

New World Screwworm Information for Veterinarians

We are asking all veterinarians to be vigilant in recognizing and reporting suspected cases of New World Screwworm (NWS) infestation in livestock, pets, and wild animals.

Many older veterinarians and livestock owners may remember when screwworms were a part of livestock production before eradication in the late 1960's.

Recognize the disease

- Infestation is often associated with pre-existing wounds (wounds can be as small as a tick bite).
- Infestation often occurs on mucous membranes such as nostrils, eye orbits, ears, mouth, and genitals. In newborn animals, infestation commonly occurs around the navel and infestation is nearly 100% fatal.
- Drainage, suppuration, discharge of blood and serum, enlargement, and foul odor are common.
- Infected animals may go off feed and act depressed; affected livestock may isolate, rub against trees, and/or stand in water.
- Fly eggs may be visible around the edges of the wound.
- Posterior ends of the larvae may be evident at the surface of the wound.
- Infestation may be masked by other types of larvae: non-NWS larvae may be feeding on external necrotic tissue, hiding the NWS larvae from detection.
- Larvae may be 2 mm to 1.5 cm in length
- Infestation is not always obvious: If the wound is deep or pocket-like, minor movement within the wound may be the only indicator of infestation.

Report suspicious cases

If you suspect a case of NWS infestation, please contact the state veterinarian's office at 601-359-1170 or 888-722-3106.

Response

Collecting samples for proper identification:

- a. To obtain specimens for identification, gently remove larvae from several sites and depths within the open wound using forceps.
- b. Because secondary myiasis may be present and is most often found near the surface of the wound, it is especially important to collect specimens from the deepest part of the lesion. If possible, collect larvae of different sizes for submission.

c. Place the specimens in a tightly closing vial or test tube and preserve the specimens in alcohol (ethyl or isopropyl) at room temperature. The concentration should be 70 percent by volume.

Treatment recommendations:

All visible eggs and larvae must be removed from in and around the wound. The wound should then be thoroughly cleaned and disinfected. Depending on severity, the animal may need extensive wound care, systemic antimicrobials, and analgesia.

A systemic medication with larvicidal activity demonstrated to be effective in eliminating screwworm larvae from the affected species must be administered (e.g., ivermectin for livestock). Currently the use of all parasiticides for treatment of NWS infestation is off-label. If additional treatment guidance is needed, contact MBAH.

The following systemic applications have larvicidal activity and have shown to be effective in eliminating screwworm larvae from affected **dogs**:

- 1) Nitenpyram tablets (Capstar®, Novartis Animal Health), following the manufacturer's recommended protocol for flea control. A second treatment should be administered 6 hours after the first administration.
- 2) A single treatment of afoxolaner (NexGard®, Boehringer Ingelheim Animal Health), as per label recommendations, providing at least the minimum dosage of 2.5 mg/kg.
- 3) A single dose of sarolaner (Simparica® Zoetis) in a single dose orally, following the manufacturer's recommended dose for control of the brown dog tick in dogs.
- 4) Ivermectin has also been used in the treatment and prevention of screwworm in dogs.

Animal(s) must be re-inspected by the examining veterinarian 24 hours after administration of treatment and if live maggots are observed, additional treatments may be administered.

Prevention

Be alert for NWS symptoms in pets and livestock. Ensure that pets traveling internationally are inspected for NWS. There are numerous fly sprays that may be effective at preventing flies from infesting wounds associated with dehorning, castration, and other routine husbandry procedures in livestock.

More resources

- 1) National Veterinary Accreditation Webinar: New World Screwworm, a 21st Century Perspective. This webinar is freely accessible and all veterinarians and technicians, regardless of practice type, are encouraged to watch this recorded

webinar. <https://www.aphis.usda.gov/nvap/training-modules> (Scroll down to module #41)

2) USDA New World Screwworm resources: <https://www.aphis.usda.gov/livestock-poultry-disease/cattle/ticks/screwworm>

3) New World Screwworm: What You Need To Know:

<https://www.aphis.usda.gov/sites/default/files/bro-new-world-screwworm.pdf>

4) AVMA: New World Screwworm

<https://www.avma.org/resources-tools/one-health/veterinarians-and-public-health/new-world-screwworm>