



RUTGERS
THE STATE UNIVERSITY
OF NEW JERSEY



2025 Ornamental IPM Program Webinar

Contemporary IPM Topics and Management

September 9, 2025

Bill Errickson & Steve Rettke (Monmouth)

Tim Waller (Cumberland)

Support: Erin Quinn

Cooperating Agencies: Rutgers, The State University of New Jersey, U.S. Department of Agriculture, and Boards of County Commissioners, Rutgers Cooperative Extension, a unit of the Rutgers New Jersey Agricultural Experiment Station, is an equal opportunity program provider and employer.

TODAYS SPEAKERS

Tim Waller (Ag. Agent – Cumberland County RCE)

Guest Speaker:

Emily Fontaine - *Project Manager*

Rutgers NJ Ticks 4 Science

Disclaimer - Materials do not cover all possible control scenarios and are intended for licensed professionals. Tradenames do not imply endorsement and are used as examples. You must strictly follow the label for each compound prior to use. Rutgers is not responsible for misused materials or damages thereof. The label is the law. Labels will provide detailed information on use and restrictions. Additionally, application intervals, compatibility, surfactant use, PHI, PPE, important and other key information is described in detail. Always discuss treatments with your local agents. **Note: Neonicotinoids can only be legally applied in commercial agriculture settings by licensed applicators.** Guidelines and recommendations made in this presentation are specific to the state of New Jersey.

Updates - RHFB

Current GDD: 9/9/25
North NJ: 2376 GDDs
Central NJ: 2826 GDDs
Southern NJ: 3104 GDDs



Photo: Grower cooperator



Red-headed Flea Beetle

Likely seeing damages from adult feeding (2nd or maybe even 3rd generation)

What you can do now:

- 1. Record where you are seeing the problems – NOW**
2. Prepare to place susceptible plants in different or non-adjacent areas, especially early summer sale plants
- 3. Contact or translaminar insecticides** – reduce adult, egg laying, populations (overwinter as eggs)
 - **Contact insecticides:**
 - Pyrethroids [3]: –thrins
 - Carbamates [1A]: carbaryl
 - METI [21A]: Tolfenpyrad
 - **Translaminar systemics:**
 - Organophosphates [1B] – Acephate
 - Diamides[28]: Cyclaniliprole + Flonicamid [29]
 - Fast acting neonicotinoids: Dinotefuran
 - **Avoid slower acting imidacloprid / thiamethoxam drenches / granular – wait until spring for these applications**

Set-up *push* alerts for next season!

<https://uspest.org/push>



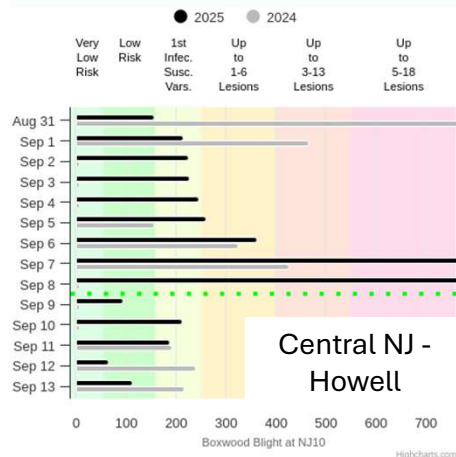
Updates – Boxwood

Current GDD: 9/9/25

North NJ: 2376 GDDs

Central NJ: 2826 GDDs

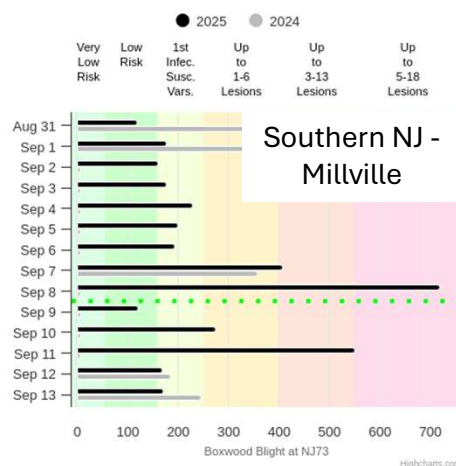
Southern NJ: 3104 GDDs



Boxwood Blight is a COOL & WET season disease

Important Cultural practices

- Avoid working with wet plants
- Appropriate implement sanitation
- Maintain protective fungicide applications during cooler seasons
- Get proper diagnosis



Fungicides applied at regular intervals

- [M05]: Chlorothalonil
- [M05 + 1] Chlorothalonil + T-methyl
- [11] Trifloxystrobin + [7] Fluopyram
- [11] Trifloxystrobin + [3] Triadimefon
- [M03] Mancozeb (better for Volutella)
- [12] Fludioxonil
- [3] Tebuconazole



https://uspest.org/risk/boxwood_app

Boxwood Leafminer

- Resumed activity
- Apparent damages
- Translaminar & Systemics if warranted



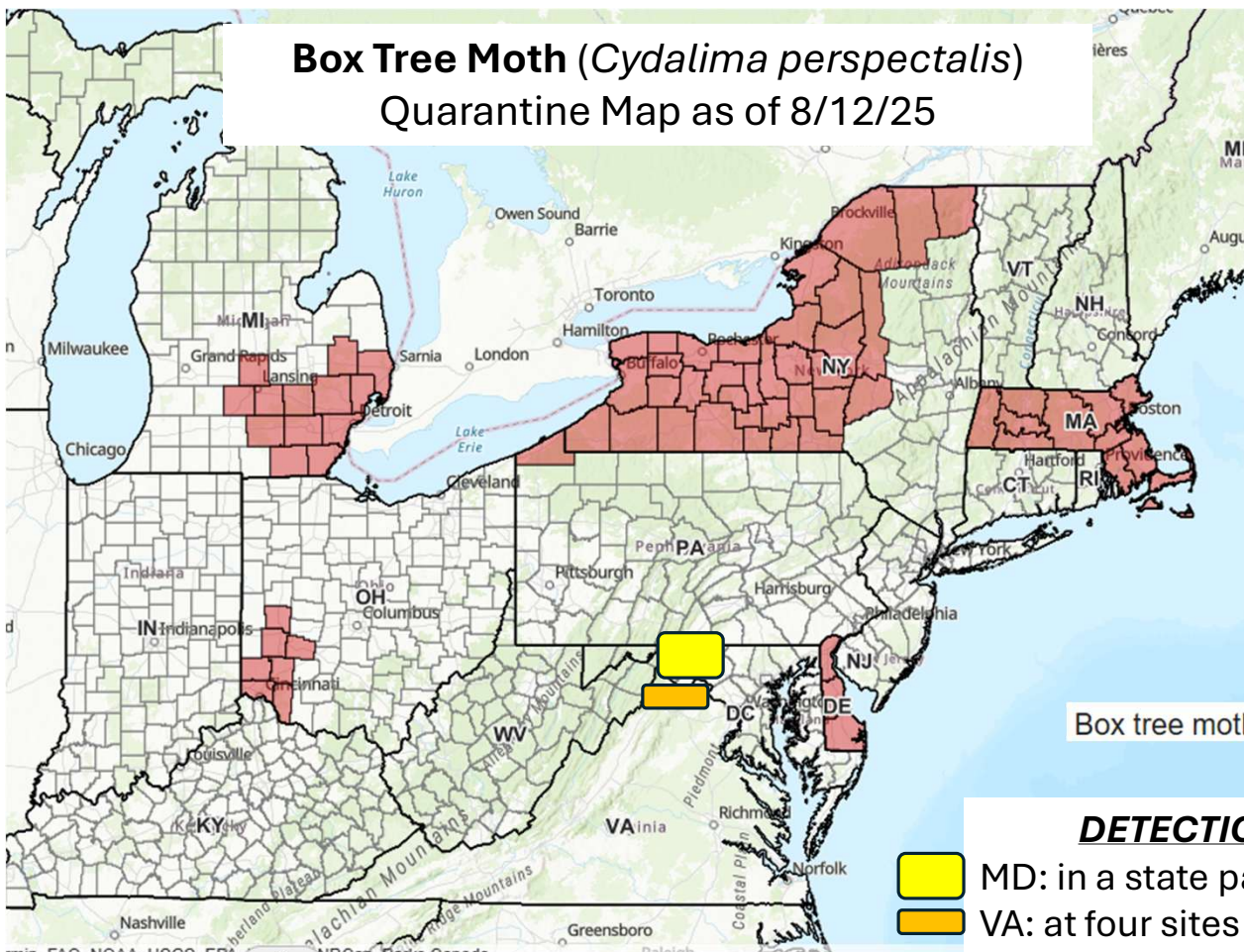
<https://sites.rutgers.edu/nursery-ipm/boxwood-leafminer/>



