VIRGINIA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES

New World Screwworm (NWS)

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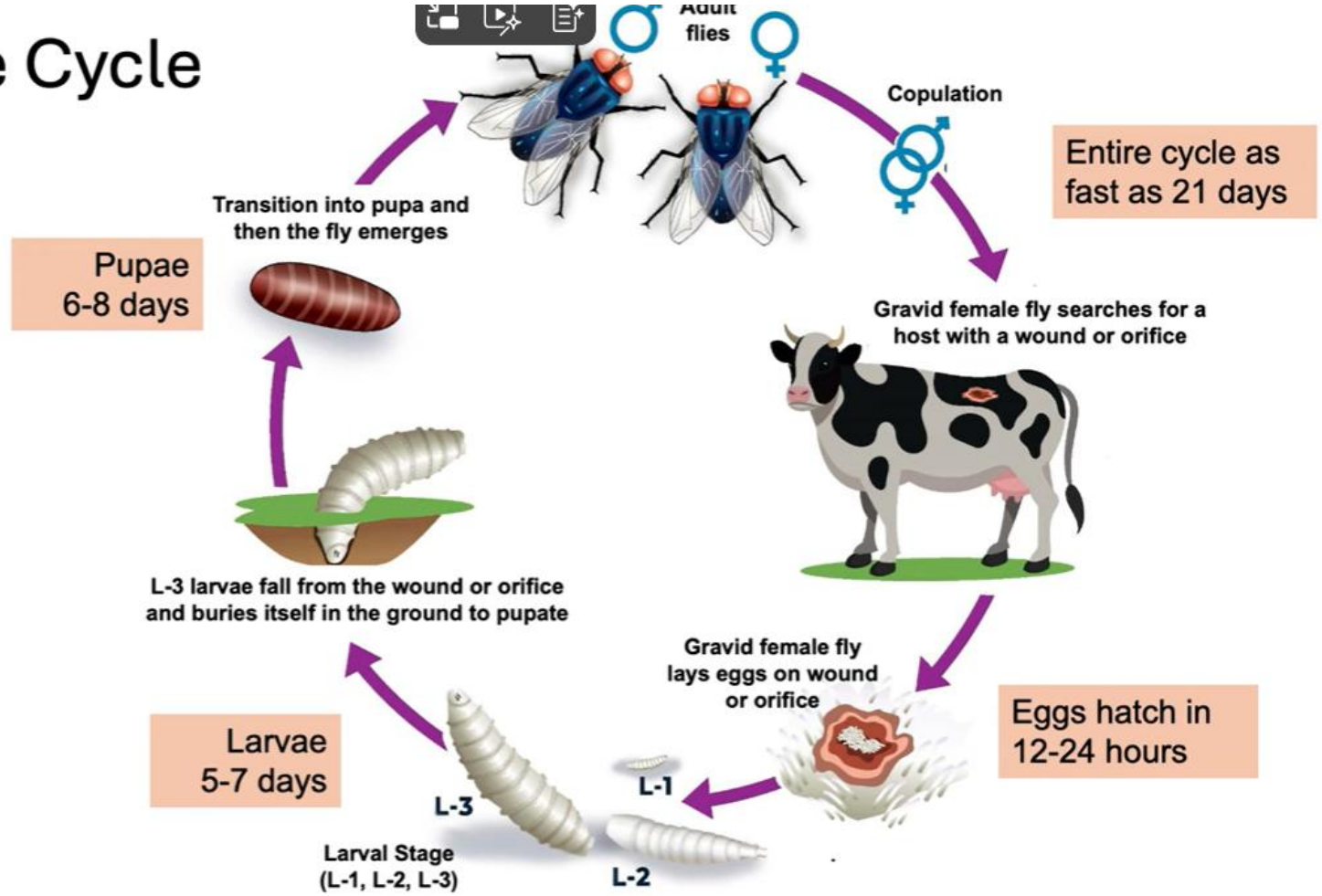
Biology

- *Cochliomyia hominivorax* fly
- Myiasis: infestation and feeding by a larvae (maggot)
- These larvae only feed on LIVING tissue
- Current outbreak in central America and Mexico
  - Eradicated from US in 1966 but current detections in TX and NM

NWS Life Cycle



NWS has existed "forever" in Carribean, Central/South America....with out leading to catastrophic die-offs

NWS does not survive in sustained temperatures of less than 46 degrees Fahrenheit

Female laying eggs

Can attract other fly species and secondary bacteria

Not zoonotic, but humans are animals too! And susceptible

The real problem...

The name screwworm refers to the maggots' feeding behavior as they burrow (screw) into the wound, feeding as they go like a screw being driven into wood. Maggots cause extensive damage by tearing at the hosts’ tissue with sharp mouth hooks. The wound can become larger and deepen as more maggots hatch and feed on living tissue. As a result, NWS can cause serious, often deadly damage to the animal.

Morbidity and Mortality

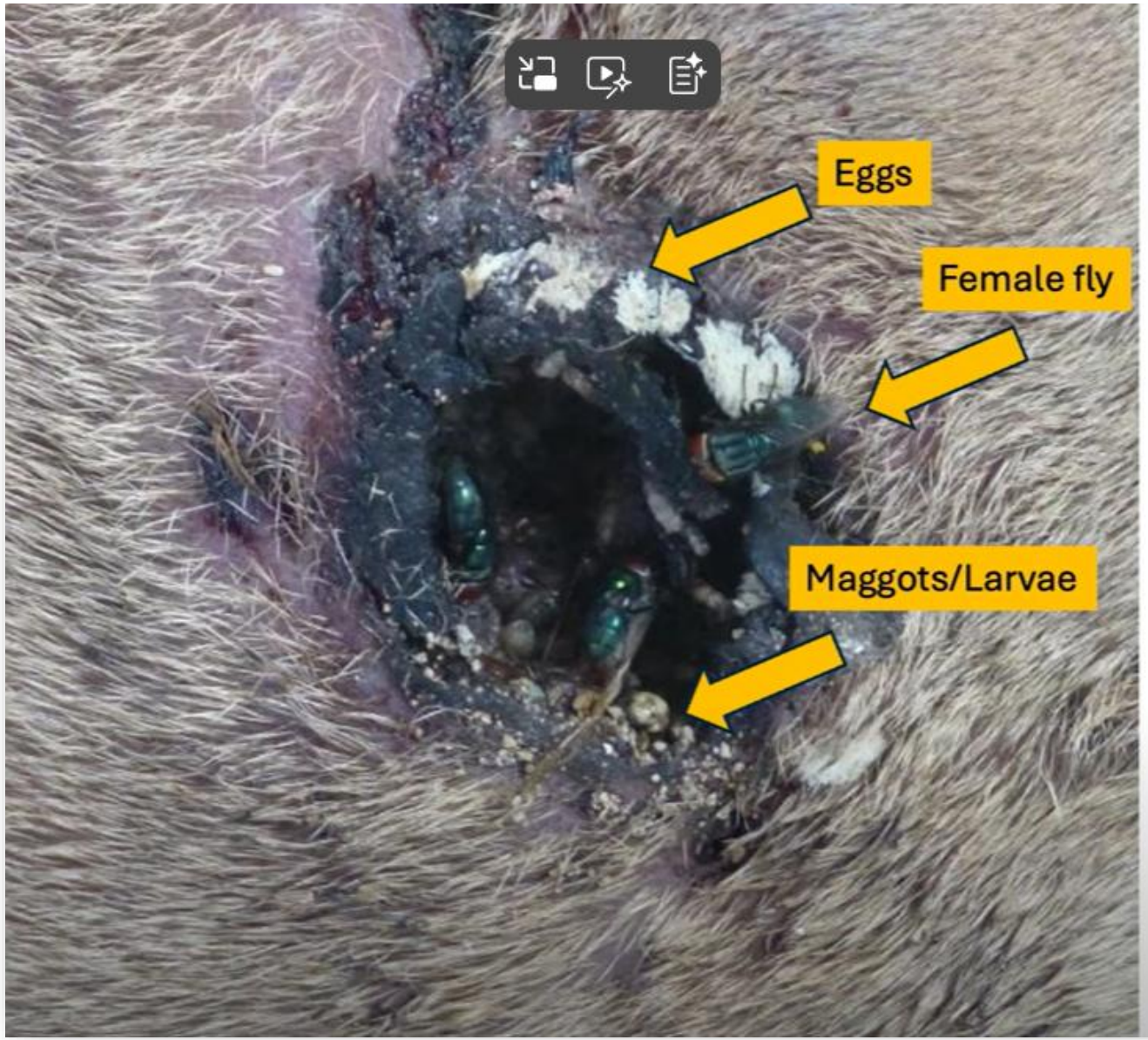
Morbidity and Mortality

Morbidity

- Varies with conditions (age, organ affected)
- Animals can become systemically ill from secondary bacterial infections
- Treatment with parasiticides can be successful when detected early

Mortality

- Left untreated, usually fatal in 7-14 days
- Near 100% of newborns in favorable environment (infested umbilicus)



Flies laying eggs, maggots feeding, destroying tissue, and attracting more flies

Affects wildlife

Can affect pets

Why do we care??

