New World Screwworm – Past and Present

Dr. Cassandra Olds

KANSAS STATE UNIVERSITY

Department of Entomology

What is the New World screwworm fly

Parasitic fly with larvae (maggots) that burrow into the flesh of living warm-blooded animals

USDA - APHIS

USDA - APHIS

1. Female flies mate once while males will mate multiple times
2. Once mated female flies will lay hundreds of eggs
3. Eggs laid on open wounds or mucous membranes

What is the New World screwworm fly

Maggots feed for 5-7 days causing significant pain and harm to the animal host

USDA - APHIS

USDA - APHIS

1. May have a straw-colored fluid oozing out of the wound
2. Often a distinctive putrid smell
3. Report any maggot infested wounds to KS State veterinary authorities

What is the New World screwworm fly

Fully developed maggots drop to the soil and burrow below the surface, developing into pupa over 7-10 days (may be longer if cooler weather present)

USDA - APHIS

NWS is not cold tolerant:

1. Adults do not survive air temperatures below 20 degrees Fahrenheit
2. Cannot pupate if mean average daily temperature is below 46ºF

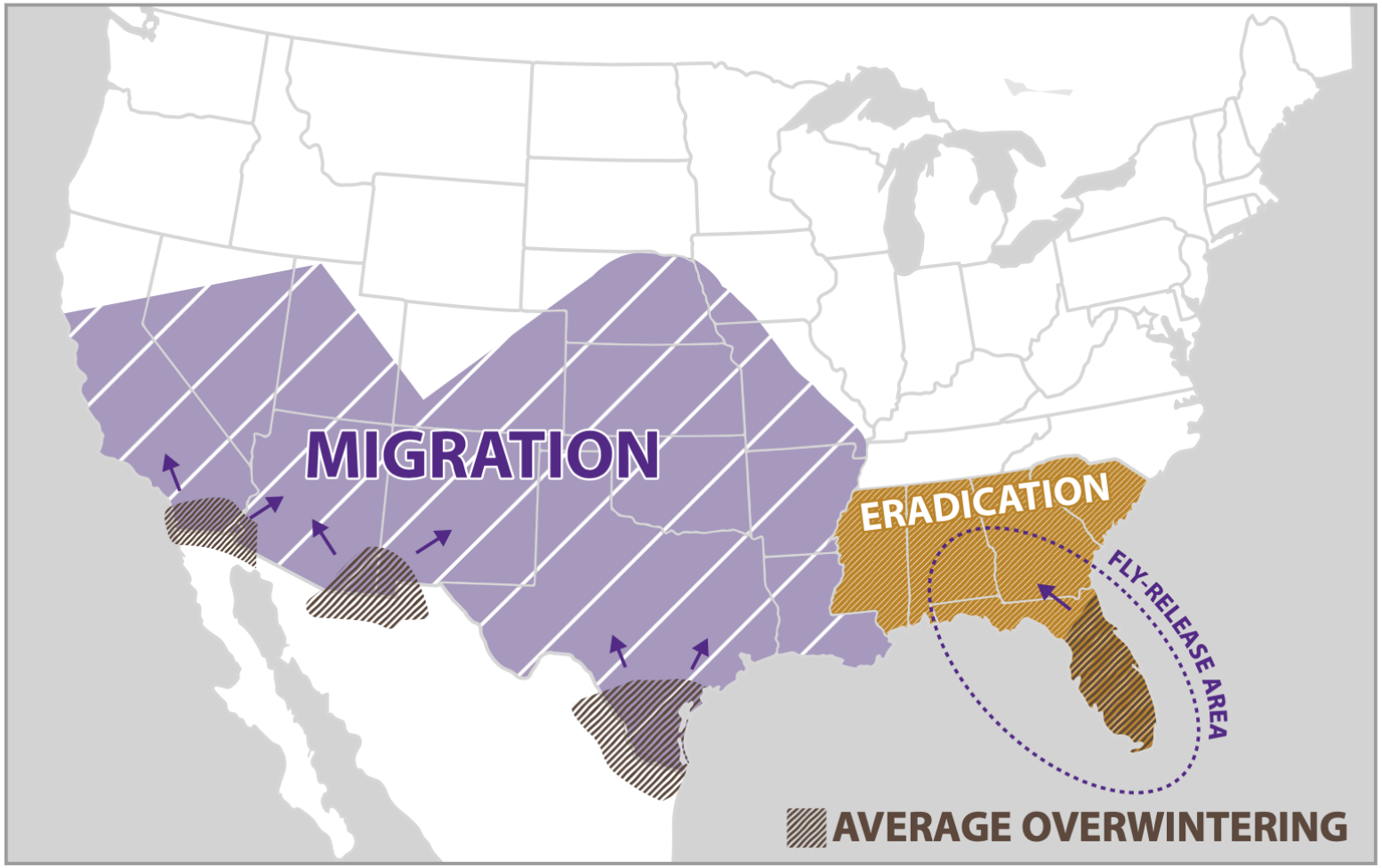
What is insect overwintering

- Tick and insect activity is controlled in large part by the external temperature
  - Peak activity occurs over spring, summer and early fall
  - Reduced activity occurs over winter