Photo: Tim Waller - RCE

Reminder: Box Tree Moth

Box Tree Moth (*Cydalima perspectalis*) Quarantine Map as of 8/12/25



Box tree moth confirmed in MD, VA, and expanded quarantines in MI, OH.

PLANT & PEST ADVISORY

Rutgers Cooperative Extension



DETECTIONS - NO QUARANTINE YET

-  MD: in a state park in Washington County
-  VA: at four sites in Clarke and Loudoun Counties

Updates – European Hornet Damage



Photo: Steve Rettke - RCE



Photo: M. Talabac, UME



Visit our website for more information: <https://sites.rutgers.edu/nursery-ipm/european-hornet/>

NEW WEBSITE - LIVE



Home About ▼ Calendar Resources ▼ Contact

Rutgers Ornamental IPM Program

Contemporary IPM Topics and Management

Learn More



<https://sites.rutgers.edu/nursery-ipm/>

Presentation will be available on our website.

Final session: September 23rd, 2025

Tentative key topics for next time:

- | | |
|--|--|
| 1. Beneficial: Preying mantis
(conflicting beneficial predator) | 8. Hemlock Rust Mite |
| 2. White Pine Aphid | 9. Using Horticultural Dormant Oil |
| 3. Eastern Spruce Gall Adelgid | 10. Importance of fall irrigation in field
settings |
| 4. Cooley Spruce Gall Adelgid | 11. Sanitation updates – fall practices |
| 5. Hemlock Woolly Adelgid | 12. Leaf management and disease |
| 6. Spruce Spider Mite | 13. Mums |
| 7. Southern Red Spider Mite | 14. Finding IPM Personnel for
Nurseries |

PLEASE SHARE WHAT
YOU SEE WITH US!

**ALWAYS OPEN TO NEW
TOPICS AND IDEAS**

Funding provided by:



National Institute of Food and Agriculture
U.S. DEPARTMENT OF AGRICULTURE

Implementation of IPM in New Jersey
-Ornamental Crops 2025

BECOME TICK CONFIDENT: HOW TO SPOT, PREVENT & PROTECT AGAINST TICKS IN NEW JERSEY



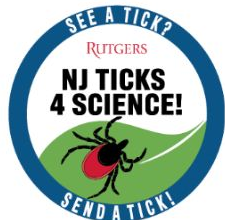
RUTGERS UNIVERSITY

Center for Vector Biology

New Jersey Agricultural Experiment Station



Emily Fontaine



Welcome to NJ Ticks 4 Science!

"NJ Ticks 4 Science!" is a citizen science project organized by the Rutgers Center for Vector Biology. Our goal is to create a tick map showing the changing distribution of ticks and tick-borne pathogens in NJ and bring more awareness to tick-borne disease. If you encounter a tick in New Jersey, you can send it to us and we will test it for disease-causing pathogens for free! With your help, we will learn where and when people are exposed to ticks and tick-borne diseases.

Get Started

[Send us your ticks!](#)

[Tick Prevention](#)

[Tick Removal](#)

If you have already submitted ticks

[Track your progress](#)



Photo of a female blacklegged tick (sometimes called "deer tick"), (photo credit Jim Occi, PhD).

Want to learn more about New Jersey's tick species?

[View Ticks of New Jersey](#)

[Questions? Contact Us](#)

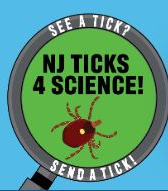


RUTGERS UNIVERSITY

Center for Vector Biology

New Jersey Agricultural Experiment Station



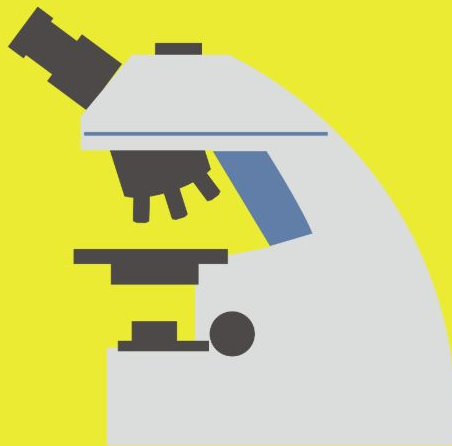


NJ TICKS 4 SCIENCE!

**CITIZENS SEND
US TICKS**



**ID TICKS
AND TEST**



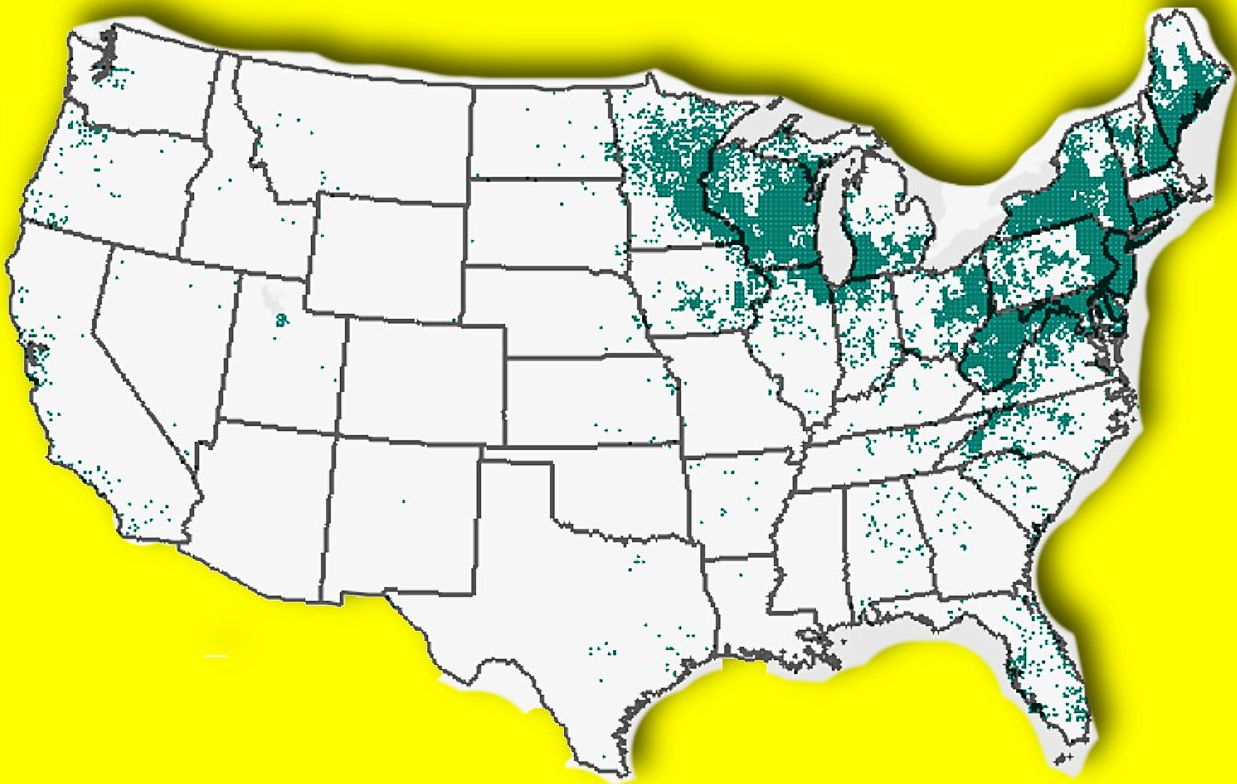
**PROVIDE RESULTS
+ TICK MAP**



A GIGANTTICK PROBLEM



In 2021, New Jersey reported the highest number of Lyme disease cases (3,518) in the United States.



