New World Screwworm

What Every Camelid Owner Needs to Know

FALA 2026 Educational Seminar | Recognizing, Reporting & Responding

Sources: USDA APHIS | AAEP | EDCC | TAHC | FDACS | screwworm.gov

OVERVIEW

What is New World Screwworm?

Cochliomyia hominivorax — Latin for "man-eater" — is a parasitic fly whose larvae feed exclusively on the living tissue of warm-blooded animals.

Unlike common blowflies that feed on dead tissue, NWS larvae REQUIRE living flesh to survive — making every open wound a potential infestation site.

Alpacas are fully susceptible.
Any wound — navel, shearing cut, fight injury — is an entry point.

SCIENTIFIC NAME

Cochliomyia hominivorax

FAMILY

Calliphoridae (blowflies)

NATURAL RANGE

Tropical & subtropical Americas; Caribbean

HOST RANGE

ALL warm-blooded animals — livestock, wildlife, pets, humans

THE PARASITE

The Screwworm Fly

1

Appearance

Metallic blue-green body; approximately 3× the size of a common housefly. Distinctive orange eyes. Easily confused with other blowflies — lab ID is needed for confirmation.

2

Egg Laying

Female lays 15–300 eggs per batch at wound margins, body openings (nostrils, eyes, vulva, navel), or tick attachment sites. Multiple females may target the same wound.

3

Lifespan & Range

Females mate once and store sperm for life, laying up to 2,800 eggs total. Strong fliers — can detect a wound from over ¼ mile away.
Adult lifespan: 3–5 weeks.

Adult flies are most active in warm weather (above 55°F). Fly season in the southern US spans spring through fall.

Life Cycle of the Screwworm

1

EGGS

12–24 hrs

Laid in clusters at wound margins. Pale white, ~1 mm. Hatch rapidly in warm weather — faster in heat.

2

LARVAE

5–7 days

Three larval stages. Bore headfirst into living tissue with hook-like mouthparts. The "screwing" motion gives the parasite its name.

3

PUPAE

7–10 days

Mature larvae drop to soil to pupate. Brown, barrel-shaped cases. Complete development underground.

4

ADULT

3–5 weeks

Emerges from soil. Feeds on plant matter. Females seek wounds within days. Mates once — stores sperm for life.