What is insect overwintering

- When outside conditions are cold, they can enter a dormant state called overwintering
- Some insects can survive colder overwintering temperatures than others

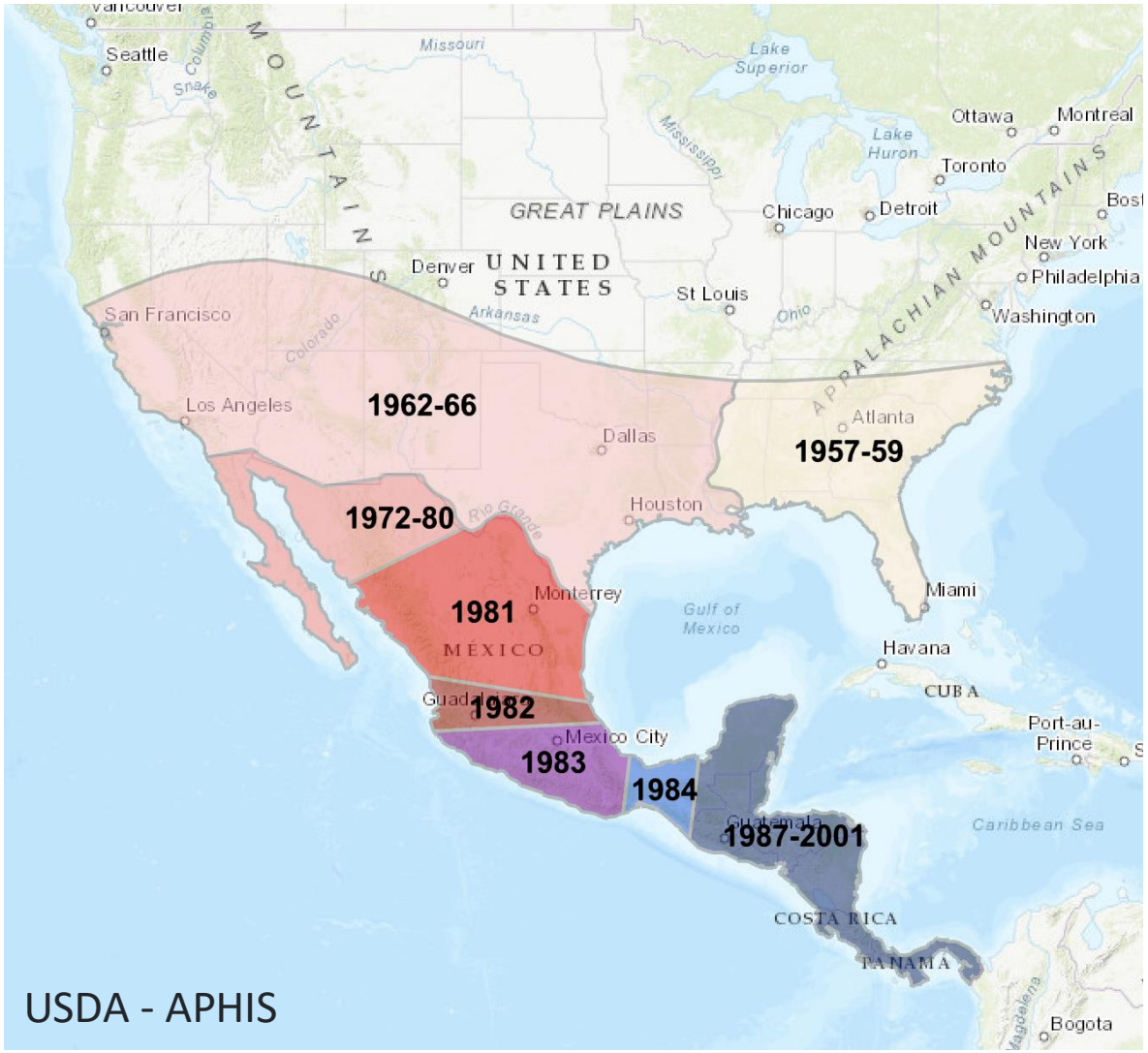
New World screwworm overwintering



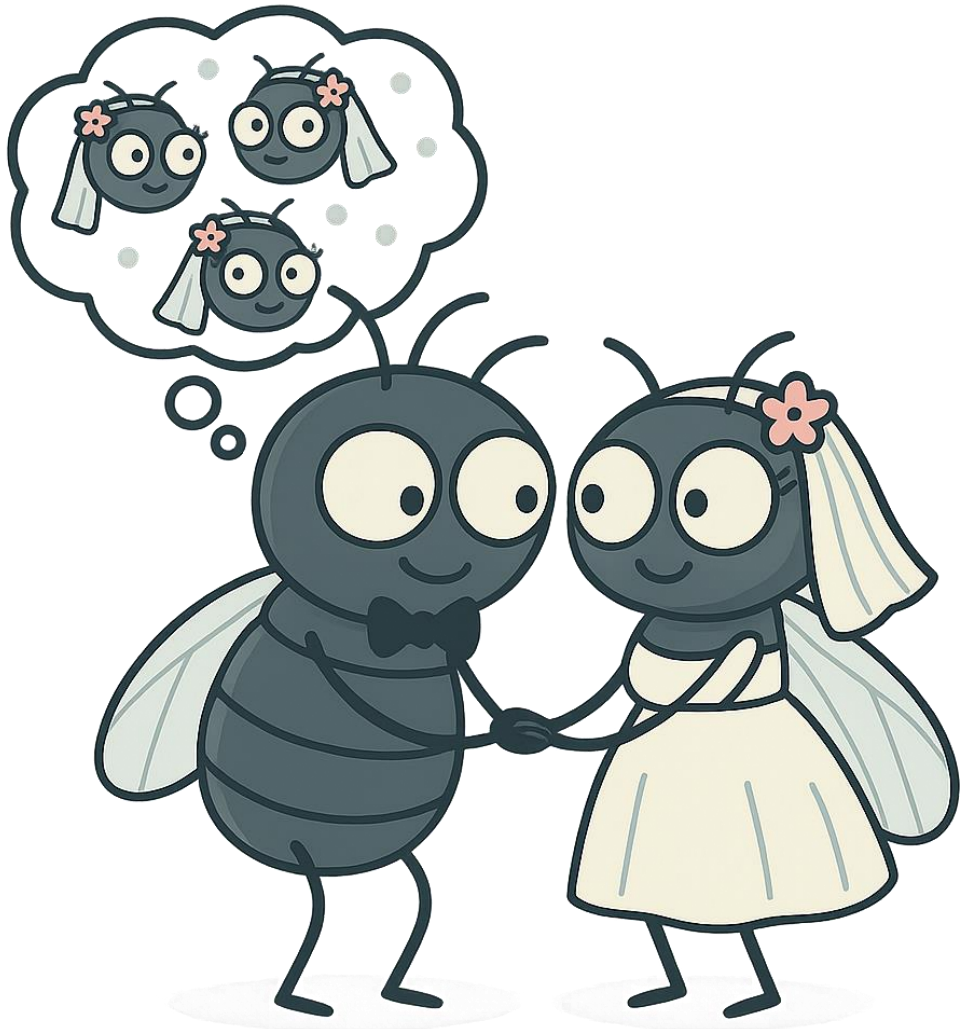
- Overwintering could occur in warmer areas in the southern U.S.
- If this occurs, annual expansion of the population northward would occur
- Kansas has and will not support NWS populations over winter

New World screwworm eradication

- Officially eradicated from the U. S. in 1966 although sporadic outbreaks occurred though the 1970's
- Eradication achieved through outbreak monitoring, release of sterile laboratory reared insects and restricting movement of cattle from outbreak areas and development of insecticides