**LYME DISEASE CASES
BY STATE OF RESIDENCE**

2021

Centers for Disease Control and Prevention. (n.d.-a). Lyme disease case map. Centers for Disease Control and Prevention.
<https://www.cdc.gov/lyme/data-research/facts-stats/lyme-disease-case-map.html>

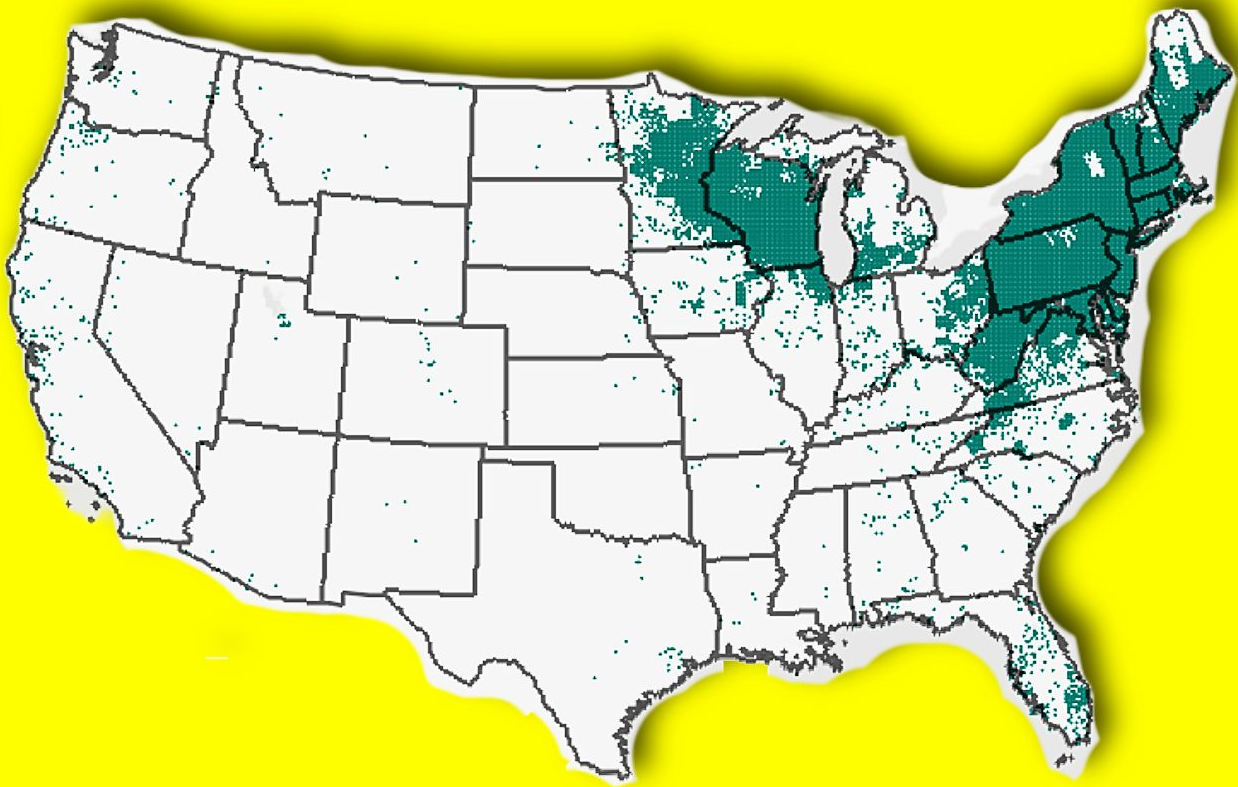
A GIGANTTICK PROBLEM



In 2021, New Jersey reported the highest number of Lyme disease cases (3,518) in the United States.



In 2022 nearly 5,900 cases of Lyme disease were reported in NJ.



LYME DISEASE CASES BY STATE OF RESIDENCE 2022

Centers for Disease Control and Prevention. (n.d.-a). Lyme disease case map. Centers for Disease Control and Prevention.
<https://www.cdc.gov/lyme/data-research/facts-stats/lyme-disease-case-map.html>