- In 2023, NWS detections in Panama exploded from an average of 25 cases per year to more than 6,500 cases in 1 year. Since then, screwworm has been detected in Costa Rica, Nicaragua, Honduras, Guatemala, Belize, El Salvador, and Mexico, north of the biological barrier that's successfully contained this pest to South America for decades.
- In 2026, NWS detected in Texas. As of 06/23/2026, 15 cases in livestock in Texas and 1 case in a dog in NM.

Historically…

Now (7/14/26)...

New World Screwworm Confirmed Detections

Download Data

As of Monday, July 13, 2026, last reported animal detection July 10, 2026
Data updated daily at 6PM (ET)

Select Time Period: All Time

Outbreak Situation All Time

Total Animal Cases
35

Domestic Cases
35
19 Active
16 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

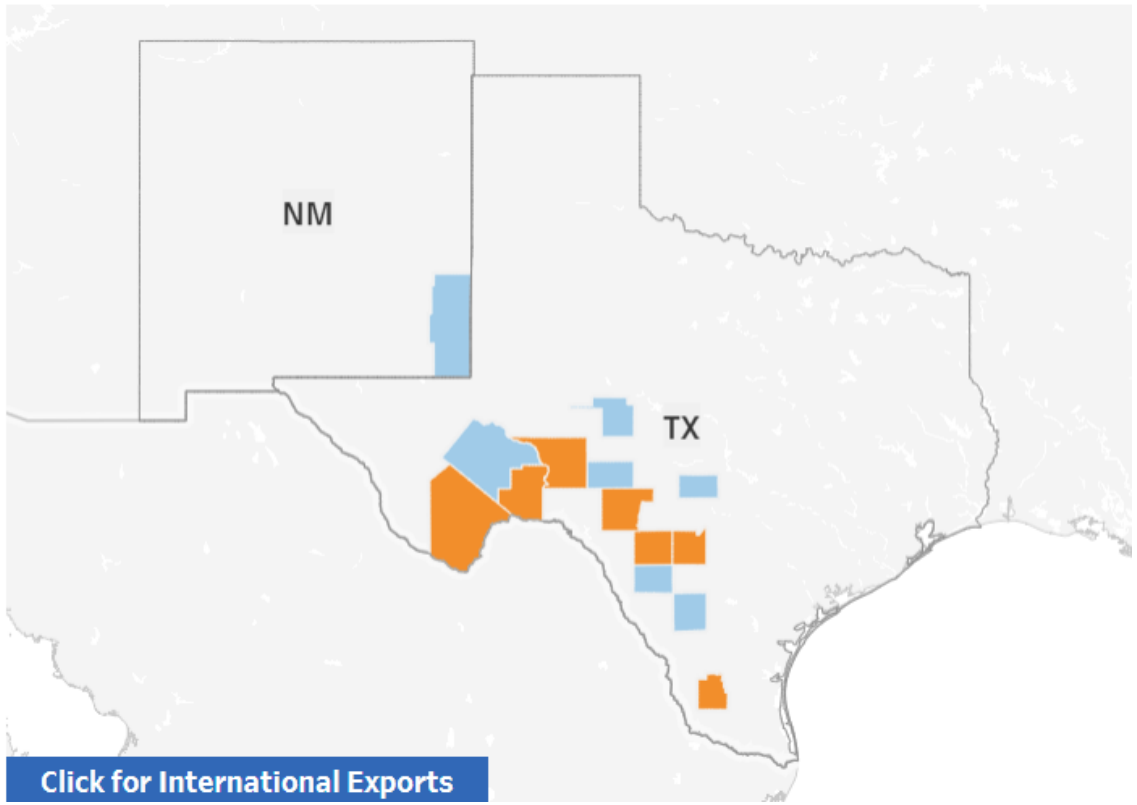
Bars reflect most recent 4 months

Active Cases
Inactive Cases
Fly Trap Detections

Map of Counties with Detections All Time

Selected Type: (All)

County Status
Active Inactive Fly Trap Detection



USDA Plan to Address New World Screwworm

18 June 2025

The Five-Pronged Plan announced on June 18, 2025

- Stop the Pest from Spreading in Mexico
- Protect the U.S. Border at all Costs
- Maximize Our Readiness
- Take the Fight to the Screwworm
- Innovate Our Way to Continued Success

4 listening sessions held between June 27th and July 11th to gather feedback on NWS technologies and tools

USDA Secretary Rollins with USDA

So what do we do?

Interventions for Eradication

Sterile Insect Technique (SIT)

- **Expand NWS Production and Dispersal Capacity**
- Challenge concept that SIT is the only solution

Robust Regulatory Controls

- Movement of people and animals
- **Enhance Quarantine Practices**
- Animal Control and Inspection Checkpoints

Field Surveillance and Stakeholder Engagement

- Animal Care / Husbandry / Breeding practices
- Treatment of wounds and veterinary care supplies
- Strengthen field surveillance activities for NWS
- Outreach and education
- Expand lab capacity / NWS identification

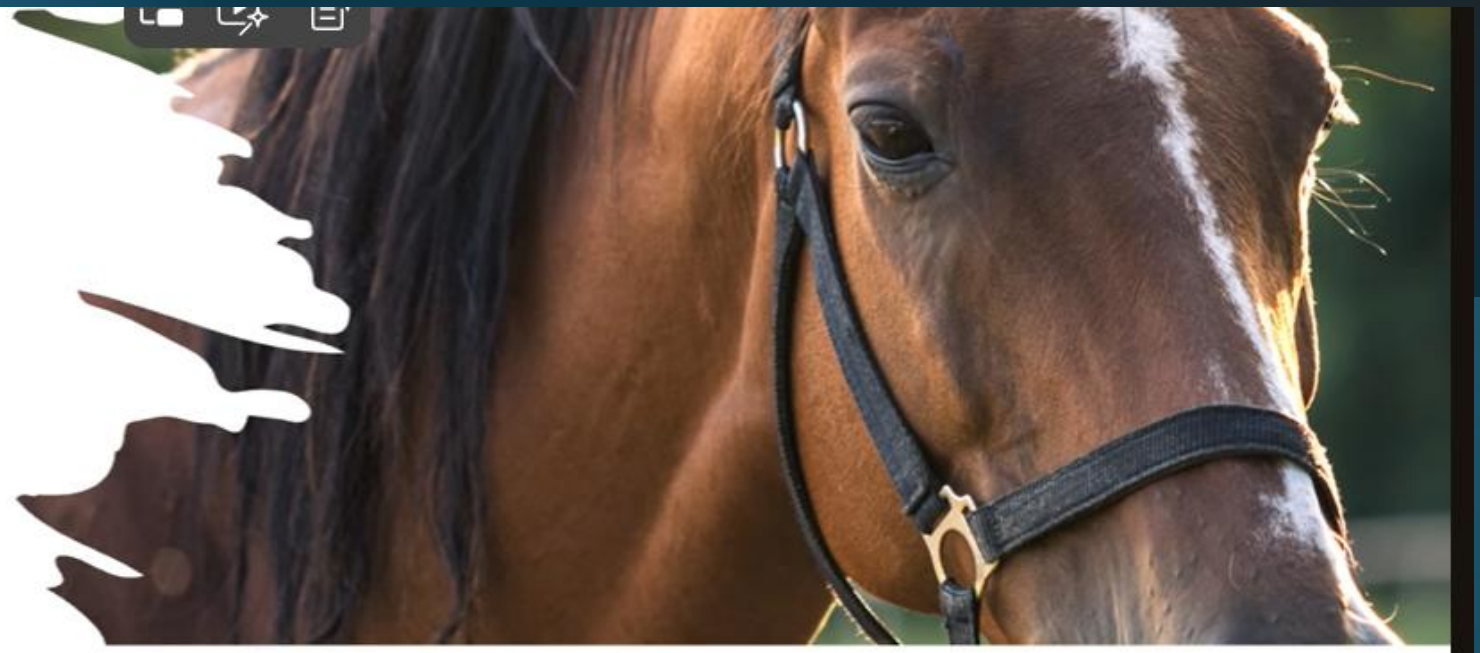
Panama-United States Commission for the
Eradication and Prevention of Screwworm (COPEG)

Sterile Fly Production and Dispersal

- Sterile male screwworms are released into the environment to mate with wild females.
- Females only mate once per life
- Insects produced per week at COPEG: 100M (maximum capacity)
- Dispersal flights conducted each week
- Dispersal operations continue to shift north to stop spread and re-establish a biological barrier

U.S. Import Status on NWS from Mexico

- Effective July 9, 2025, USDA suspended **live cattle, horse, and bison** imports through southern border
- Due to the continued and rapid northward spread of NWS in Mexico
- SENASICA reported new case 7/8/25 in Veracruz, Mexico about 160 miles north of where the sterile fly dispersal grid was located



US state movement controls

States with detections set up 20km infested zones and limit movement of all animals leaving that zone

Animals inspected and treated as necessary before allowed to move

If found in Virginia, could initially quarantine while inspections and epidemiology work is done

Immediately set up infested and surveillance zone similar to other diseases

Focus is on movement restrictions to prevent pest from further movement

What if I suspect screwworm on/in my animals?

