blood of wounds in living, warm-blooded mammals and birds. Once a host is found, the flies lay eggs in an opening. After the eggs hatch, maggots burrow or screw into the living tissue, feeding as they go. Damage due to the tearing of tissue deepens the wound while more maggots continue to hatch and feed. This can lead to the condition NWS myiasis, co-infestation with other species, and infections, resulting in serious, sometimes deadly damage.

Monitor Livestock

- Check livestock for evidence of NWS infestations, including flies, maggots, larvae, or eggs.
- Monitor body openings such as the nose, ears, umbilicus, or genitalia for drainage or enlargement.
- Observe animals for clinical signs of NWS myiasis and secondary infections.

Report Suspicions

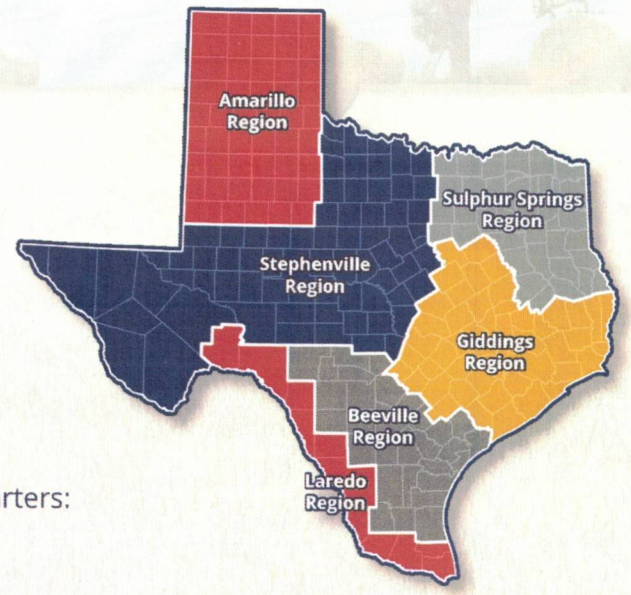
Immediately call a state animal health official if you suspect NWS have affected your livestock.

8:00 AM - 5:00 PM, contact a local TAHC region office:

Amarillo.....806-641-7000
Beeville.....361-358-3234
Giddings.....979-212-5440
Laredo.....956-568-5741
Stephenville.....512-556-6277
Sulphur Springs.....903-919-3748

5:00 PM - 8:00 AM and on weekends, contact the TAHC headquarters:

Veterinarian on Call.....1-800-550-8242



Prevent Further Spread

- Monitor animals on a regular basis for signs of NWS flies, NWS myiasis, or secondary infections.
- Ensure pets and vehicles are inspected for NWS flies before travelling, especially in NWS-infested areas. If an animal has an infestation, it should not be moved.
- Keep open wounds clean and covered.
- Treat clothing, gear, and people with proper repellents.

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.

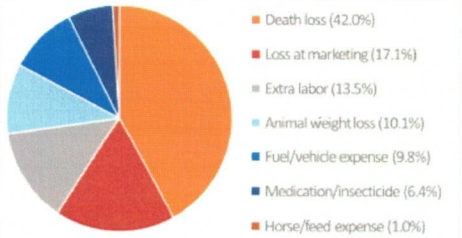
Between 2000 and 2023, reintroductions of NWS occurred in free areas of Central and North America and were successfully eradicated. The re-emergence of NWS in Costa Rica, Nicaragua, Honduras, and most recently Guatemala beginning in mid 2023 and early 2024, increases the threat of reintroduction to the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

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:



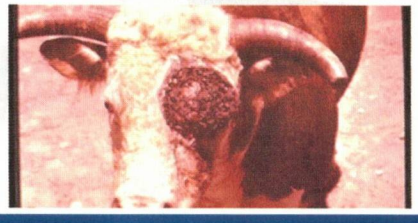
**Graphic and data from The United States Department of Agriculture*

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.



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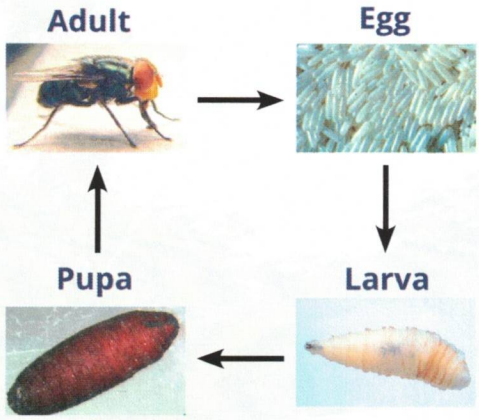
Life Cycle

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.

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New World Screwworm

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Background

The New World screwworm (NWS, *Cochliomyia hominivorax*) is a parasitic fly native to the Western Hemisphere. It lays eggs in the living tissue of fresh wounds in warm-blooded animals. The larvae (maggots) feed on the host's flesh, causing severe wounds and often death if untreated. The pest was eradicated in the U.S. in the 1960s. Since then, it occasionally reemerges and has resurfaced in Central America and Mexico. They are controlled only through the release of sterile males, known as the sterile insect technique (SIT). This approach, along with regular active surveillance and livestock inspections, has proven highly successful. As of May 2025, renewed attention to this parasite is crucial, as it may pose future risks to livestock and wildlife.