A GIGANTTICK PROBLEM



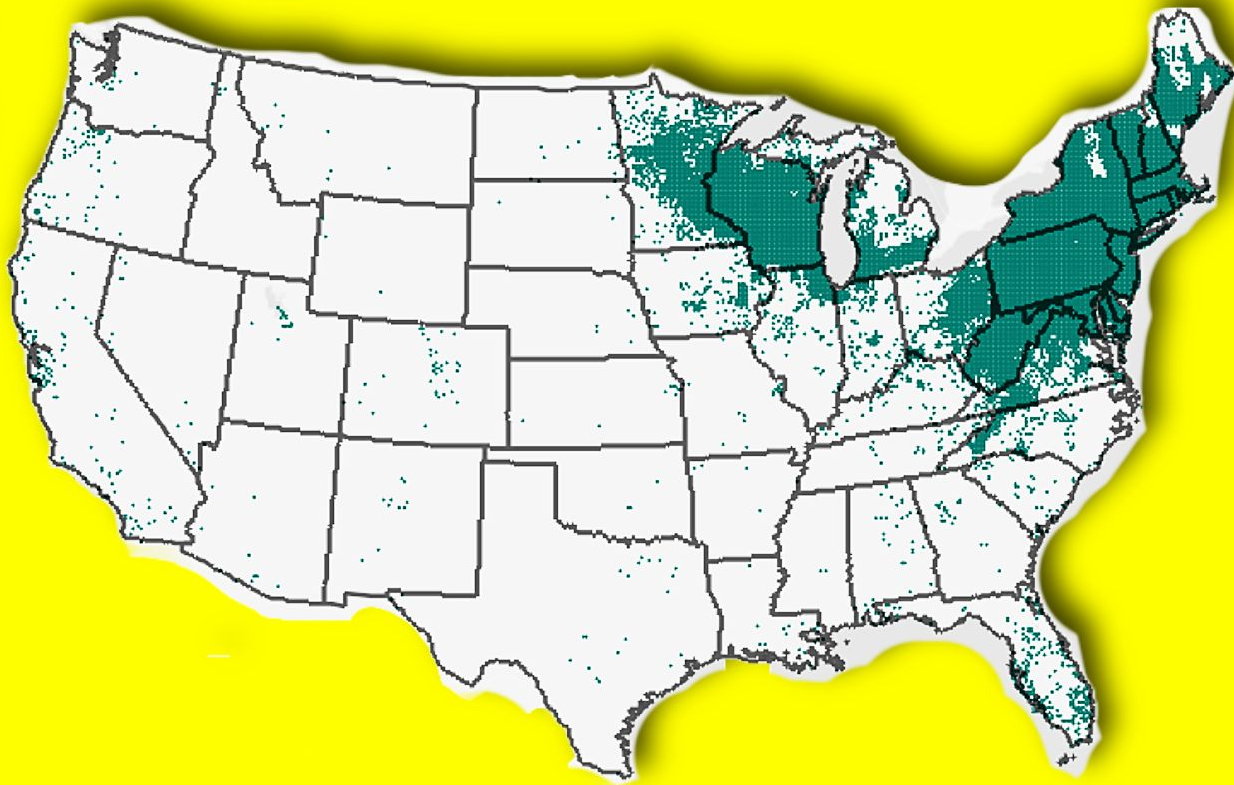
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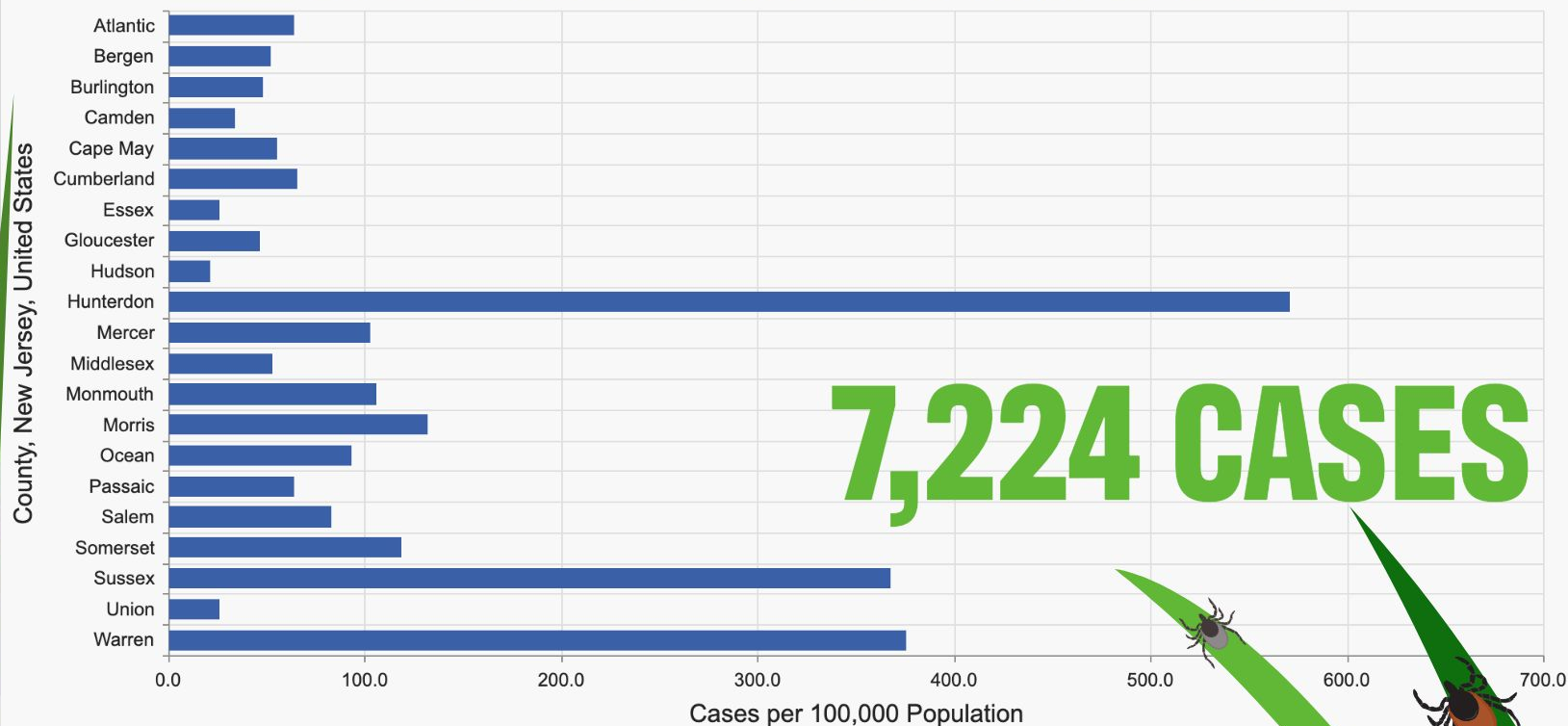
7,224 cases of Lyme disease were reported in NJ in 2023.



LYME DISEASE CASES BY STATE OF RESIDENCE 2023

Centers for Disease Control and Prevention. (n.d.-a). Lyme disease case map. Centers for Disease Control and Prevention.
<https://www.cdc.gov/lyme/data-research/facts-stats/lyme-disease-case-map.html>

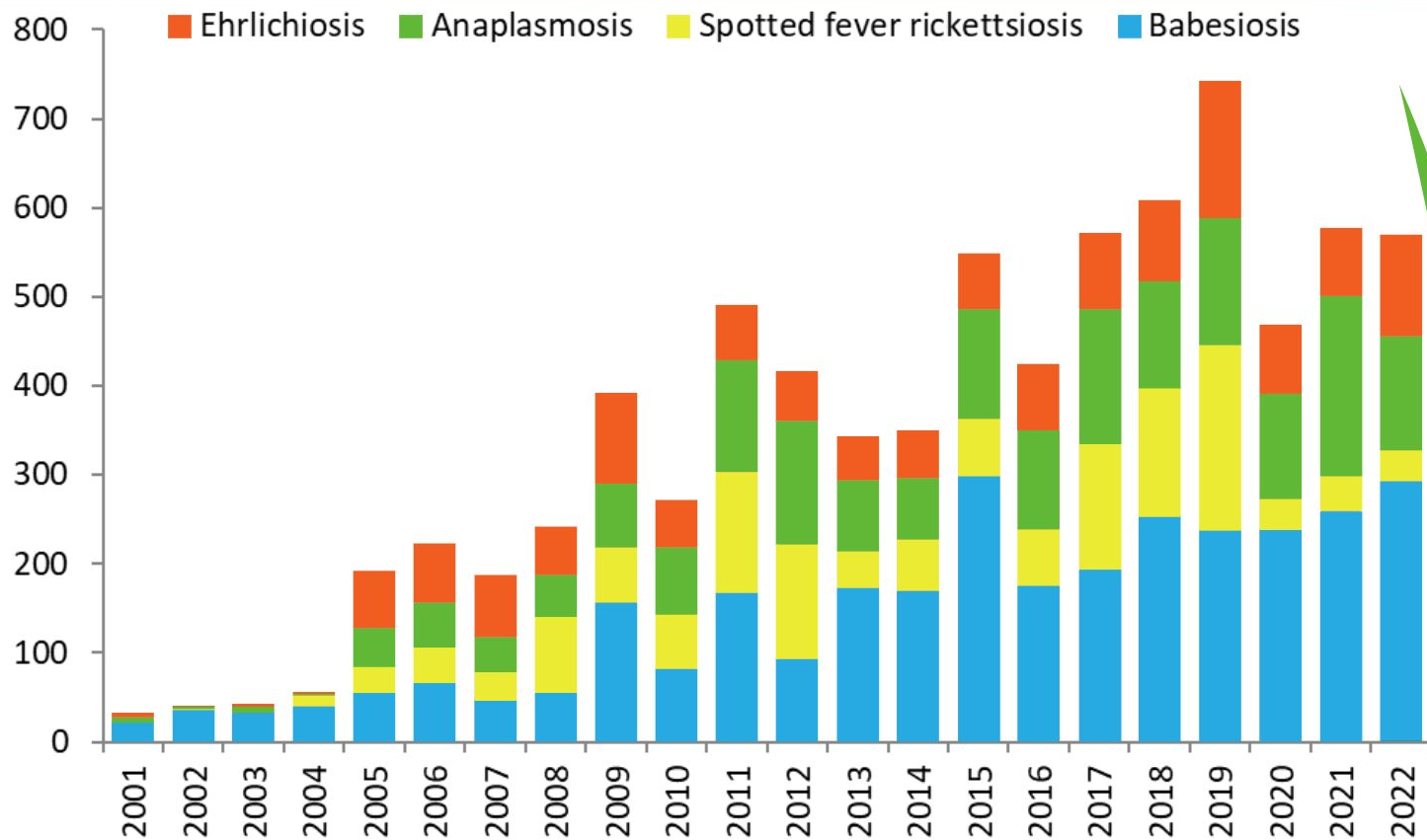
Lyme Disease incidence by County of Residence, New Jersey, 2023