Contact your veterinarian, state vet, USDA office, or extension agent

Seek treatment for your animal ASAP

Do not move your animal except to the veterinarian

Keep your animal in a safe contained space

Spray down potentially infested areas with pesticide/insect sprays

Collect any maggot-like specimens and save in rubbing alcohol

Wear gloves to protect yourself

How to prepare -- Producers

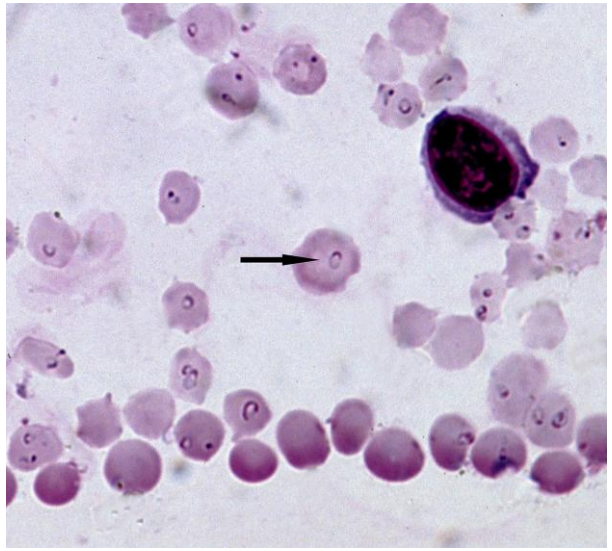
1. Have your Veterinarian visit your farms or find a vet
2. Consider husbandry practices and potential timelines for recovery. (Birthing, Dehorning, Branding, Castrations)
3. Consider potential fly control options for your premises
4. Establish clear movement and biosecurity practices.

Animal Drugs for New World Screwworm | FDA

Resources

- www.screwworm.gov

- State Veterinarian's Office
  - 804-692-0601
  - vastatevet@vdacs.virginia.gov
  - After hours: 804-674-2400



Theileria

Dr. Charlie Broaddus

Virginia Department of Agriculture and Consumer Services

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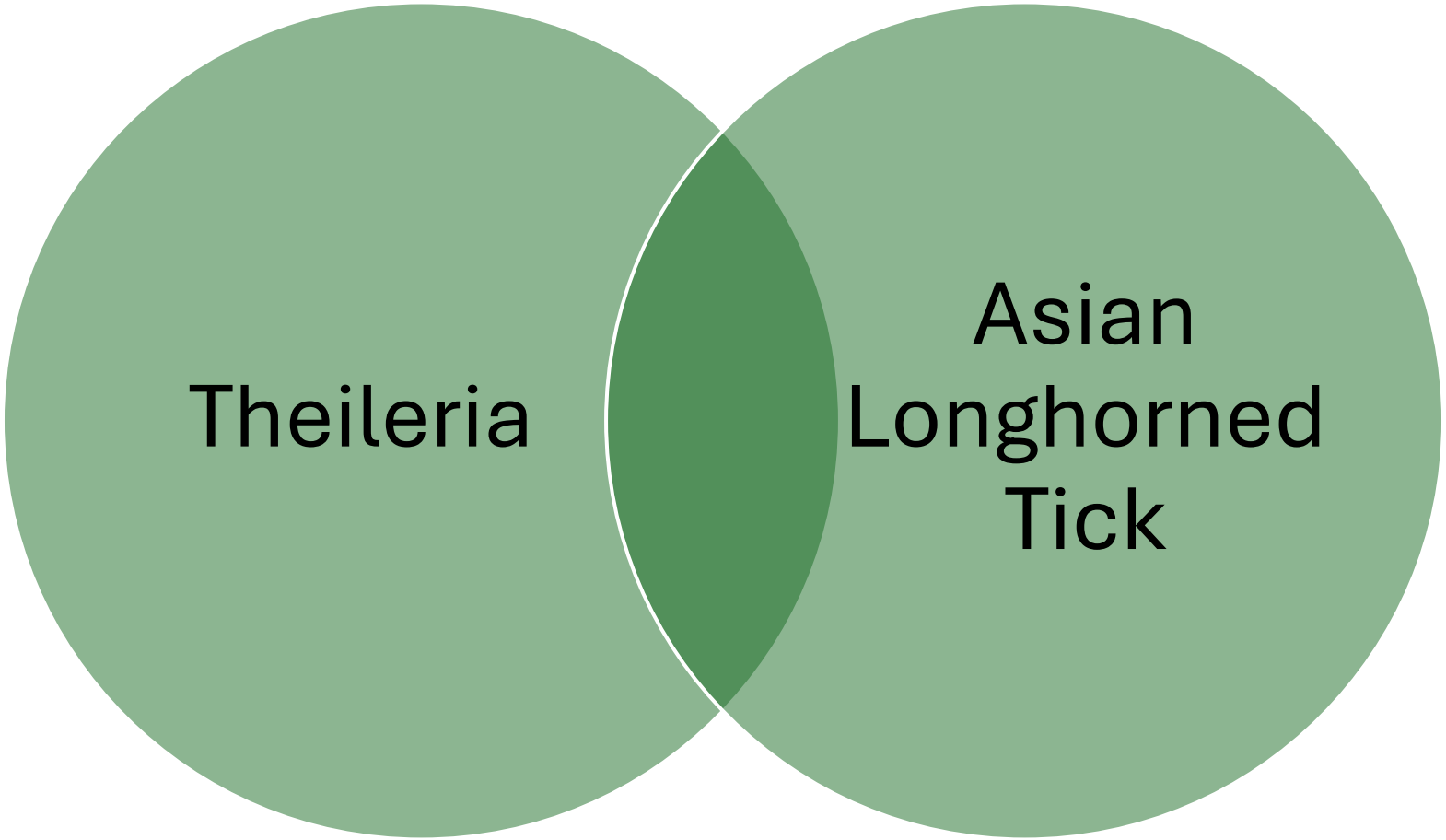
CONSUMER SERVICES