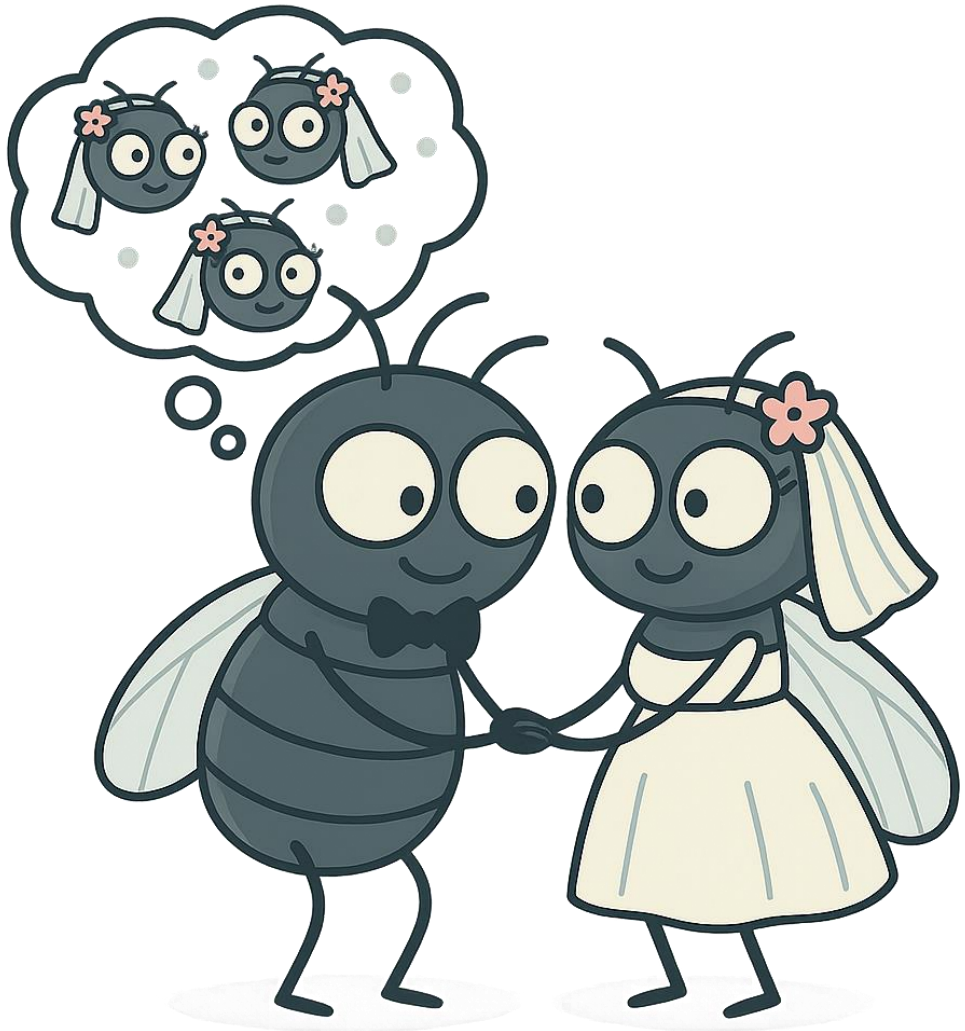


What is sterile insect technique



What is sterile insect technique

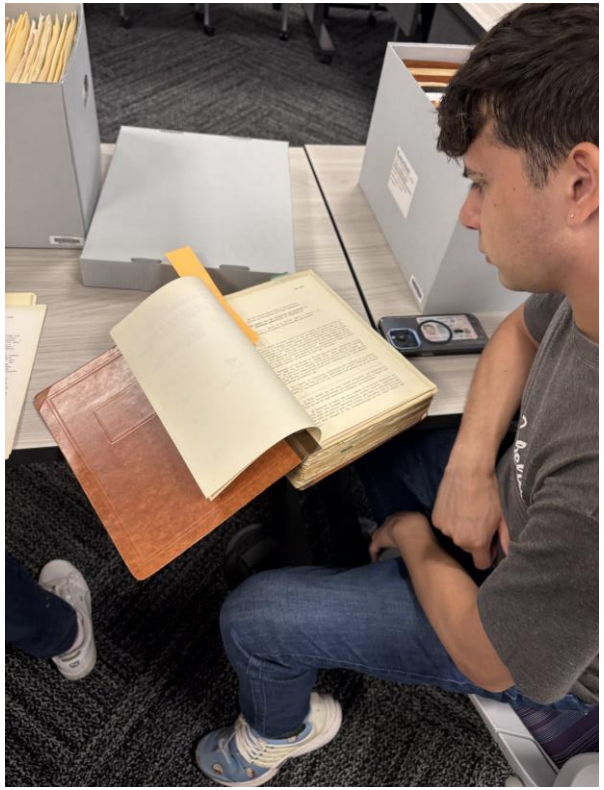
- Rear NWS flies in the lab, sterilize them and then release them into the wild
- Sterilized males released in high enough numbers to out compete the wild males
- Females mate with the sterile males and lay sterile eggs

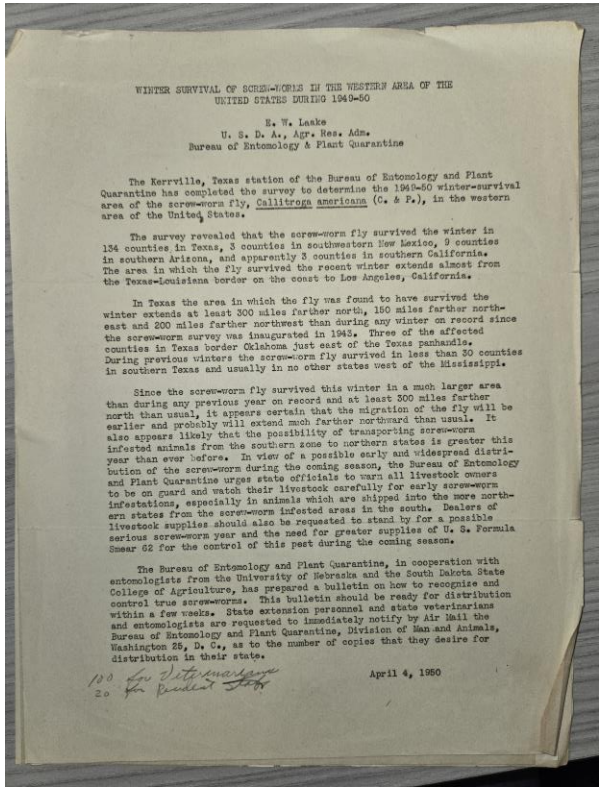


Sterile Insect Technique today

USDA - APHIS

USDA - APHIS





WINTER SURVIVAL OF SCREW-WORMS IN THE WESTERN AREA OF THE UNITED STATES DURING 1949-50

E. W. Laake
U. S. D. A., Agr. Res. Adm.
Bureau of Entomology & Plant Quarantine

The Kerrville, Texas station of the Bureau of Entomology and Plant Quarantine has completed the survey to determine the 1949-50 winter-survival area of the screw-worm fly, Callitroga americana (C. & P.), in the western area of the United States.