TBD UPTICK

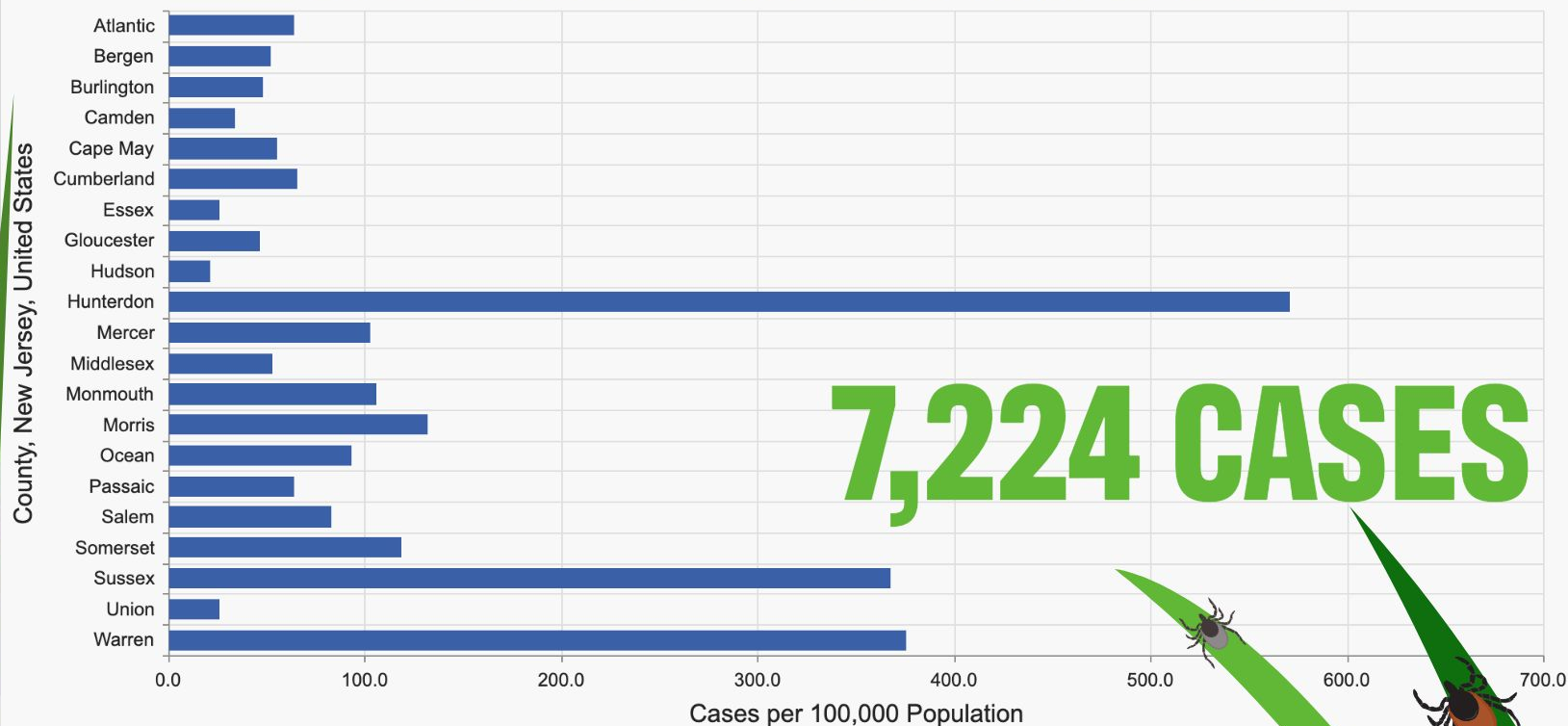


of Human Case Reports

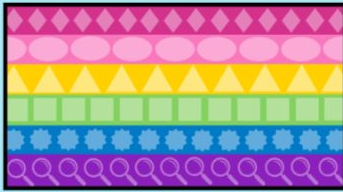


**Monmouth County
Tick-Borne Diseases Lab**

Lyme Disease incidence by County of Residence, New Jersey, 2023



**Black-
legged
"Deer"**



**Lone
Star**



**Gulf
Coast**



**Asian
Long-
horned**



Tick-Borne Diseases

Anaplasmosis

Babesiosis

Ehrlichiosis

Encephalitis

Lyme Disease

Red Meat Allergy

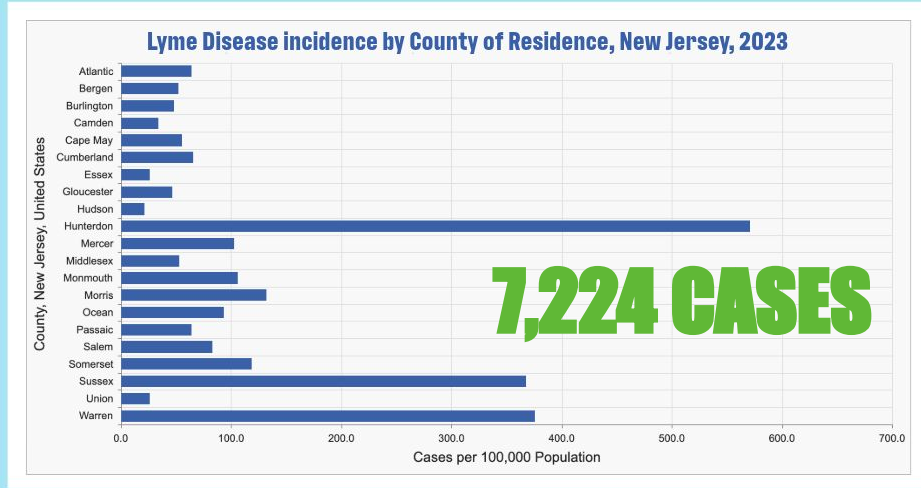
Relapsing Fever

Spotted Fever

Under Investigation



Tick-Borne Diseases

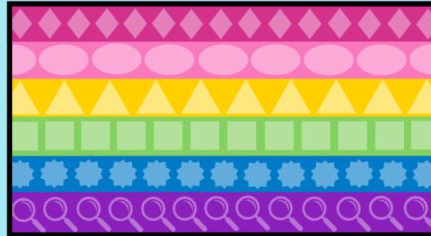


Species

**Black-
legged
"Deer"**



Can Transmit



Anaplasmosis

Babesiosis

Ehrlichiosis

Encephalitis

Lyme Disease

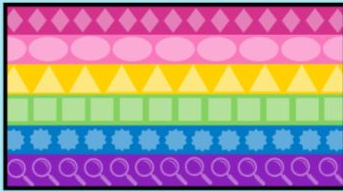
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**Black-
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Tick-Borne Diseases

Anaplasmosis

Babesiosis

Ehrlichiosis

Encephalitis

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Red Meat Allergy

Relapsing Fever

Spotted Fever

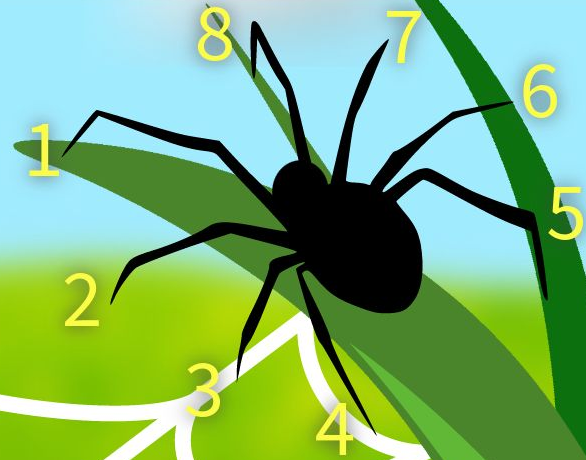
Under Investigation



WHAT ARE TICKS?