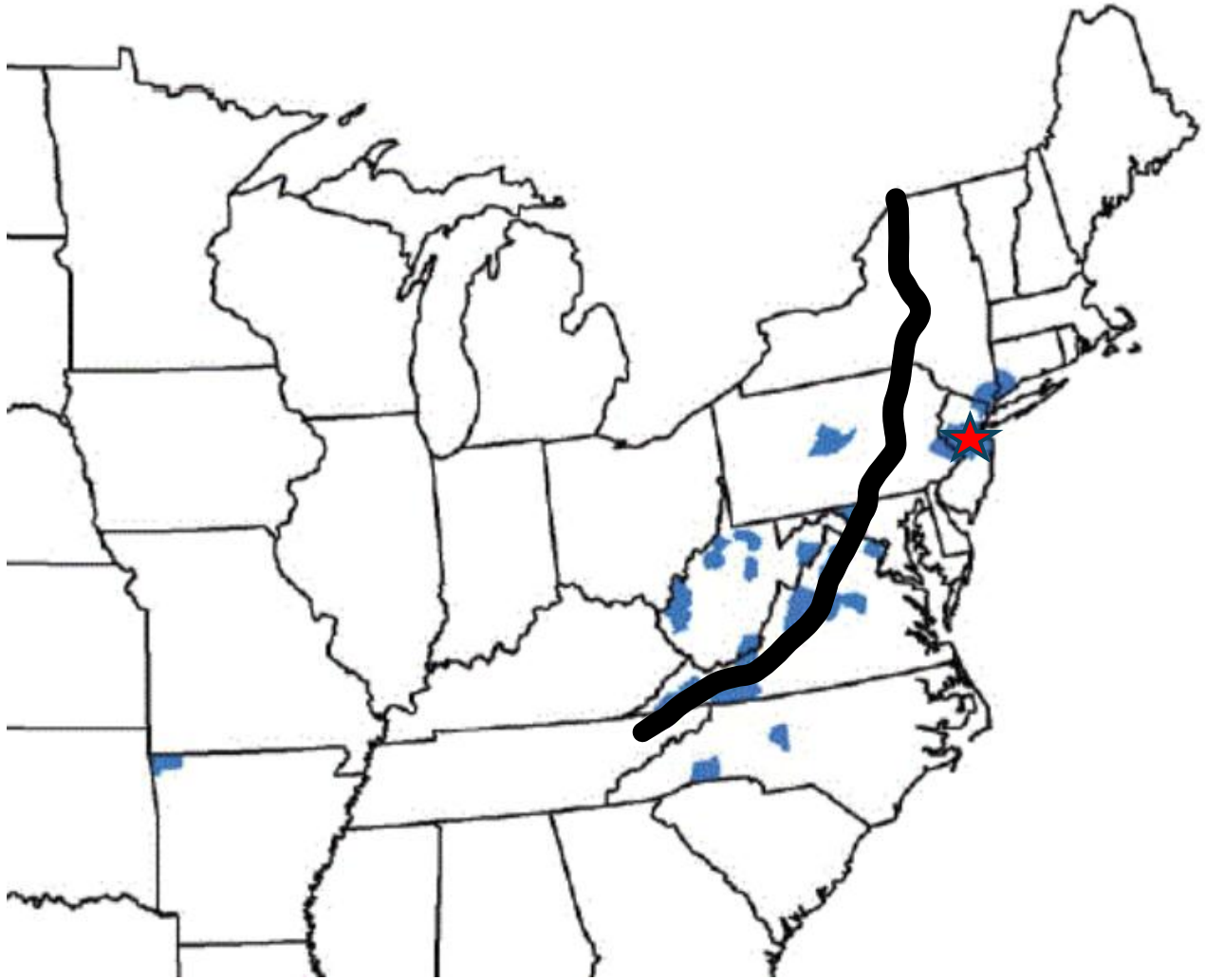
Two Issues



Asian Longhorned Tick

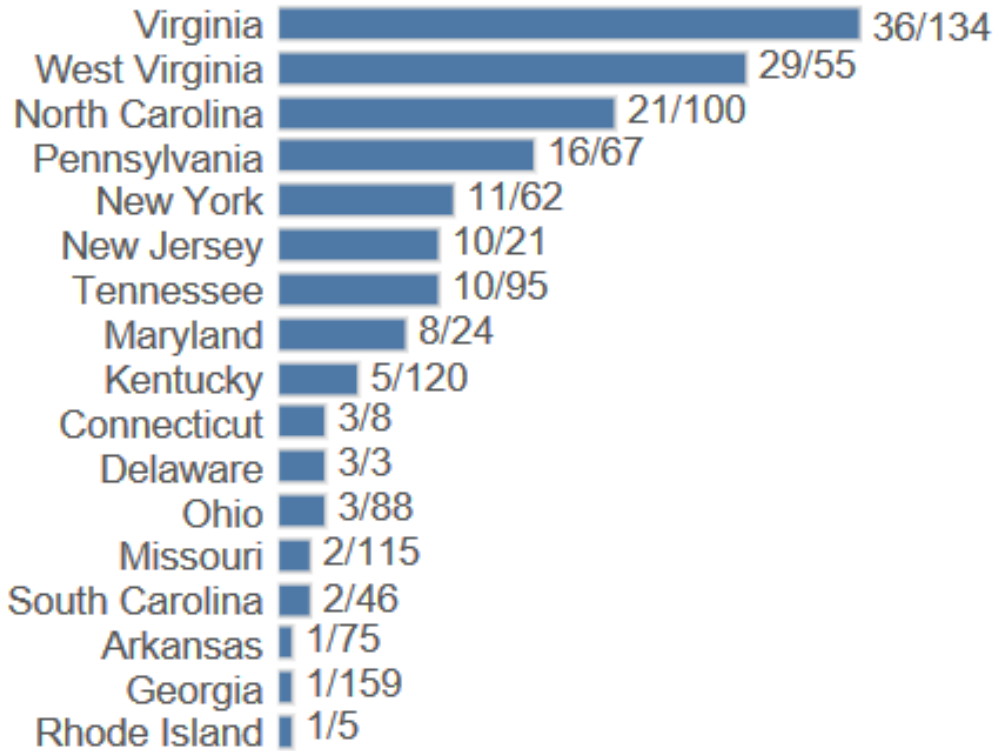
- First found in New Jersey on an Icelandic sheep in 2017
  - May have been here since 2010
- Can be found on any animal

2018

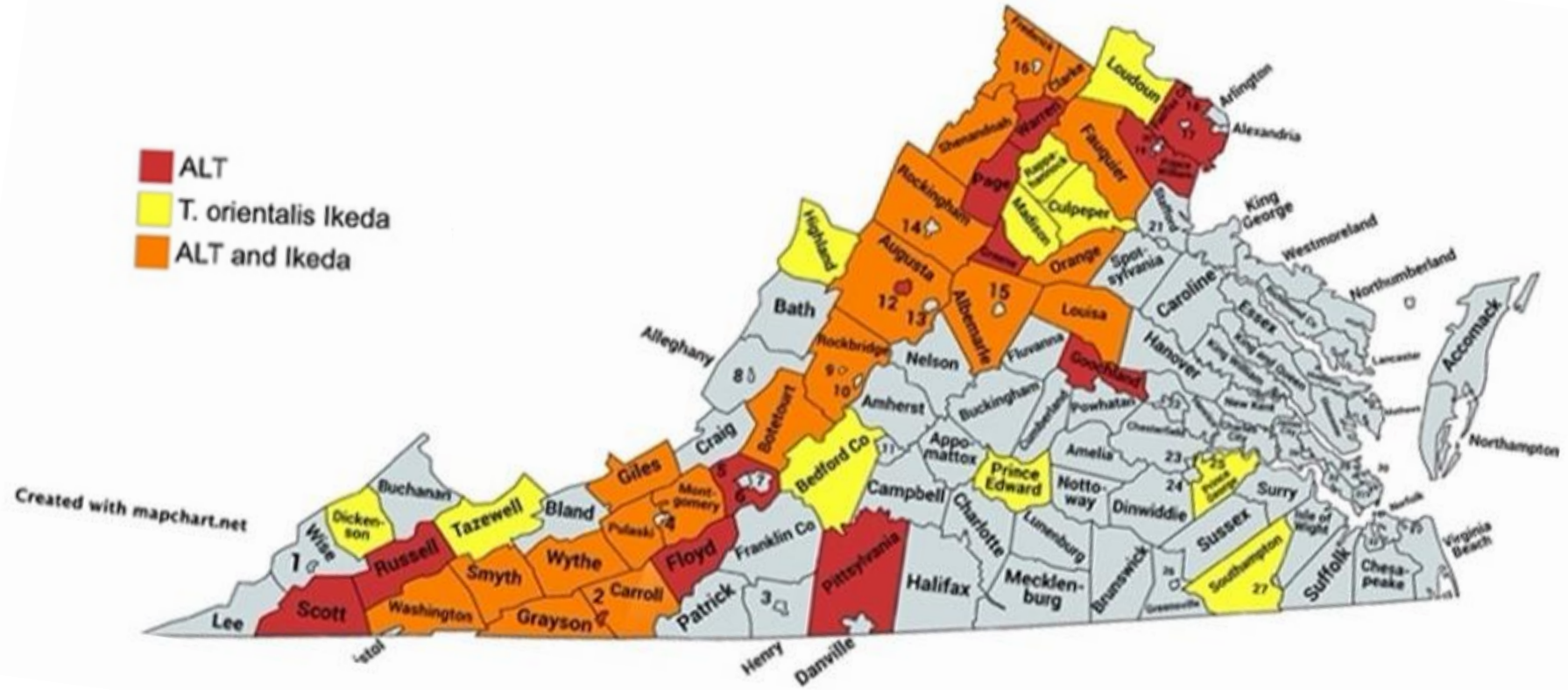


2022

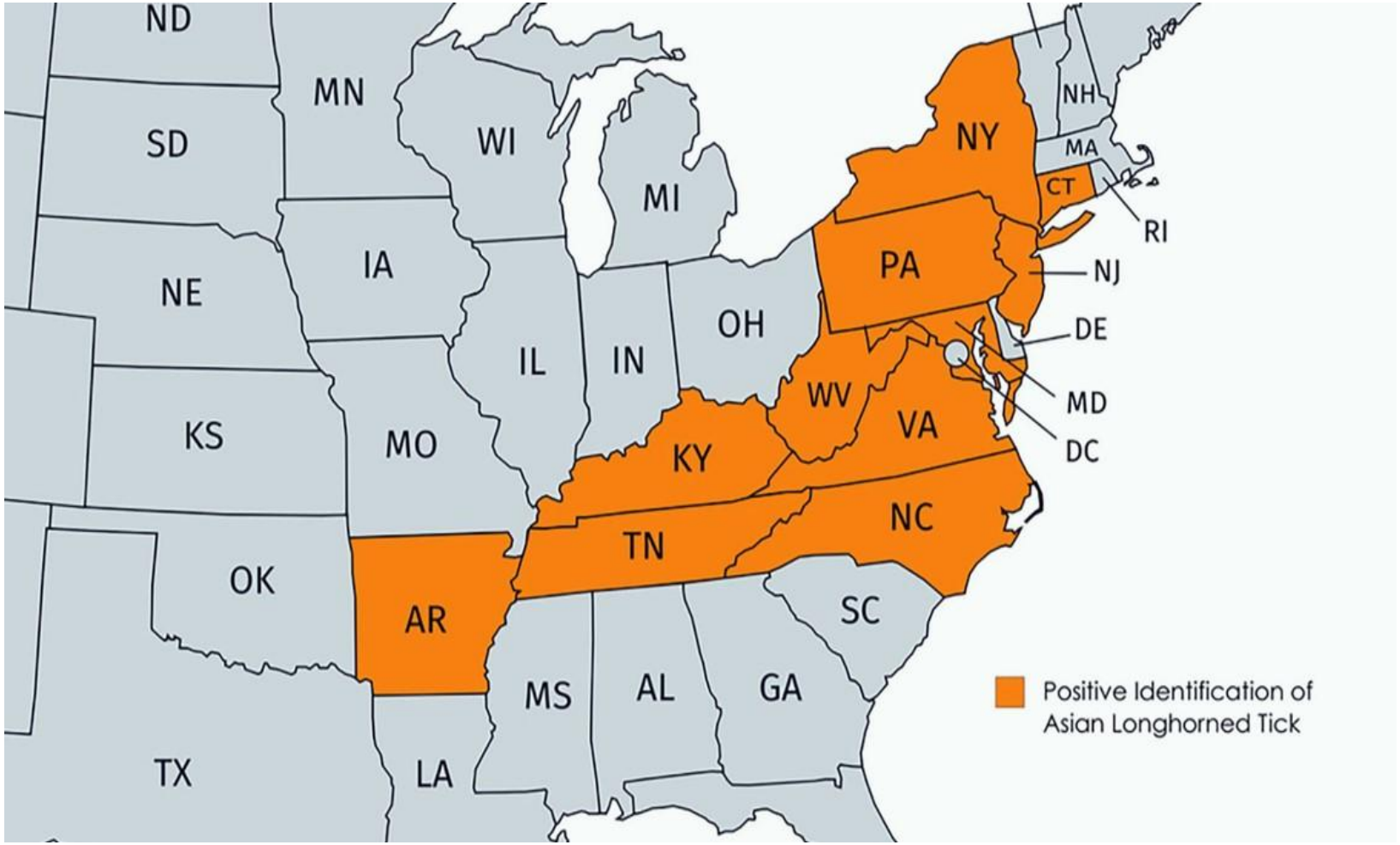
States with confirmed local Asian longhorned tick populations with number of counties in each state. (# of confirmed counties / total # of counties)