NWS life cycle

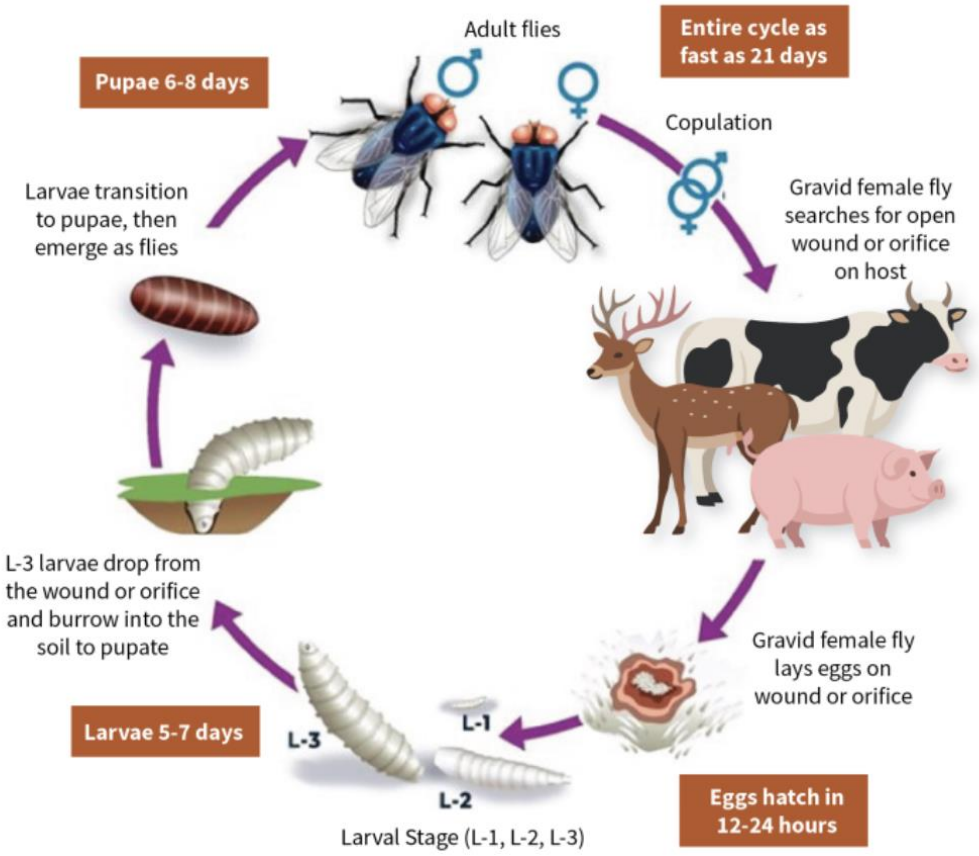

Image courtesy of USDA

THE THREAT

Why NWS is a Serious Threat

7–10

DAYS

to kill an untreated animal from first infestation

$1B+

PER YEAR

in economic losses prevented by the US eradication program

ANY

WOUND

is a potential entry point — navel, ear tag, shearing cut, tick bite, breeding injury

All warm-blooded animals are susceptible — including alpacas, llamas, cattle, sheep, dogs, deer, and humans.

HISTORY

History: NWS in the United States

Before eradication, New World Screwworm was endemic throughout the American South — Texas, Florida, and all Gulf states — causing devastating losses to livestock producers every year.

- Injuries from routine handling (ear tagging) became life-threatening
- Wildlife populations — deer, songbirds, fawns — were heavily impacted
- Human cases (myiasis) occurred occasionally in rural workers

PEAK LOSSES

$200M+

per year in US livestock (1950s)

STATES AFFECTED

15+

states across the South regularly infested

PRIMARY VICTIMS

Newborns

Navel infections most common cause of death

HISTORY

The Great Eradication (1958–2006)

In 1958, USDA launched one of the most successful pest eradication programs in history — eliminating NWS from the United States and eventually all of Central America.

1958 — Program launched; USDA begins mass-rearing sterile flies in Sebring, Florida

1966 — US mainland declared NWS-free; sterile fly releases continue at southern border

1976 — Florida Keys infestation eradicated; US-Mexico cooperation expands

1991 — Mexico declared NWS-free; sterile fly barrier shifts south

2000 — Central America declared NWS-free through collaboration with each nation

2006 — Panama barrier established; daily sterile fly releases maintain NWS-free zone

ERADICATION TOOL

The Sterile Insect Technique (SIT)

SIT is the cornerstone of NWS control. It exploits a critical biological vulnerability: female screwworm flies mate only ONCE and store sperm for life.

1 **Mass Rearing**
Millions of NWS flies are raised in sterile laboratory facilities on artificial diet.

2 **Sterilization**
Pupae are exposed to controlled gamma radiation — rendering males sterile but otherwise healthy and competitive.

Dyed sterile NWS pupae (lef); sterile NWS fly glowing under UV light (right)

ERADICATION TOOL

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3

Aerial Release

Sterile male flies are released by aircraft over target areas, vastly outnumbering wild males.

4

Population Collapse

Wild females that mate with sterile males produce no viable offspring causing the wild population to collapse.

Today: USDA produces 100 million+ sterile flies per week
Goal: 500 million per week by 2028

PREVENTION

Decades of Prevention: The Panama Barrier

After eradicating NWS from the US and Central America, USDA and its partners maintained a sterile fly "barrier zone" at the Panama-Colombia border — releasing sterile flies daily to prevent reinfestation from South America.