TICKS ARE ARACHNIDS



Adult



Nymph

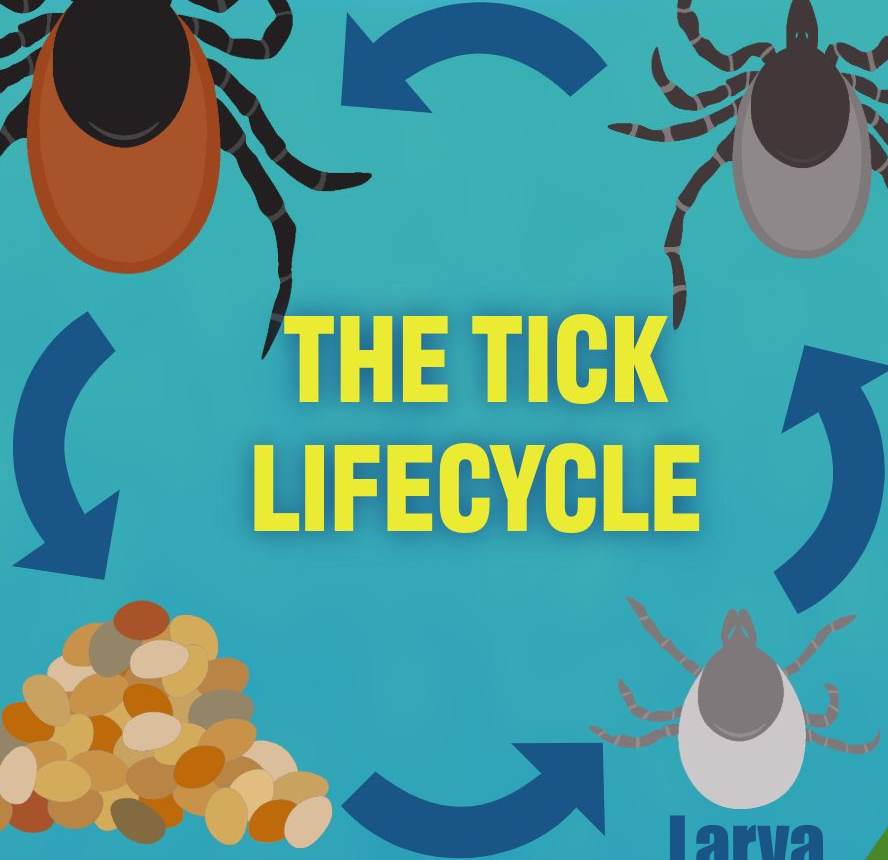


THE TICK LIFECYCLE

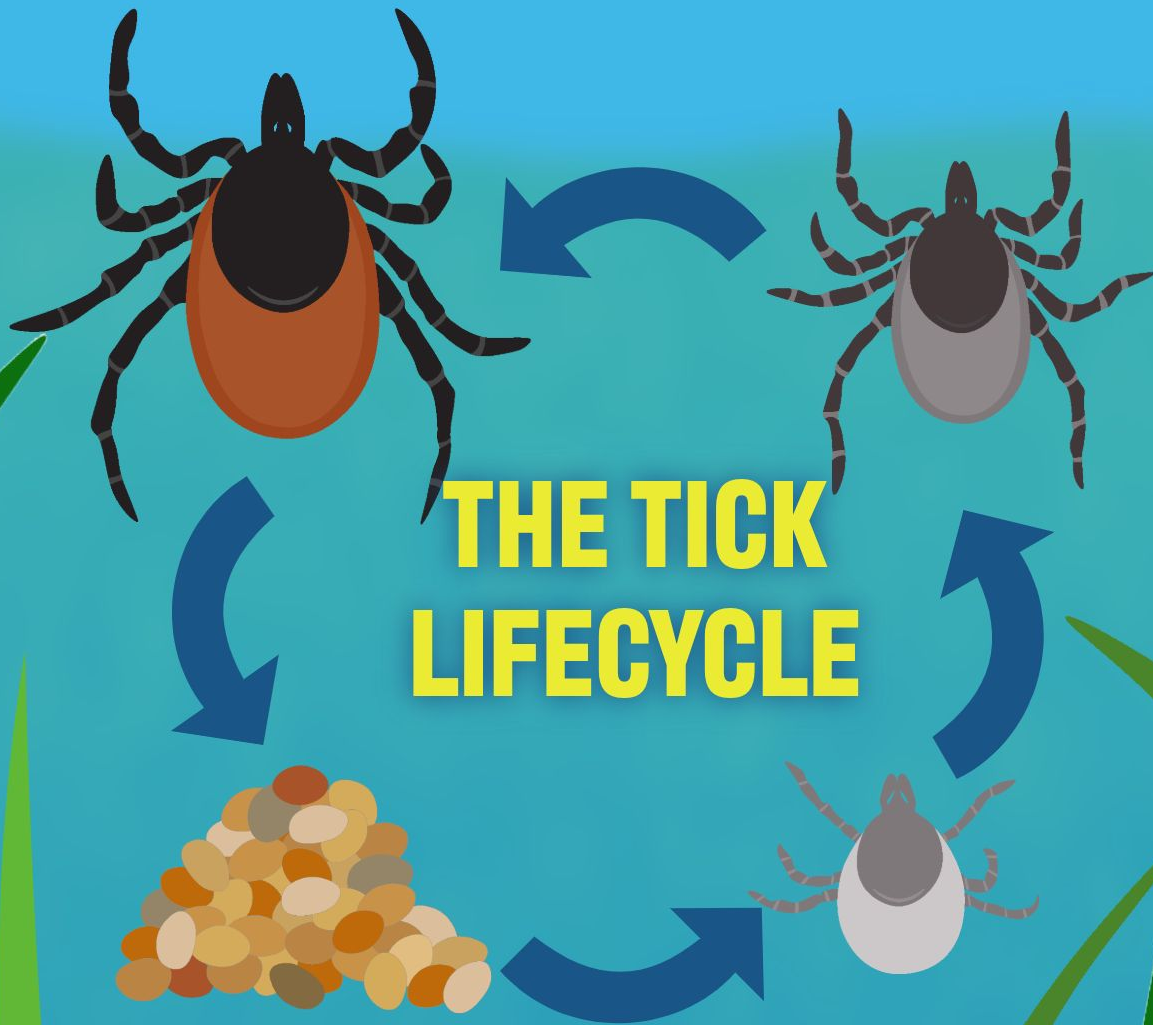
Eggs



Larva



THE TICK LIFECYCLE



Nymph



THE TICK LIFECYCLE



Larva

Adult

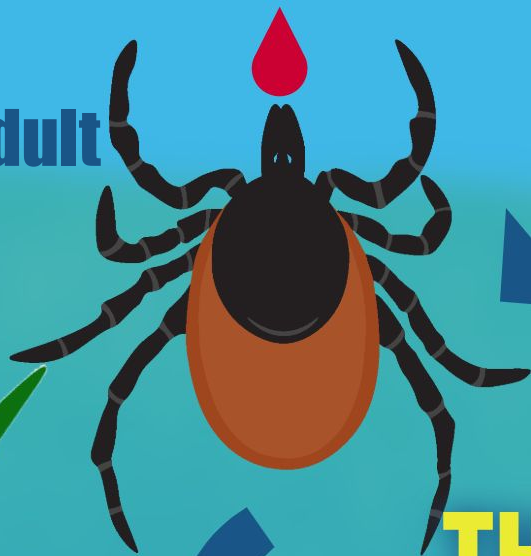
Nymph

THE TICK LIFECYCLE

Larva



Adult



Nymph