2022


ALT
T. orientalis Ikeda
ALT and Ikeda
Created with mapchart.net
Lee
Scott
Wise
Dickenson
Buchanan
Russell
Tazewell
Washington
Smyth
Bland
Wythe
Grayson
Giles
Montgomery
Pulaski
Floyd
Carroll
Craig
Alleghany
Bath
Highland
Botetourt
Rockbridge
Augusta
Rockingham
Page
Shenandoah
Warren
Frederick
Clarke
Loudoun
Fauquier
Culpeper
Madison
Orange
Albemarle
Louisa
Fluvanna
Goochland
Nelson
Amherst
Buckingham
Cumberland
Appomattox
Bedford Co
Campbell
Pittsylvania
Franklin Co
Patrick
Henry
Danville
Halifax
Prince Edward
Charlotte
Lunenburg
Mecklenburg
Brunswick
Nottoway
Dinwiddie
Amelia
Powhatan
Chesterfield
Prince George
Sussex
Surry
Isle of Wight
Southampton
Suffolk
Chesapeake
Virginia Beach
Accomack
Northampton
Spotsylvania
Stafford
King George
Westmoreland
Northumberland
Caroline
Essex
King and Queen
King William
New Kent
Hanover
Lancaster
Arlington
Alexandria

2022


ND
MN
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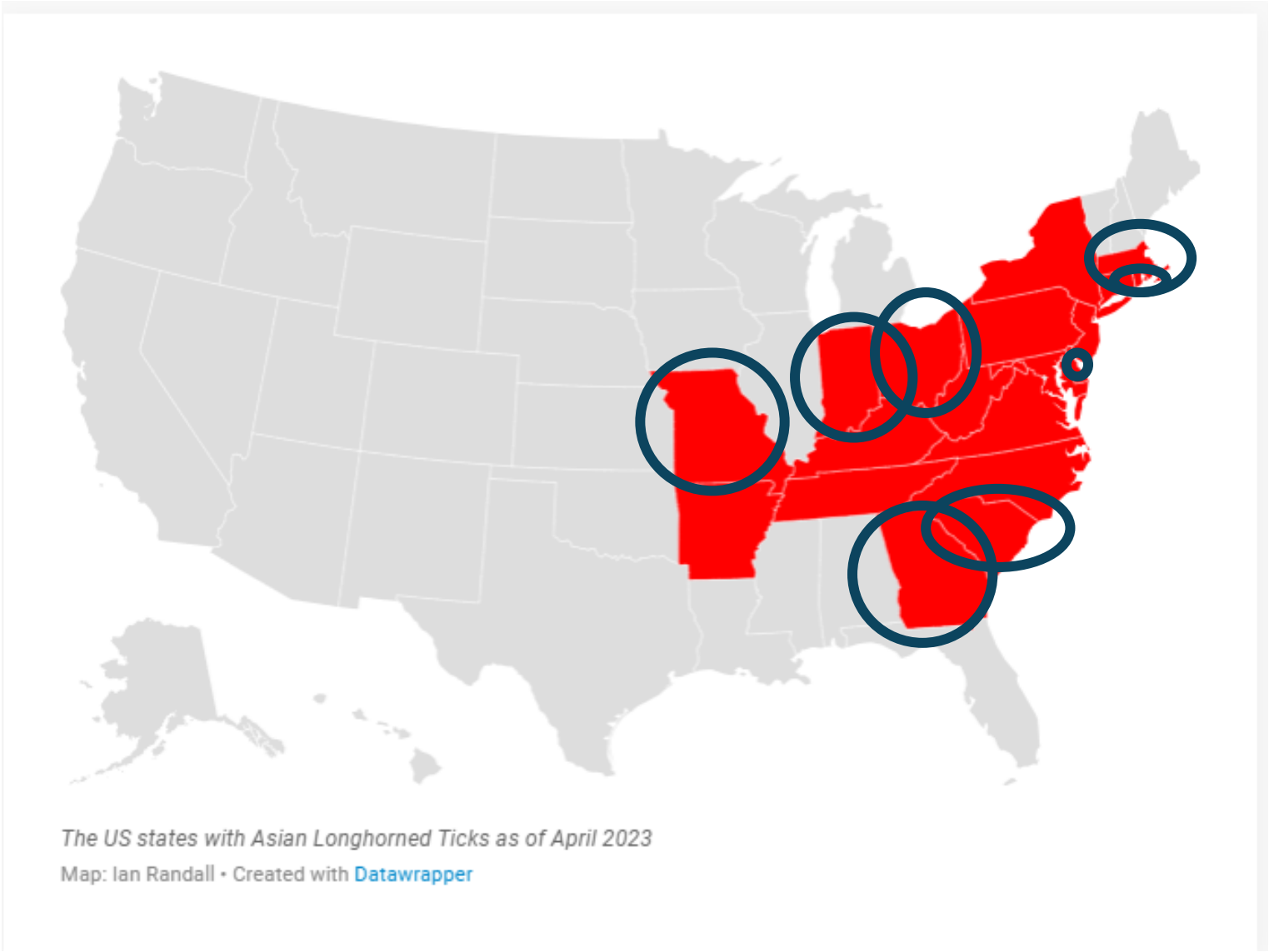
LA
Positive Identification of
Asian Longhorned Tick