Daily Releases

Millions of sterile flies released every day along the Panama barrier to maintain population suppression

Detection Network

Trap networks across Central America and Mexico monitored continuously for any NWS reappearance

Import Controls

USDA inspects and treats livestock crossing the border to prevent movement of infested animals

Cost vs. Benefit

Program costs ~$10–15M/year; prevents over $1 billion annually in US livestock losses

Decades of Prevention: The Panama Barrier

Panama–United States Commission for the Eradication and Prevention of Screwworm Infestation in Livestock (COPEG)

OUTBREAK

Timeline: Return of NWS (2024–2026)

Oct 2024	NWS detected in livestock in Darién Province, Panama — first in decades
Nov 2024	USDA suspends live animal imports from Mexico; emergency protocols activated
Dec 2024	NWS confirmed in Chiapas and Oaxaca, Mexico; spread accelerating northward
Feb 2025	USDA establishes NWS Directorate within APHIS; screwworm.gov launched
June 2026	First confirmed US cases in southern Texas; TAHC activates emergency response
2025–2026	Spread to New Mexico and additional areas; states issue high-alert advisories

OUTBREAK

The 2024–2026 Outbreak

After decades of successful control, NWS has re-emerged as a real and present threat to US livestock — requiring an urgent, coordinated federal and state response.

Federal Response

USDA created a dedicated NWS Directorate within APHIS. Central hub: screwworm.gov. Up to $100 million NWS Grand Challenge for innovative control solutions.

Sterile Fly Production

Production of 100+ million sterile flies per week. Aerial releases ongoing in affected border regions.

Import Restrictions

USDA imposed emergency livestock import restrictions from Mexico and affected countries. Livestock must be inspected and treated before crossing.

State Responses

Texas (TAHC) and New Mexico livestock boards activated emergency protocols. Mandatory reporting requirements in place across affected states.

Current Status (2026)

USDA APHIS maintains a publicly accessible Current Status Dashboard tracking confirmed NWS cases nationwide. Check it regularly if you are in or near an affected state.

CONFIRMED IN

Texas & New Mexico

Cases confirmed in southern US as of 2026

WATCH STATES

All Border States

AZ, CA, FL on high alert; active monitoring ongoing

USDA PRODUCTION

500M+ flies/week

Sterile flies produced for ongoing aerial releases

TRACK CASES

USDA APHIS Current Status Dashboard

aphis.usda.gov /animals/animal-health/ livestock-and-poultry-disease /current-status

Updated as new cases are confirmed

New World Screwworm Confirmed Detections

As of Thursday, July 23, 2026, last reported animal detection July 21, 2026
Data updated daily at 6PM (ET)

Download Data

Select Time Period: All Time

Outbreak Situation All Time

Total Animal Cases

42

Domestic Cases
42
10 Active
32 Inactive

Wildlife & Feral Cases
0
0 Active
0 Inactive

Fly Trap Detections

0

Note: Only wild flies are reported. A detection means at least one wild fly was found in trap.