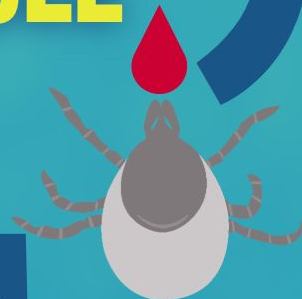


THE TICK LIFECYCLE

Eggs



Larva



Adult



Nymph

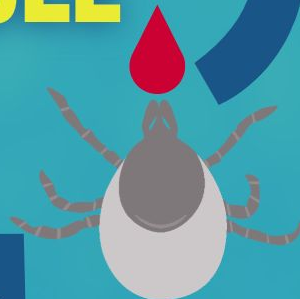
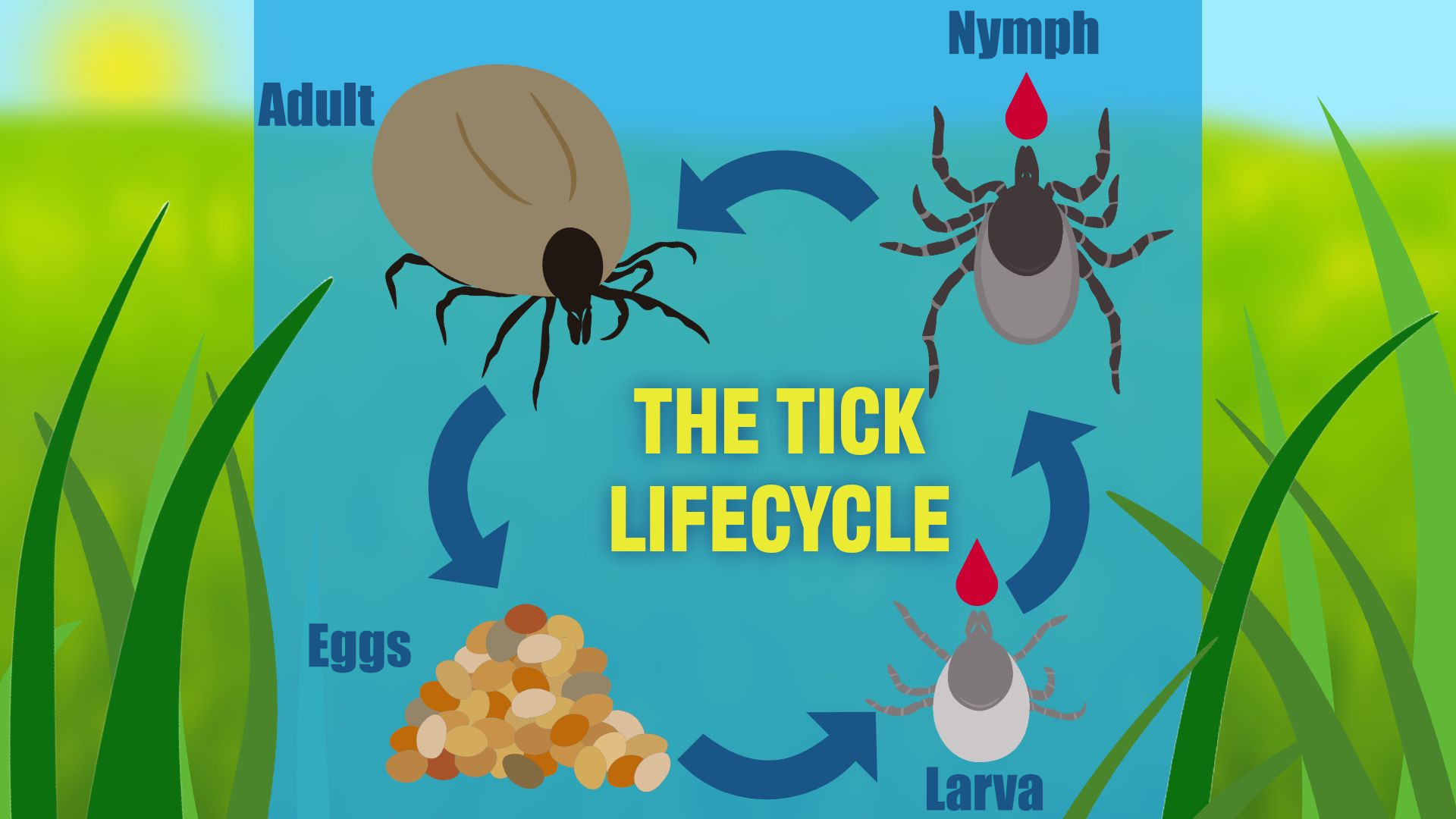


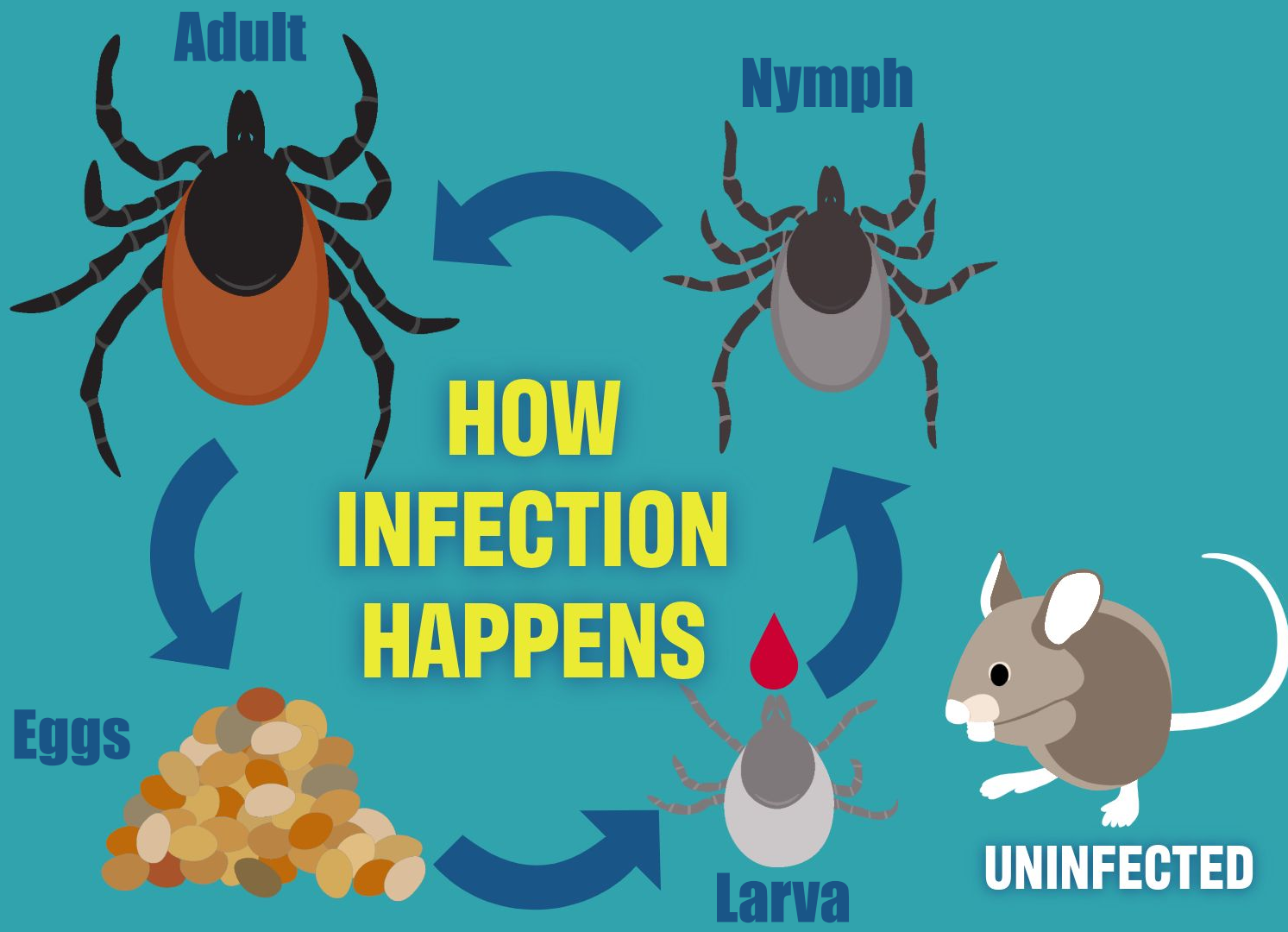
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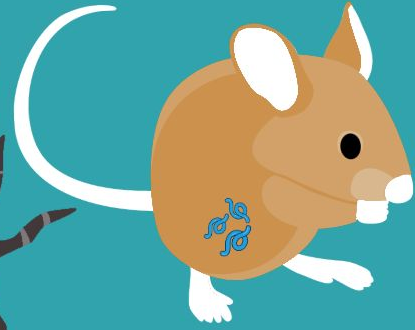
Eggs