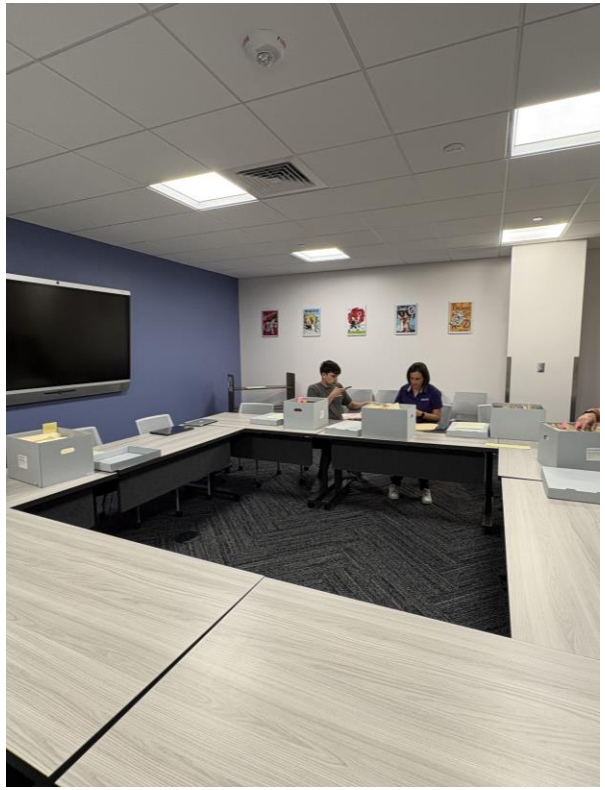
The survey revealed that the screw-worm fly survived the winter in 134 counties in Texas, 3 counties in southwestern New Mexico, 9 counties in southern Arizona, and apparently 3 counties in southern California. The area in which the fly survived the recent winter extends almost from the Texas-Louisiana border on the coast to Los Angeles, California.

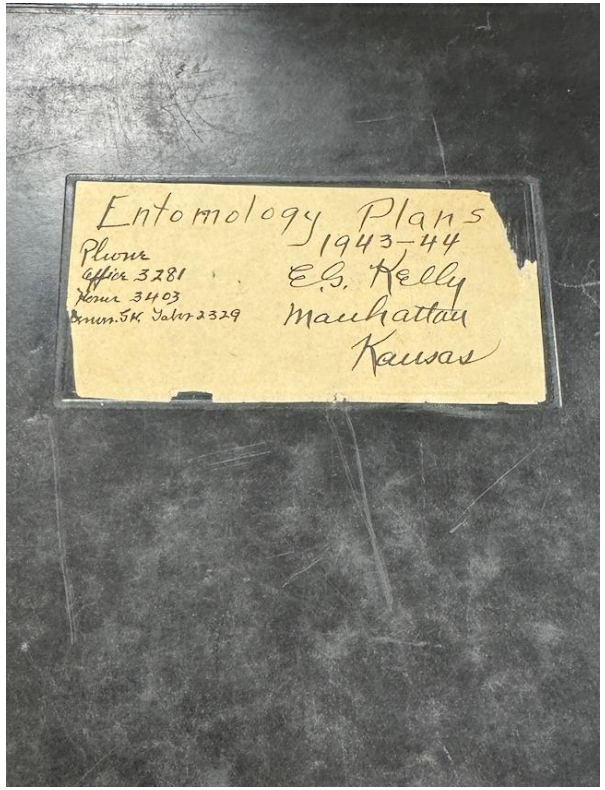
In Texas the area in which the fly was found to have survived the winter extends at least 300 miles farther north, 150 miles farther northeast and 200 miles farther northwest than during any winter on record since the screw-worm survey was inaugurated in 1943. Three of the affected counties in Texas border Oklahoma just east of the Texas panhandle. During previous winters the screw-worm fly survived in less than 30 counties in southern Texas and usually in no other states west of the Mississippi.

Since the screw-worm fly survived this winter in a much larger area than during any previous year on record and at least 300 miles farther north than usual, it appears certain that the migration of the fly will be earlier and probably will extend much farther northward than usual. It also appears likely that the possibility of transporting screw-worm infested animals from the southern zone to northern states is greater this year than ever before. In view of a possible early and widespread distribution of the screw-worm during the coming season, the Bureau of Entomology and Plant Quarantine urges state officials to warn all livestock owners to be on guard and watch their livestock carefully for early screw-worm infestations, especially in animals which are shipped into the more northern states from the screw-worm infested areas in the south. Dealers of livestock supplies should also be requested to stand by for a possible serious screw-worm year and the need for greater supplies of U. S. Formula Smear 62 for the control of this pest during the coming season.