Signs of New World Screwworm in Animals

The name screwworm refers to the feeding behavior exhibited by the maggots as they burrow (screw) into the wound. These maggots and their feeding cause extensive damage by tearing at the hosts' tissue with sharp mouth hooks. The wound will become larger and deeper as more and more eggs hatch and larvae feed on the living tissue. This results in serious and often deadly damage to the animal if not discovered and treated.

Continual and regular monitoring and evaluation of all livestock are important for herd and flock biosecurity and health considerations. Producers should be alert for possible signs associated with potential infestation including:

Figure 1. Screwworm infestation in a dog.

- Foul-smelling wounds with visible maggots;
- Animals biting or licking at wounds;
- Lesions in navels, ears, and dehorning or branding sites; and
- Unusual restlessness or lethargy.

In the New World screwworm, the larval stage (Fig. 2) is responsible for inflicting significant injury and economic loss. These larvae inhabit the wounds of living animals, where they cause extensive tissue damage. Mature larvae can reach 17 mm in length (or ⅔ of an inch), and have spines that protrude from the body and wrap around in a spiral, giving them the name screwworm. Official identification of larvae is based largely on the presence or absence of dual internal breathing tubes. Confirmation of the fly identity can be determined only by a trained individual. Specimens must be submitted to the Texas Animal Health Commission.

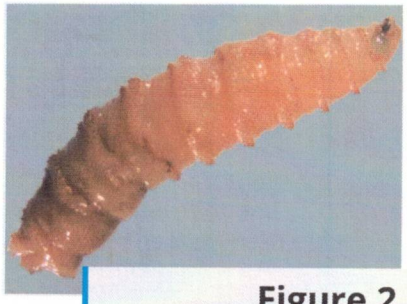

Figure 2. Screwworm larva.

Suspicious Cases Must be Reported

Immediately isolate any suspected animals and contact:

- Your local veterinarian or wildlife biologist;
- The Texas Animal Health Commission: (800) 550-8242; and
- The U.S. Department of Agriculture Veterinary Services: (512) 383-2400.

To prevent unintentional spread, avoid transporting any suspected animals until advised.

Identifying Screwworm Flies

Adult New World screwworms (Fig. 3) are metallic blue blow flies, have three distinct stripes that run down the top (thorax) of the fly just behind the head, and have large orange eyes.

Figure 3. Adult New World screwworm fly.

This fly resembles the closely related secondary screwworm, *Cochliomyia macellaria*, which is also a metallic blue blow fly with three distinct stripes. However, the stripes all begin at the same point behind the head. Adult secondary screwworms do not deposit eggs on living animals, and their larvae do not infest them. Therefore, they do not pose a threat to animal health.

Adult flies of interest can be photographed. Please send pictures to the Texas A&M AgriLife Extension Service: screwworm@ag.tamu.edu

Report any mammals or birds (wild or domesticated) with signs of irritated behavior or head shaking, that express a smell of decay but are alive, or that show evidence of flystrike and/or the presence of fly larvae (maggots) in wounds.

Potential Control Products for Use in the U.S.

U.S. producers have not treated livestock for NWS in more than 40 years. Although this health threat has not been experienced in several decades, several treatment strategies exist today, and should always be used in consultation with your local veterinarian. Treatments could include:

- Preventive measures: treat wounds promptly and maintain sanitation; and
- Post-infestation treatments: topical larvicides (e.g., coumaphos and permethrin), and cleaning and removal of larvae.

Visit the U.S. Department of Agriculture Animal and Plant Health Inspection Service (USDA-APHIS) for a list of potential pesticides to use against New World screwworm: https://www.aphis.usda.gov/sites/default/files/pesticides- for-nws.pdf.

Screwworm in the New World

Screwworm infestations occur in Jamaica, Cuba, and across South America. Increasing detections of this fly north of its containment barrier, the Darién Gap in Panama, were noted in 2023. Typical insecticide suppression of the New World screwworm is less effective than with other insect pests due to its wide host range and occurrence on wildlife.

Online Resources

Texas A&M AgriLife Extension Screwworm Web Page
https://agrilifeextension.tamu.edu/new-world-screwworm/

USDA-APHIS New World Screwworm Web Page
https://www.aphis.usda.gov/livestock-poultry-disease/cattle/ticks/screwworm

Texas Animal Health Commission New World Screwworm Emergency Management Guide
https://www.tahc.texas.gov/animal_health/feverticks-pests/EMGuide-NewWorldScrewworm.pdf

Texas A&M Veterinary Medical Diagnostic Laboratory
https://tvmdl.tamu.edu/

History of the New World Screwworm in the U.S.
https://www.nal.usda.gov/exhibits/speccoll/exhibits/show/stop-screwworms--selections-fr/introduction

New World Screwworm and Other Flies that Produce Myiasis in Animals
https://www.merckvetmanual.com/integumentary-system/flies/obligatory-myiasis-producing-flies-of-animals

Biosecurity and Herd Health Considerations
https://www.aphis.usda.gov/livestock-poultry-disease

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