Cases by Month

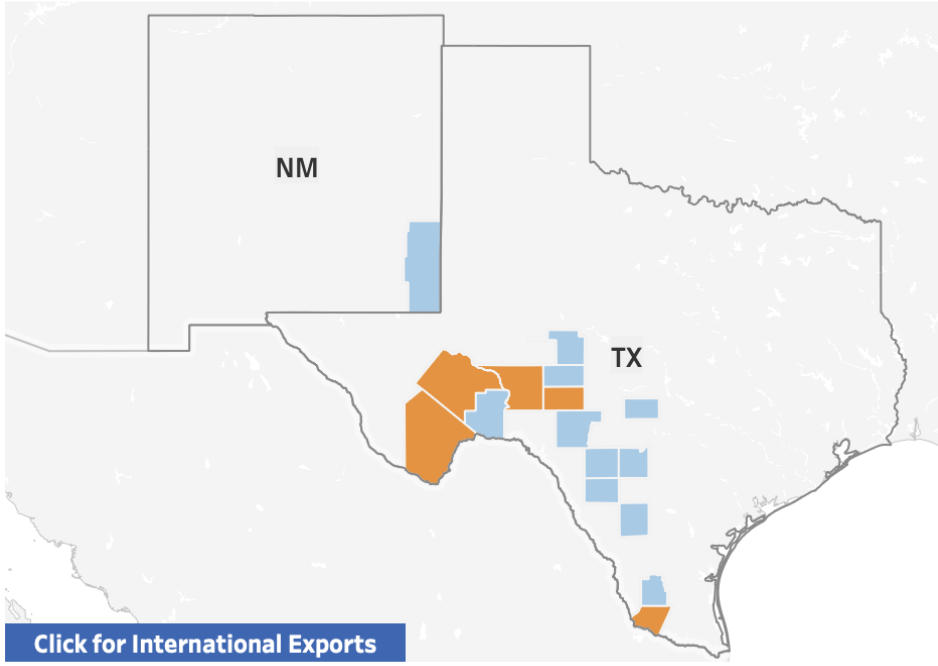
Bars reflect most recent 4 months

Active Cases
Inactive Cases
Fly Trap Detections

Map of Counties with Detections All Time

Selected Type: (All)

Active County (≥ 1 active animal case)
Inactive County (No current active animal cases)
Fly Trap Detection County (Wild NWS flies trapped only)



Geographic Risk Areas

NWS thrives in warm climates. Risk is currently highest along the southern US border, but any area receiving animals from affected regions is at potential risk.

HIGHEST RISK	**Texas, New Mexico**	Active confirmed cases; immediate risk to all livestock
HIGH ALERT	**Arizona, California, Florida**	Border proximity or livestock trade links; active monitoring
WATCH ZONE	**All other states**	Risk from animal movement; follow state animal health advisories

Important: NWS can arrive in any state through livestock transport from affected areas.

SUSCEPTIBILITY

Which Animals Are at Risk?

ALL warm-blooded animals are susceptible. NWS does not discriminate by species.

Alpacas & Llamas

All wounds at risk; NAVEL of newborns is critical

Cattle & Horses

Historically the most affected — large wound surface areas

Sheep & Goats

Shearing wounds and foot rot are common entry sites

Pigs & Poultry

Susceptible; fight wounds and beak trimming sites at risk

Dogs & Cats

Tick bites, fight wounds; pets allowed outdoors are at risk

Wildlife (Deer)

Antler velvet, fawn navels — wild populations severely impacted

Alpaca-specific high-risk events: parturition (birth), shearing, castration, ear tagging, breeding injuries, and any fight wounds.

INFESTATION

How Infestation Occurs

1. **Wound Detection:** Adult female detects blood or wound discharge from over ¼ mile. Attracted to any open wound, body orifice, or fresh tick attachment.

2. **Egg Deposition:** Female lands at wound margin and lays 100–300 eggs in minutes. Eggs adhere in mass at wound edge — visible as white clusters.

3. **Rapid Hatching:** Eggs hatch in just 12–24 hours in warm weather. More flies are attracted to the wound by larval secretions — compounding the infestation.

4. **Tissue Destruction:** Larvae burrow into living tissue, drilling in a screwing pattern. They enlarge the wound, releasing chemicals that attract even more gravid females.

5. **Rapid Progression:** Without treatment, a small wound can become a fatal cavity within days. High summer temperatures accelerate all stages dramatically.