The Bureau of Entomology and Plant Quarantine, in cooperation with entomologists from the University of Nebraska and the South Dakota State College of Agriculture, has prepared a bulletin on how to recognize and control true screw-worms. This bulletin should be ready for distribution within a few weeks. State extension personnel and state veterinarians and entomologists are requested to immediately notify by Air Mail the Bureau of Entomology and Plant Quarantine, Division of Man and Animals, Washington 25, D. C., as to the number of copies that they desire for distribution in their state.

April 4, 1950





Historic NWS outbreaks in Kansas

Historic NWS outbreaks in Kansas

Presence of New World screwworm varied from year to year

Two scenarios:

1. Local expansion of the fly population from southern overwintering populations

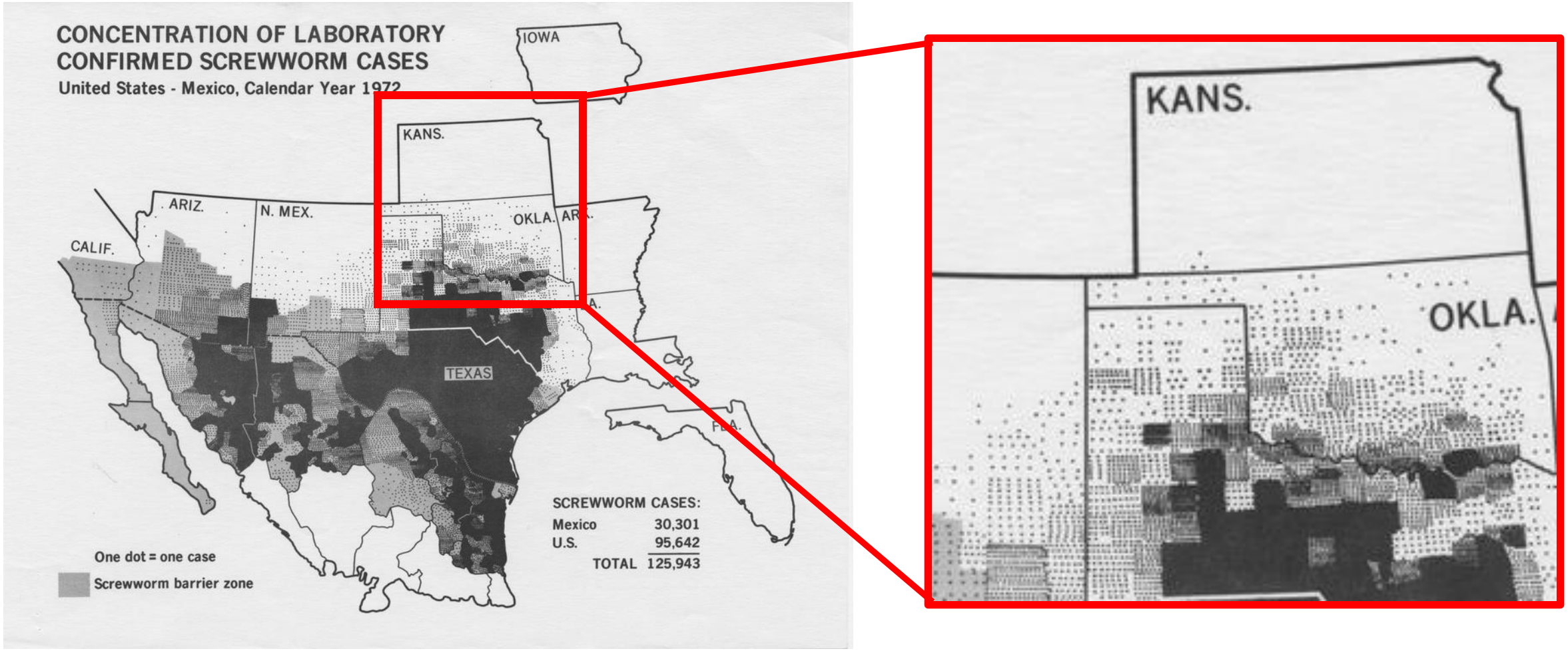
2. Importation of infested animals followed by local expansion

Scenario 1: population expansion from overwintering areas

Kansas:

In the southwestern portion, which was not scouted earlier in the season when the first survey was made, light infestations were found in Seward, Finney, Scott, Ness, and Ford Counties. Reports from livestock owners, county agents, and others indicated that the peak of infestation, involving at least 1 to 1-1/2 percent of the total animal population in this area, occurred during September. The decrease in screw-worm infestations at the time of the survey was undoubtedly due to the low temperatures which prevailed early in the season.