2023

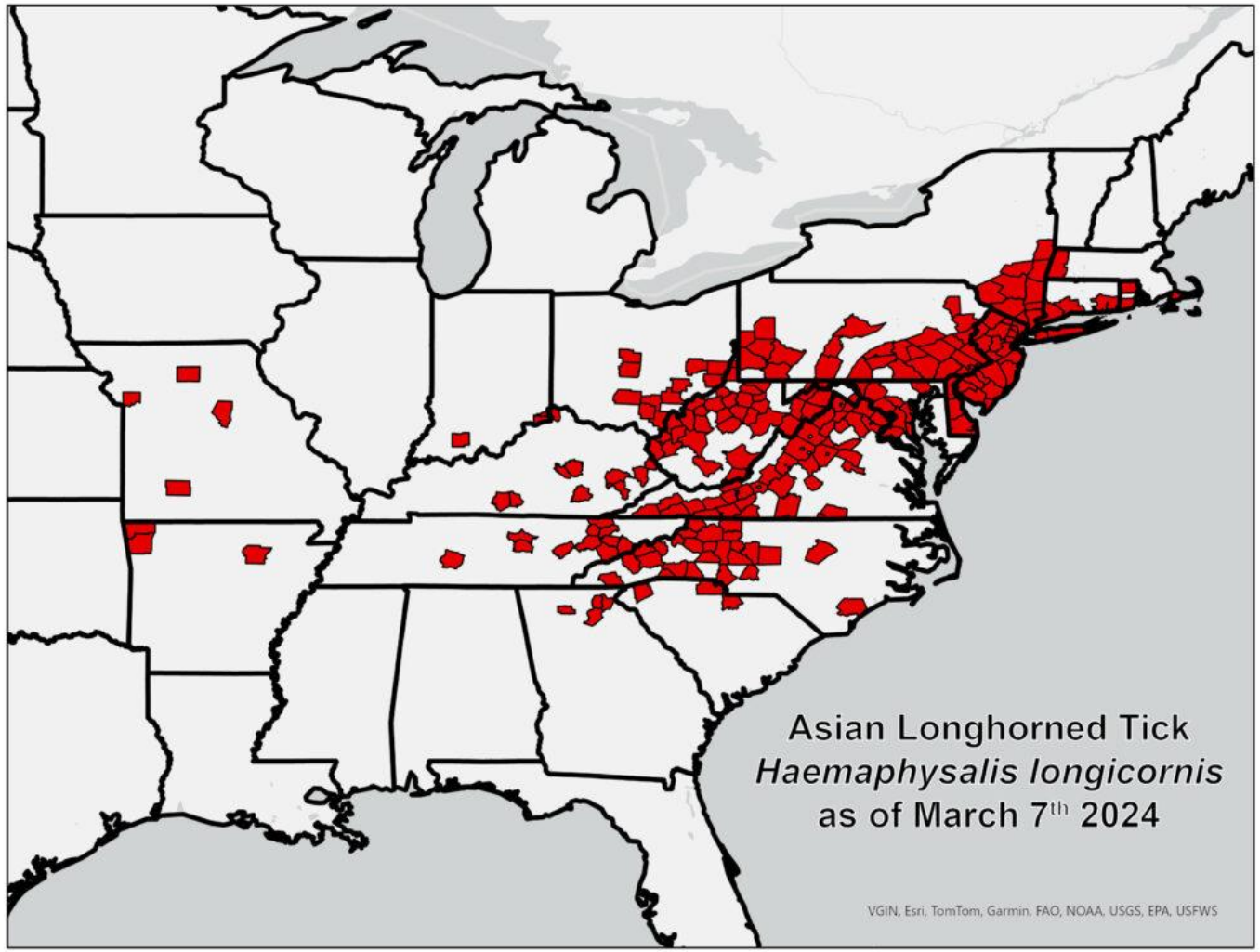


The US states with Asian Longhorned Ticks as of April 2023

Map: Ian Randall • Created with Datawrapper

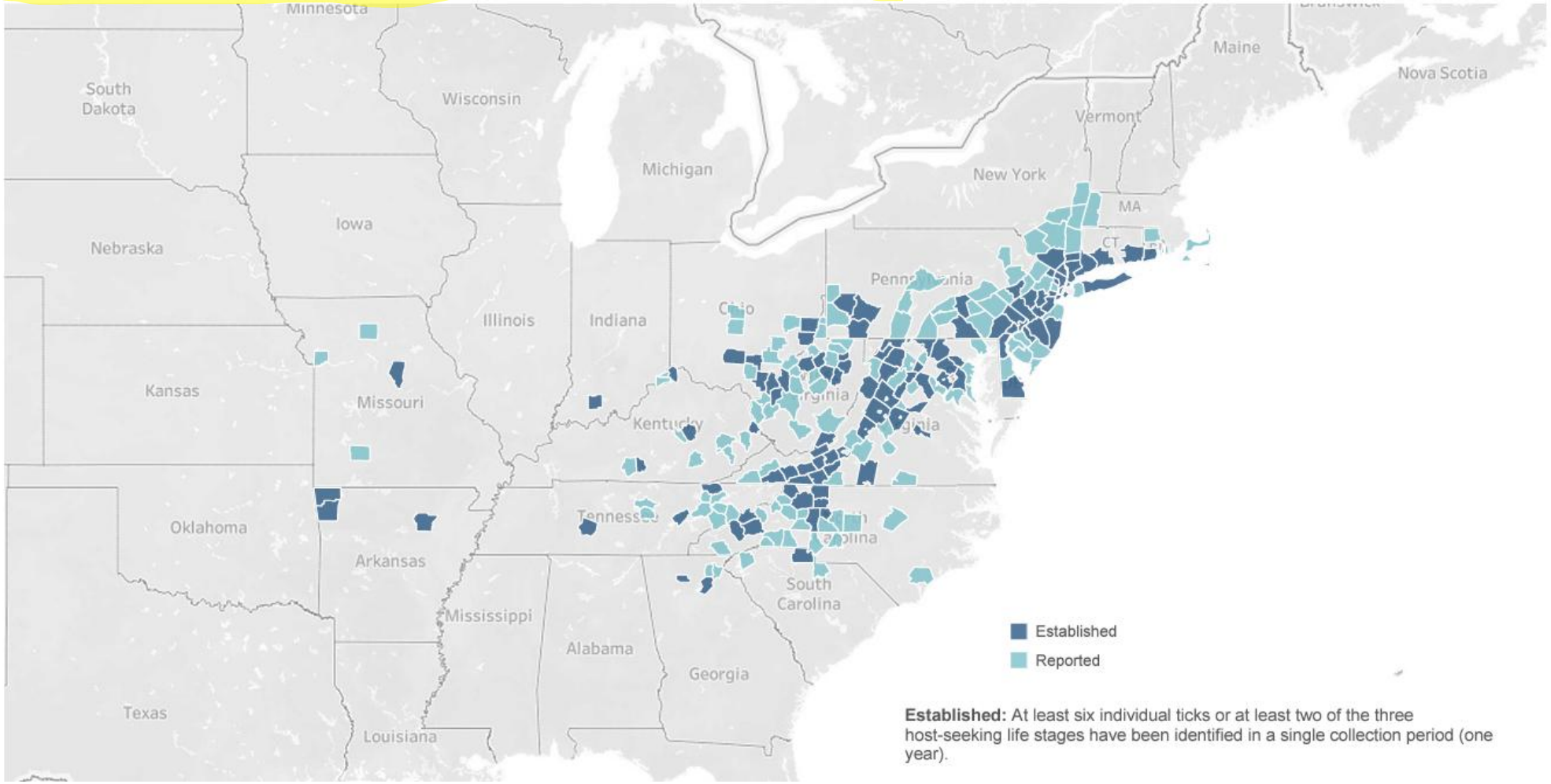
2024

- Spread is expected
- Originally impacted cattle herds less impacted



2024

Counties with established Asian longhorned tick populations



Distribution of the Asian Longhorned Tick

(Year of First Documentation)

0.5 cm

MI 2025

IA 2025

IL 2024

IN 2023

OH 2020

NY 2014

PA 2017

MA 2018

CT 2018

RI 2018

NJ 2013

DE 2019

MD 2018

WV 2010

VA 2017

KY 2017

NC 2017

TN 2019

SC 2018

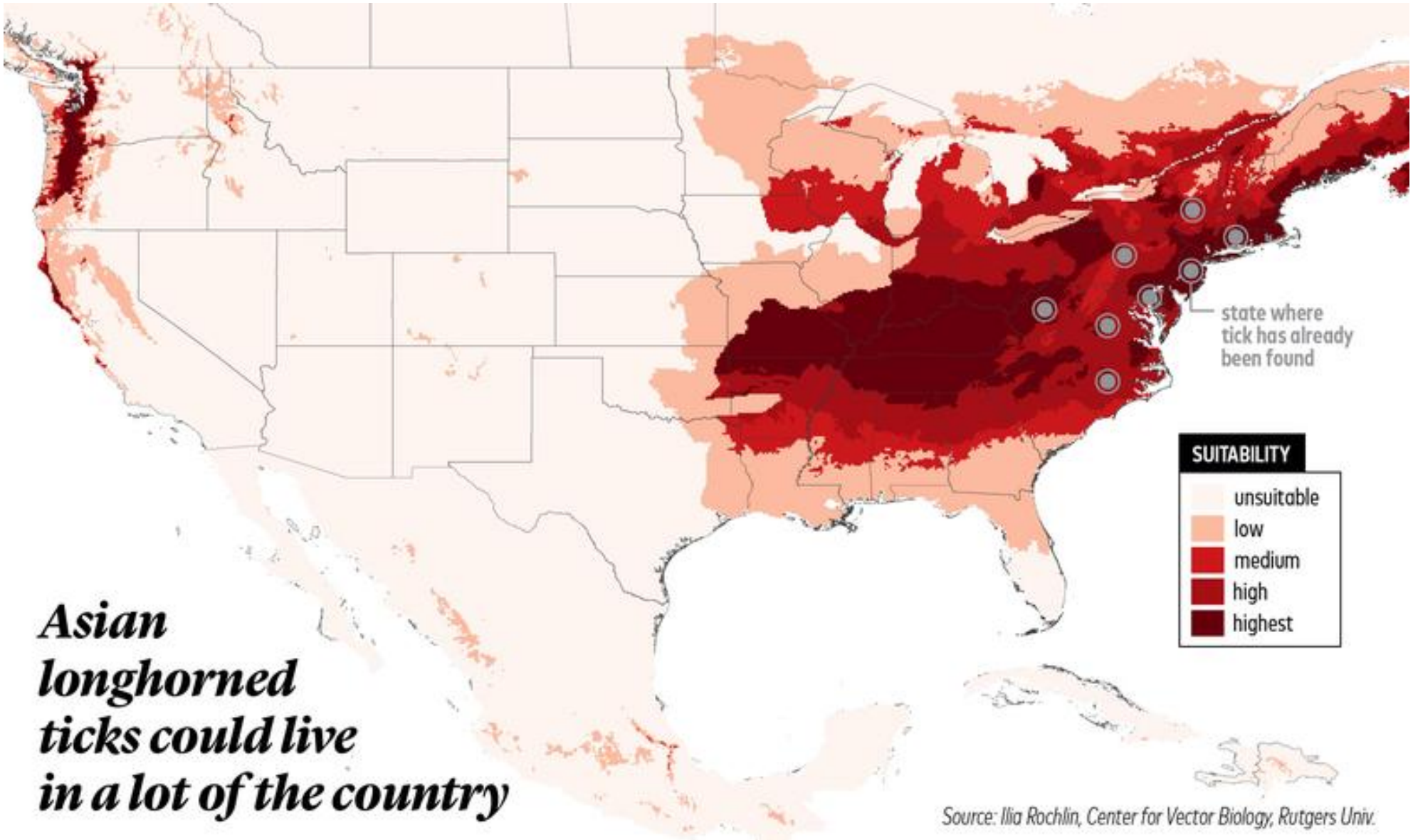
GA 2021

KS 2025

MO 2021

OK 2024

AR 2018



Asian longhorned ticks could live in a lot of the country

Source: Ilia Rochlin, Center for Vector Biology, Rutgers Univ.