WOUND RISK

Recognizing High-Risk Wounds

During fly season, every wound on your alpaca is a potential NWS infestation site. Know which wounds demand immediate attention:

CRITICAL

Navel / Umbilical Cord

Newborns are most vulnerable — treat navel within 24 hrs of birth

HIGH

Castration Sites

Open surgical wounds in warm weather are prime targets

HIGH

Fight / Bite Wounds

Common in alpacas; check daily during breeding or integration

MODERATE

Tick Attachment Sites

Small but open — flies can deposit eggs at tick-bite sites

HIGH

Shearing Cuts

Even small nicks require inspection and protection during shearing

HIGH

Ear Tag / Piercing

Any piercing wound attracts flies immediately

MODERATE

Breeding Injuries

Vulvar or penile trauma from mating; inspect after breeding

MODERATE

Foot Rot / Abscesses

Moist, odorous wounds are highly attractive to gravid females

Clinical Signs: Early Stage (24–72 Hours)

Early recognition is critical. Infestation can be treated successfully if caught in the first 24–72 hours. Know what to look for:

1. **Restlessness & agitation**
   Animal paws ground, stamps feet, is unable to settle; unusual behavior compared to herdmates

2. **Head shaking & rubbing**
   Particularly if wound is on the head, ears, or neck; repeated rubbing against fencing or feeders

3. **Self-grooming the wound**
   Excessive licking, biting, or rubbing at a specific wound site; attracted by larval secretions

4. **Separation from herd**
   Infested animals often isolate themselves; this is a critical behavioral warning sign

5. **Wound appears wet/moist**
   Wound has increased discharge; may have unusual or foul odor even in early stages

6. **Eggs visible at wound edge**
   Small white to cream clusters at wound margin (1–2 mm); may resemble dandruff or dry skin

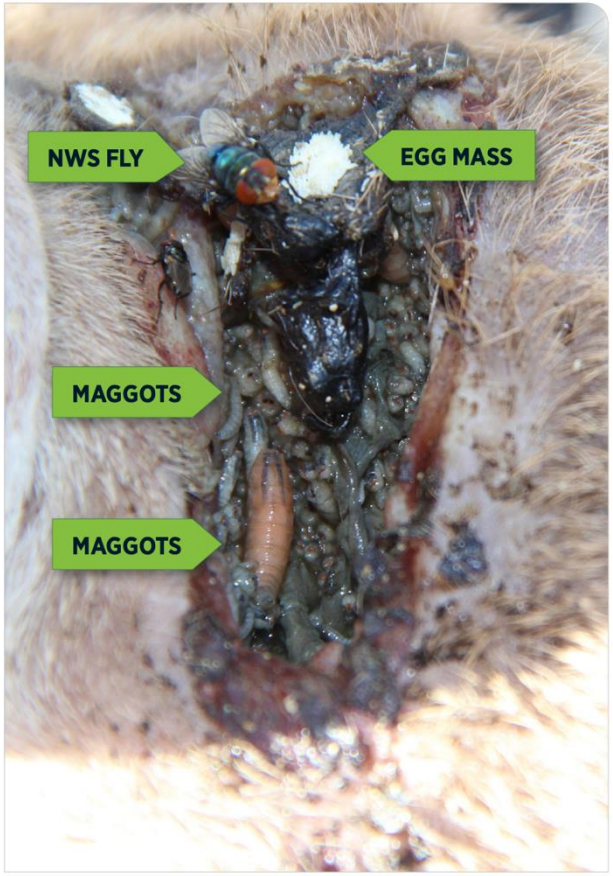


Photo courtesy of USDA.

New World Screwworm infestation in dogs neck/PC: USDA

Clinical Signs: Advanced Infestation

If not caught early, NWS infestation advances rapidly. Advanced cases carry a grave prognosis and require emergency veterinary treatment:

Local Signs:

- Expanding wound cavity with visible maggots (cream/white, 1–2 cm)
- Powerful, distinctive foul odor — detectable from several feet away
- Profuse, bloody or serosanguineous wound discharge
- Tissue destruction spreading rapidly beneath wound surface

Systemic Signs:

- Animal in obvious pain; flinching on approach or wound palpation
- Fever, weakness, loss of appetite, depression, reluctance to move
- Multiple egg masses present — secondary fly attraction is common
- Death can occur within 7–10 days of initial infestation if untreated

IDENTIFICATION

Identifying NWS Maggots

Not all wound maggots are NWS. Accurate identification requires laboratory analysis — but knowing what to look for helps guide your response:

Color & Size

Cream to pinkish-white. 1.5–1.7 cm when fully mature (3rd instar). Smaller in earlier larval stages.