Scenario 1: population expansion from overwintering areas



Scenario 2: Movement of infested animals followed by local expansion in KS

Kansas and Missouri were surveyed during midsummer. Scattered light to moderate infestations were found in 24 of 37 counties scouted in Kansas. Nearly all the infested counties were located in the eastern half of the State, in the Flint Hills grazing area into which several hundred thousand southern feeder cattle are imported early each season for grass fattening during the spring and summer. The screw-worm infestations in some of the Kansas counties were still confined to definitely isolated areas within the affected counties. This is a common occurrence in this and other North Central States each year and is the result of early-season importation of screw-worm-infested animals. In Missouri 18 of 23 key counties well scattered over the State were found to be lightly to moderately infested. Here, too, the isolated infestations in various parts of the State resulted from importing screw-worm-infested animals. Reports received from veterinarians subsequent to our survey indicated that screw-worms invaded most of the counties in the western half of Kansas late in the season and caused considerable damage to livestock and expense for caring for the infested animals.

Risks then vs. now?

- Currently our highest risk is through importation of infested animals
  - USDA has a robust plan to reduce this risk through surveillance, sterile fly release and movement restrictions
- If populations establish and overwinter in southern states, over time we may have annual migration northwards if climate conditions are suitable
- We move more cattle than we did prior to eradication
- Wildlife landscape is different

Current status of U.S outbreak

New World Screwworm Confirmed Detections

Download Data

As of 15 June 2026, last reported animal detection June 12, 2026
Data updated daily by 6PM (ET)

Outbreak Situation Last 30 Days

Total Animal Cases
12

Domestic Cases
12
11 Active
1 Inactive

Wildlife & Feral Cases
0
0 Active
0 Inactive

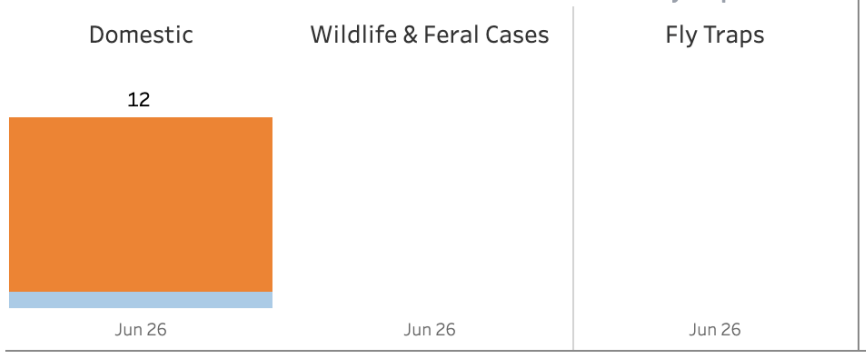
Fly Trap Detections
0

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 Last 30 Days

Time Period: Last 30 Days
Selected Type: (All)
County Status: Active Inactive Fly Trap Detection

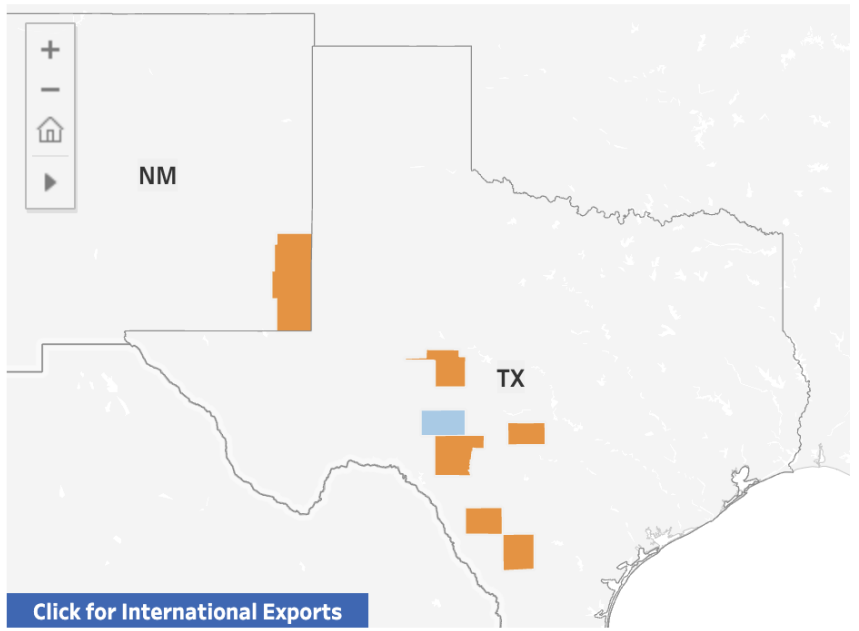


Table of Cases

State: (All)
Animal Type: Domestic
Animal Species: (All)
Status: (All)

The first reported case of New World Screwworm in the United States occurred June 3, 2026. Since that date, the United States has recorded 12 case(s) in 2 states, 12 in domestic animals and 0 in wildlife.