Asian Longhorned Tick

- Native to southeast Asia – China
- Invasive
- **Females can lay eggs without mating with a male**
  - Can start a NEW population with just a single tick
- ONE female can produce up to 4000 eggs
- Can cause severe anemia due to number of ticks
  - Usually 100’s of ticks on an individual animal
- Size does not matter
  - All ticks have a larva, nymph, and adult stage
- 3 year lifecycle (3 host tick)

Asian Longhorned Tick

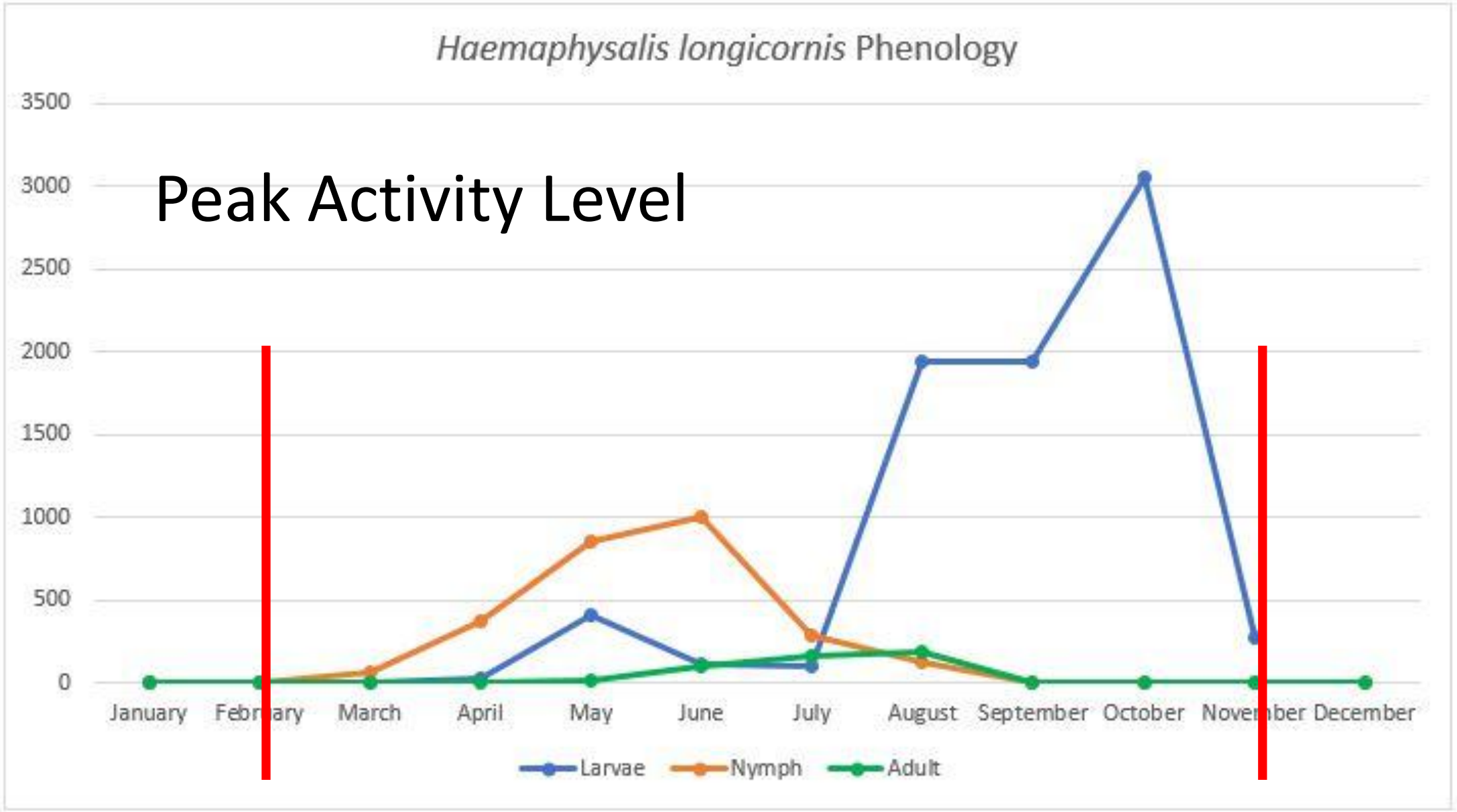
- Can cause death just by the sheer numbers of ticks
- Sites to watch – ears, neck, between front and back legs, udder/testicles

adult
(female; 8 legs)

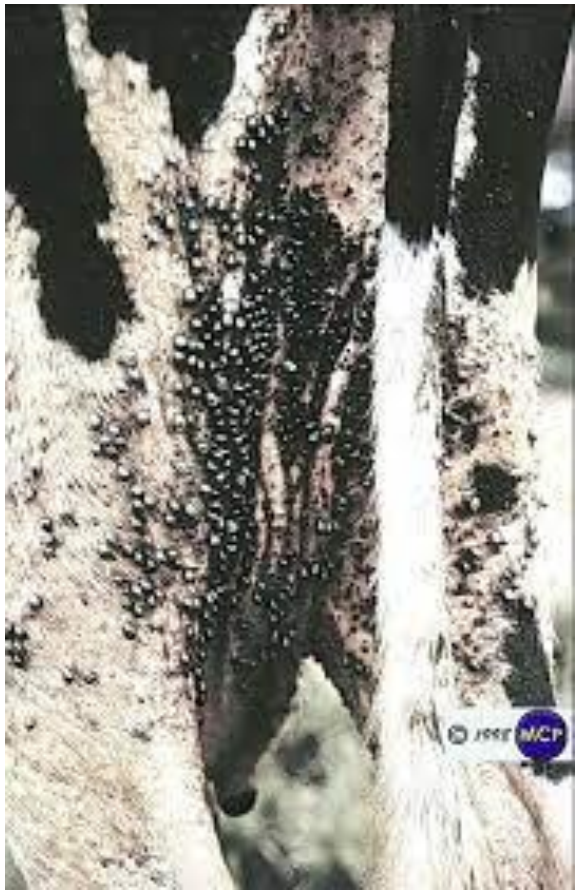
nymph
(8 legs)

larva
(6 legs)


Photo courtesy: California Department of Public Health

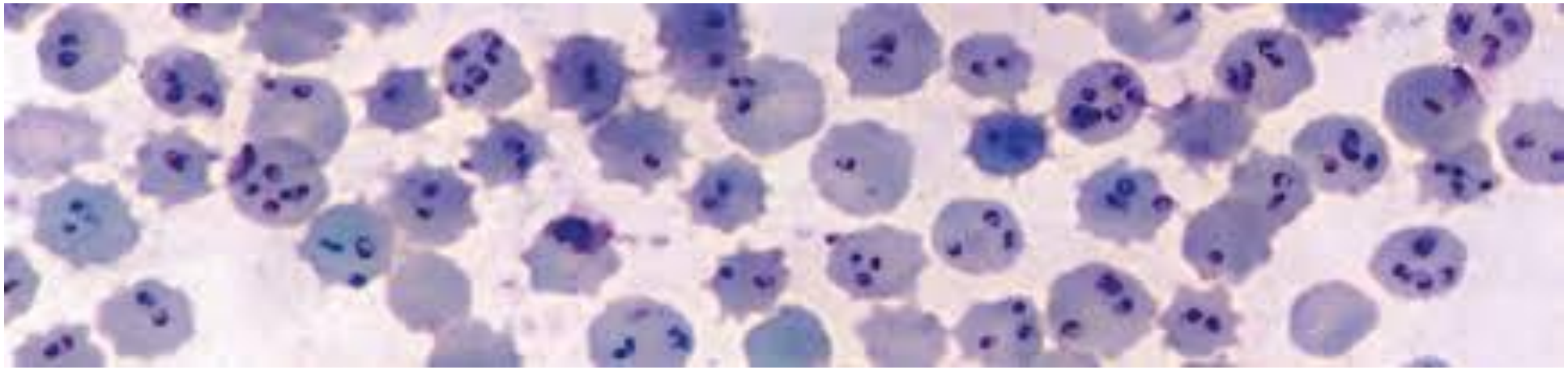

Haemaphysalis longicornis Phenology
Peak Activity Level
3500
3000
2500
2000
1500
1000
500
0
January
February
March
April
May
June
July
August
September
October
November
December
Larvae
Nymph
Adult