Distinctive Shape

Tapered at the head end; blunt at the tail. Spine-like rings around the body give the characteristic "screw" appearance.

Movement

Burrow headfirst into tissue. Characteristic spiral, drilling motion — unlike surface-feeding blowfly maggots.

Wound Context

Found burrowed deep in living tissue, not on dead/necrotic tissue. Multiple life stages often present in same wound.

Identifying NWS Maggots

- Accurate identification requires laboratory analysis!
- Collect larvae and preserve in 70% isopropyl alcohol for lab ID. Do NOT discard any larvae removed from a wound.

DIAGNOSIS

Diagnosis: What to Expect

1	**Clinical Suspicion**	Wound with maggots, foul odor, or fly activity in a warm-blooded animal in or from an at-risk region.
2	**Collect Specimens**	Remove larvae from wound. Place in 70% isopropyl alcohol or freeze. Label container with date, animal ID, wound location.
3	**Contact Authorities**	Notify your veterinarian AND state animal health official BEFORE treatment if possible — they may need to collect samples. NWS is a reportable disease.
4	**Laboratory ID**	USDA APHIS National Veterinary Services Laboratory provides official identification. PCR testing available for definitive confirmation.
5	**Begin Treatment**	Do not wait for lab results to begin wound management. Work with your veterinarian on immediate supportive care.

CRITICAL:

Report Immediately!

NWS is a FEDERALLY REPORTABLE DISEASE. Early reporting allows officials to collect specimens and coordinate response before treatment disrupts evidence.

USDA APHIS

1-866-536-7593

Federal Veterinary Services (24/7)

FL Department of Agriculture and Consumer Services (FDACS)

(850) 410-0900

Emergency after hours line:
1-800-342-5869

Your State Vet

Find at usaha.org

Contact your state animal health official

Report BEFORE treating if possible — or treat and report simultaneously. Do not wait.

TREATMENT

Treatment: Wound Management

ALL treatment should be done under veterinary direction. For alpacas, most products are extra-label use — a valid veterinarian-client-patient relationship (VCPR) is required.

1. Safely restrain the animal to allow thorough wound examination
2. Manually remove ALL visible maggots — use tweezers or forceps; collect in alcohol for specimen ID
3. Irrigate wound thoroughly with saline or veterinary antiseptic solution to clean debris
4. Apply an approved topical insecticide (F10 Spray, F10 Ointment, or Negasunt Powder)
5. Administer systemic insecticide per veterinary direction (doramectin injectable or ivermectin extra-label)
6. Bandage wound if location permits; keep animal in clean, dry, fly-protected environment
7. Re-examine wound daily; re-treat if new larvae appear. Antibiotics as directed for secondary infection
8. Follow up with your veterinarian and report outcome to state animal health officials

TREATMENT

Approved Treatment Products

The following products have received FDA Emergency Use Authorization (EUA) or are used extra-label under veterinary supervision. Alpaca use is extra-label for most products — always consult your veterinarian.

SYSTEMIC

Dectomax Injectable (Doramectin)

EUA issued for horses ≥1 yr. Extra-label use in alpacas with VCPR. Provides systemic insecticide action against larvae. Withholding period applies.

SYSTEMIC

Ivermectin

Extra-label use under veterinary supervision. Commonly used in camelids. Provides systemic larval suppression. Dose by weight — consult your vet.

TOPICAL

F10 Antiseptic Wound Spray w/ Insecticide

FDA EUA approved topical spray. Applied directly to wound and surrounding area. Provides antiseptic action plus insecticide barrier against re-infestation.

TOPICAL

F10 Barrier Ointment & Negasunt Powder

Both received FDA EUA. F10 Ointment protects wound margins. Negasunt Powder (coumaphos) applied to wound to kill larvae on contact. Used under veterinary direction.