Confirmed Date	State	County	Case Type	Animal Type	Species	Status
12-Jun-2026	Texas	Sutton	Domestic	Domestic	Sheep	Inactive
11-Jun-2026	Texas	Edwards	Domestic	Domestic	Cattle	Active
					Goats	Active
		Tom Green	Domestic	Domestic	Cattle	Active
		Zavala	Domestic	Domestic	Cattle	Active
09-Jun-2026	Texas	Edwards	Domestic	Domestic	Cattle	Active
08-Jun-2026	Texas	Gillespie	Domestic	Domestic	Goats	Active

https://www.aphis.usda.gov/animals/animal-health/livestock-and-poultry-disease/current-status/us-confirmed-cases-new-world

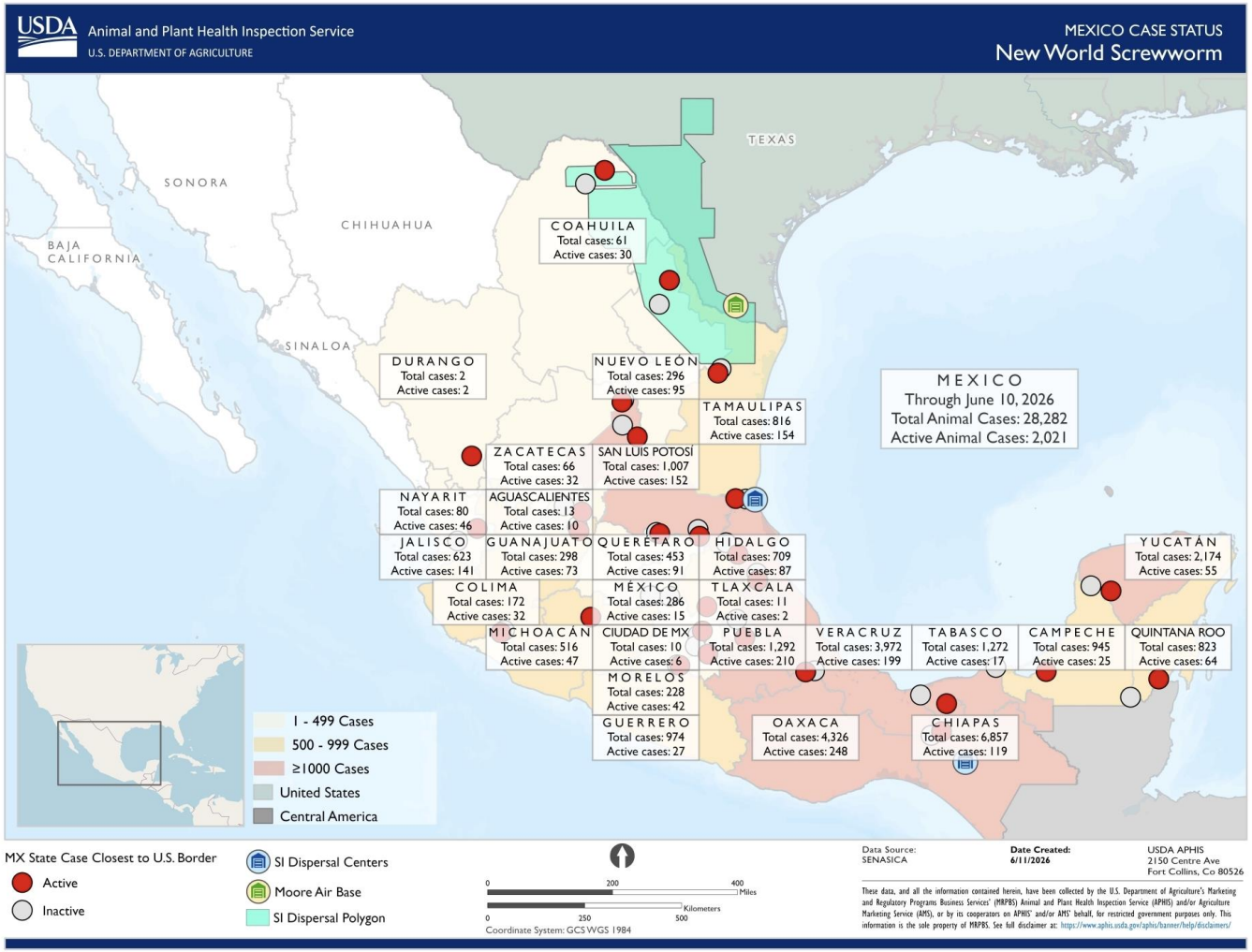
If you see something… Say something

This is a foreign animal disease and needs to be reported to federal authorities

Surveillance and reporting is critical even though movement restrictions may be the result

Call your State Veterinarian

Remember fly breeding potential



Feel free to reach out any time!

Ph: (785) 706 8599

colds@ksu.edu

Cassandra Olds

123 W. Waters Hall

1603 Old Claflin Pl.

Manhattan, KS 66504