EXTENSIONSERVICE
AGRICULTURE AND NATURAL RESOURCES
Tick Talk



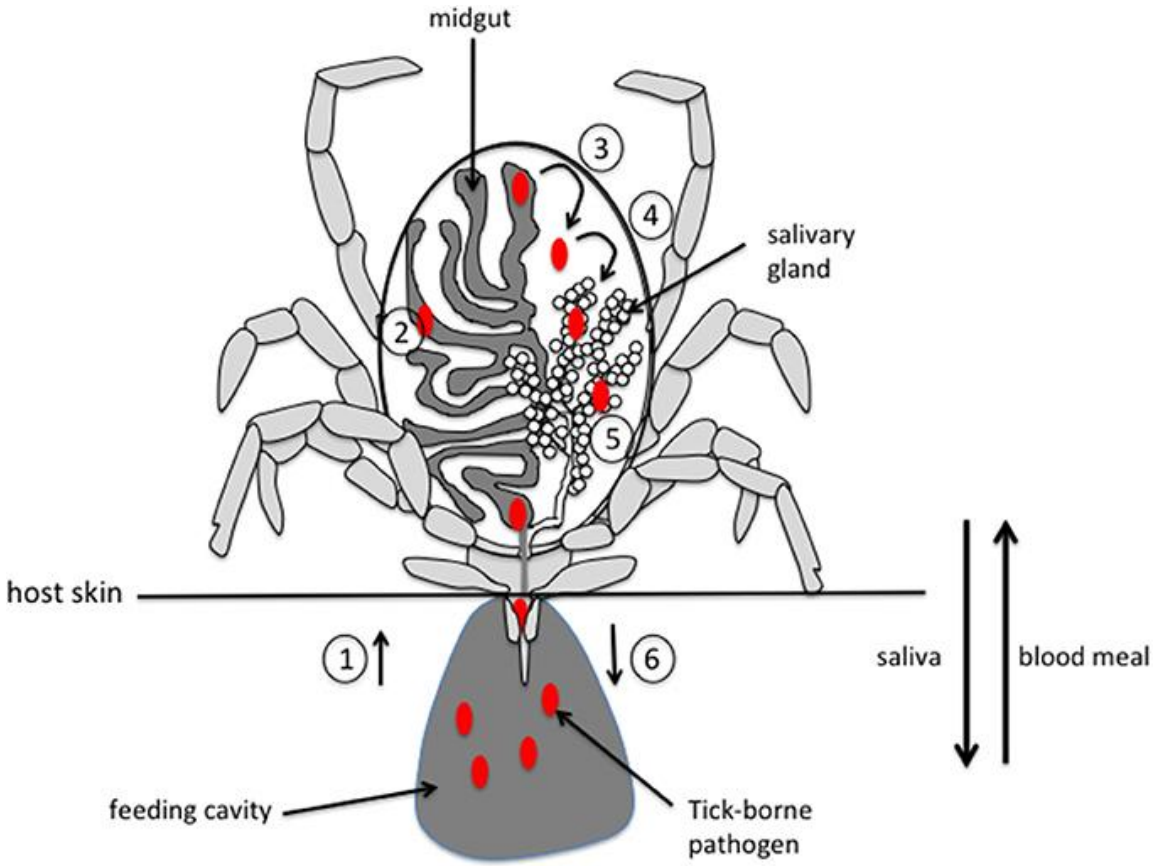
The “NEW” Tick Disease

- ***Theileria orientalis***
- Tick born protozoal (single-cell parasite); transmitted during blood feeding
- Infects Red and White blood cells
- Can affect Cattle, sheep, goats, horses, deer
- Carried by the Asian Longhorned Tick



Theileria

- Causes anemia
- No threat to humans
- Three genotypes → Buffeli, Chitose and Ikeda
- *Theileria orientalis* genotype Ikeda
  - Most virulent
  - Transmitted in the saliva of Asian Longhorned Tick
  - Also needles, lice, biting flies, rare for transplacental



Theileriosis

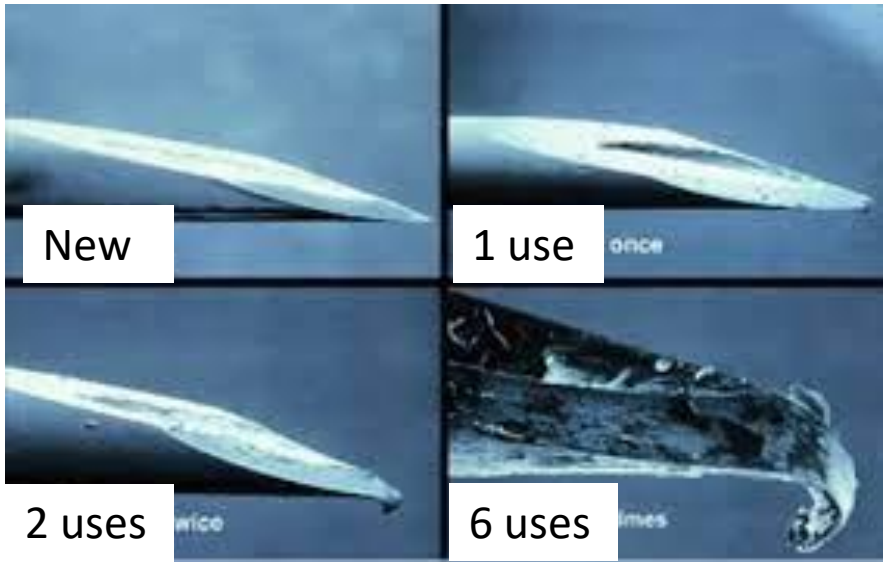
- In advanced stages, RBC's that are infected burst
- Clinical Signs
  - Most are Asymptomatic – Stressor→Disease
  - Anemia, jaundice, **abortion**, thin, fever, **weakness**, trouble breathing
  - Can be more obvious during times of stress
- Most infected cattle become life-long carriers
- Similar to Anaplasmosis, however age does not appear to be a factor
- Unlikely to cross transplacental barrier, but possible
- Around 5% mortality, can reach 80% morbidity w/in 30 days
- Can be transmitted by needles

Theileria Diagnosis

- On postmortem exam
  - Jaundiced, swollen liver, abnormal spleen
- Can send blood, spleen to lab

Disease Treatment

- No approved labeled treatment in the US
- Life-long carrier
  - Be aware of cow to cow transfer with needles



- Anaplasmosis – Oxytetracycline and CTC works – inhibits the bacteria development

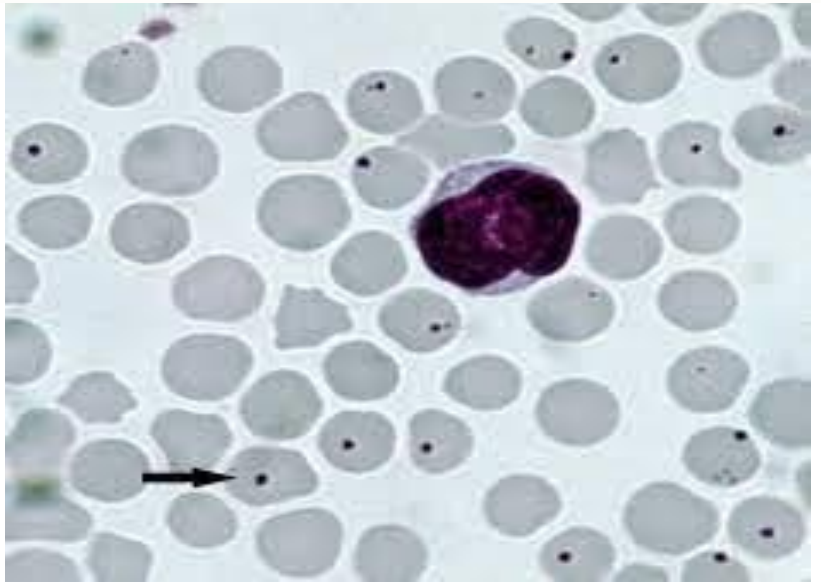
Australia

- *Theilieria Ikeda* typically in Japan, Korea, and China
- *Theilieria Ikeda* – first reported in 2006
- By 2013 – 87% (+)

- Buparvaquone – Approved for treatment in New Zealand
  - Antiprotozoal drug
  - 98% effective
  - Withdrawal - 35 days milk and 140 days on meat!!
  - NOT approved in the US

Anaplasmosis

- *Anaplasma marginale*
  - **Bacteria**
- Carried by American Dog Tick
- Usually affects Adult cattle
- Can have up to 50% death loss
- Infects RBC's
- Anemic, weak, abortion, death
- Tx – Oxytetracycline
- Control - VFD for daily CTC



Tick Treatment

- Treat with topicals in Feb/Mar and Aug/Sept
- Single topical treatment may NOT be effective
- Backrubs? Insecticide tags? From Feb – Sept
- May take a combination of control measures
- Permethrin
- Ivermectin

VDACS Market Cattle Surveillance (2018-2020)

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- First started in 2018
- Collected blood samples from VA livestock markets 2018-present
- 5 random cows sampled from 11 VA markets at weekly sales
- Collected 1993 total samples
- 2019 → 1% positive
- 2020 → 10% positive

Additional VDACS Market Surveillance (2023)

Market	Total Head Tested	% Positive
Southwest VA	45	80
Northern VA	163	79
Southwest VA	25	72
Northern VA	40	62.5
Central VA	5	0
Southwest VA	151	74.8
Southwest VA	161	83

How to protect your livestock

- Inspect cattle for ticks.
- Watch for lethargic, low BCS animals.
- Inspect all newly purchased cattle before adding to a herd.
- Submit tick samples to your local extension agent.
- Consider using pesticide-impregnated ear-tags.
- Use backrubbers and siderubbers charged with appropriate pesticides in high traffic areas.
- High tick concentrations - use direct pour-on treatments.
- Treat all animals in a herd for ticks at the same time.
- Keep pastures mowed shorter.
- Consider keeping cattle out of wooded areas.

Summary……

- ALT is here to stay
- Theileria is here to stay
- Be mindful of periods of stress
- Use management tools as much as possible

Questions?