Prevention & Fly Control

Prevention is far easier than treatment. Establish a NWS prevention protocol with your veterinarian NOW — before an outbreak occurs in your area.

Wound Prevention

- Minimize handling injuries — use proper restraint technique
- Treat ALL wounds immediately with antiseptic; monitor daily
- Treat navels of ALL newborns within 24 hours of birth
- Schedule shearing, castration, and ear tagging outside peak fly season where possible
- Separate recently wounded animals into a fly-protected area

Fly Control

- Permethrin pour-on or spray: EPA-registered for fly control in livestock
- Coumaphos (Co-Ral): EPA-registered; use per label directions for species
- Insecticide-impregnated ear tags: reduces fly burden on individual animals
- Maintain clean facilities: remove manure and organic waste to reduce fly breeding
- Fly traps and bait stations: reduce adult fly population around premises

FDA-CONDITIONALLY APPROVED & AUTHORIZED ANIMAL DRUG OPTIONS

The **FDA** has expanded access to medications to prevent and treat **New World Screwworm (NWS)** in animals. While there are currently no products with FDA approval for NWS, below is a summary of products conditionally approved and authorized by the FDA as of July 15, 2026.

CONDITIONALLY APPROVED BY FDA

Dectomax-CA1(doramectin injection): Prevention and treatment of NWS in cattle; prevention of reinfestation for 21 days.

Exzolt Cattle-CA1 (fluralaner topical solution): Prevention and treatment of NWS in cattle.

Credelio Quattro-CA1 (lotilaner, moxidectin, praziquantel, pyrantel): Treatment of NWS in dogs.

EMERGENCY USE AUTHORIZATIONS (EUAS) BY FDA

NexGard (afoxolaner) chewable tablets: Treatment of NWS in dogs and puppies.
NexGard COMBO(esafoxolaner, eprinomectin, and praziquantel topical solution): Treatment of NWS in cats and kittens.

Credelio (lotilaner) chewable tablets: Treatment of NWS in dogs and puppies.
Credelio CAT (lotilaner) chewable tablets: Treatment of NWS in cats and kittens.

Dectomax/Dectomax-CA1 (doramectin injection): Prevention and treatment of NWS in dairy cattle. Prevention of NWS in horses, swine, sheep, and deer

Ivomec (ivermectin) injectable solution: Prevention of NWS in cattle.

Negasunt Powder (coumaphos, propoxur, and sulfanilamide topical powder): Prevention and treatment of NWS in cattle, swine, goats, sheep, horses, donkeys, domestic hybrid equids, and captive wild, exotic, and zoo mammals.

F10 Antiseptic Wound Spray and Barrier Ointment with Insecticide (benzalkonium chloride, polyhexanide and cypermethrin topical ointment): Prevention and treatment of NWS in cattle, horses, minor species of hoof stock, raptors and other wild birds, pet birds, and captive wild, exotic, and zoo mammals.

Nitenpyram Tablets (nitenpyram): Treatment of NWS in dogs, puppies, cats, and kittens

Ivermectin Liquid for Horses (ivermectin oral solution): Prevention of NWS in horses.

Resources & Next Steps

Know the signs. Have a plan. Report immediately.

USDA NWS Central Hub

screwworm.gov

Current news, case counts, producer resources

USDA Case Dashboard

aphis.usda.gov / current-status

Live confirmed-case tracking by state

AAEP NWS Guidelines

aaep.org/resource/aaep-infectious-disease-guidelines-new-world-screwworm

Clinical guidelines and treatment protocols

EDCC NWS Page

equinediseasecc.org/new-world-screwworm

Equine & large animal disease communication

US Food & Drug Administration

https://www.fda.gov/animal-veterinary/safety-health/new-world-screwworm-information-veterinarians

FDACS (Florida)

fdacs.gov / New-World-Screwworm

Florida Department of Agriculture NWS page

Work with your veterinarian now — before NWS arrives — to create a written response plan for your farm.

Thank You!

Questions & Discussion

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