Larva

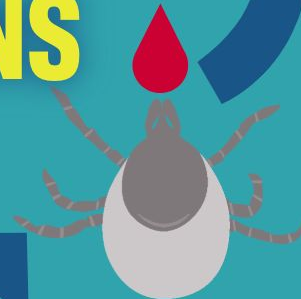




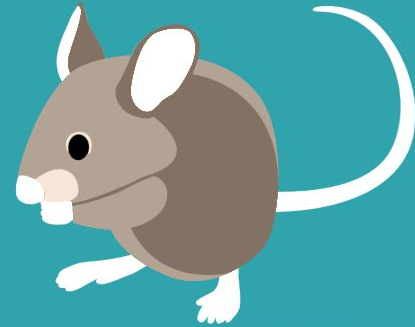


INFECTED

HOW INFECTION HAPPENS



Larva



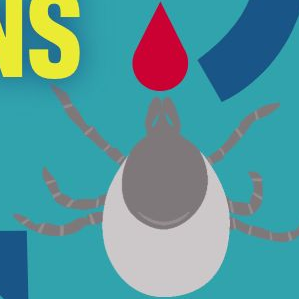
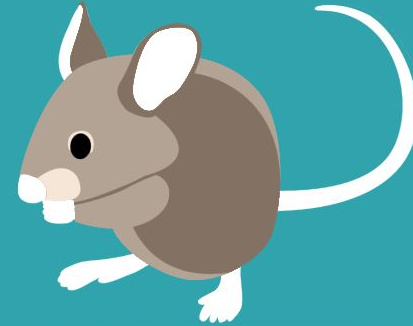
UNINFECTED

Nymph

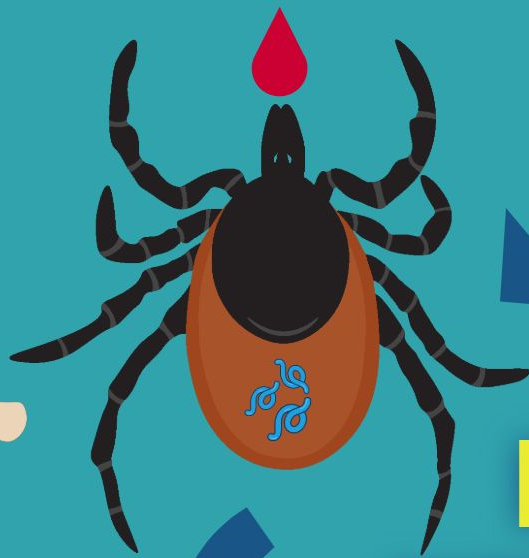
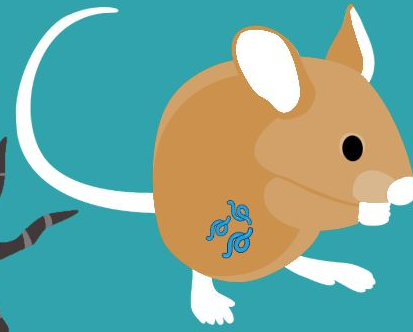


INFECTED

HOW INFECTION HAPPENS

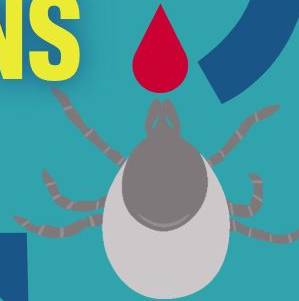
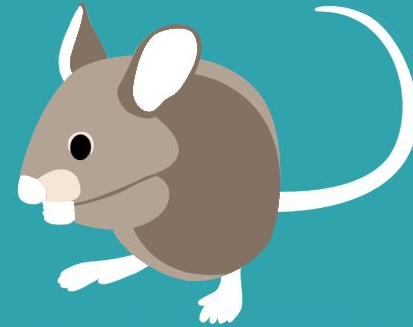


UNINFECTED



INFECTED

HOW INFECTION HAPPENS



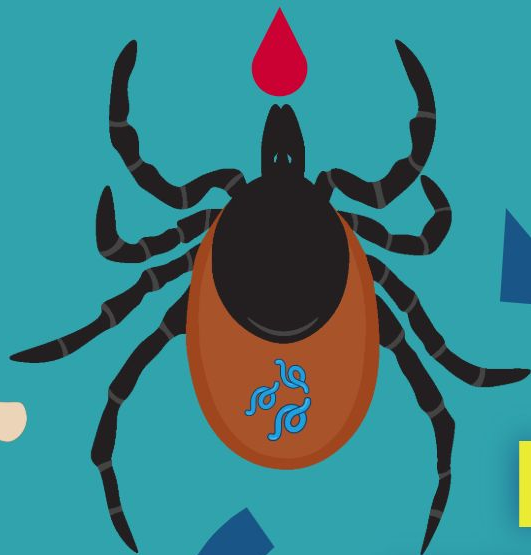
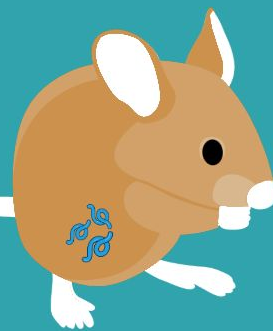
UNINFECTED



OVER 24 HRS

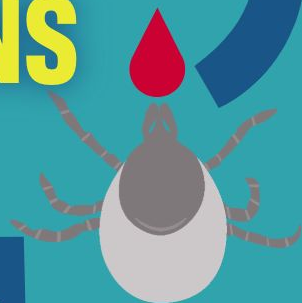
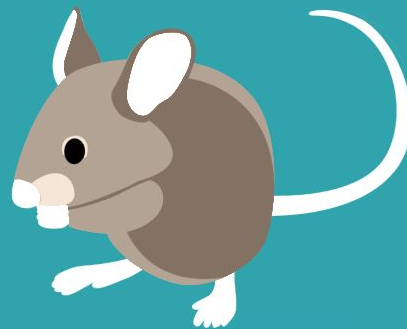


INFECTED



INFECTED

HOW INFECTION HAPPENS

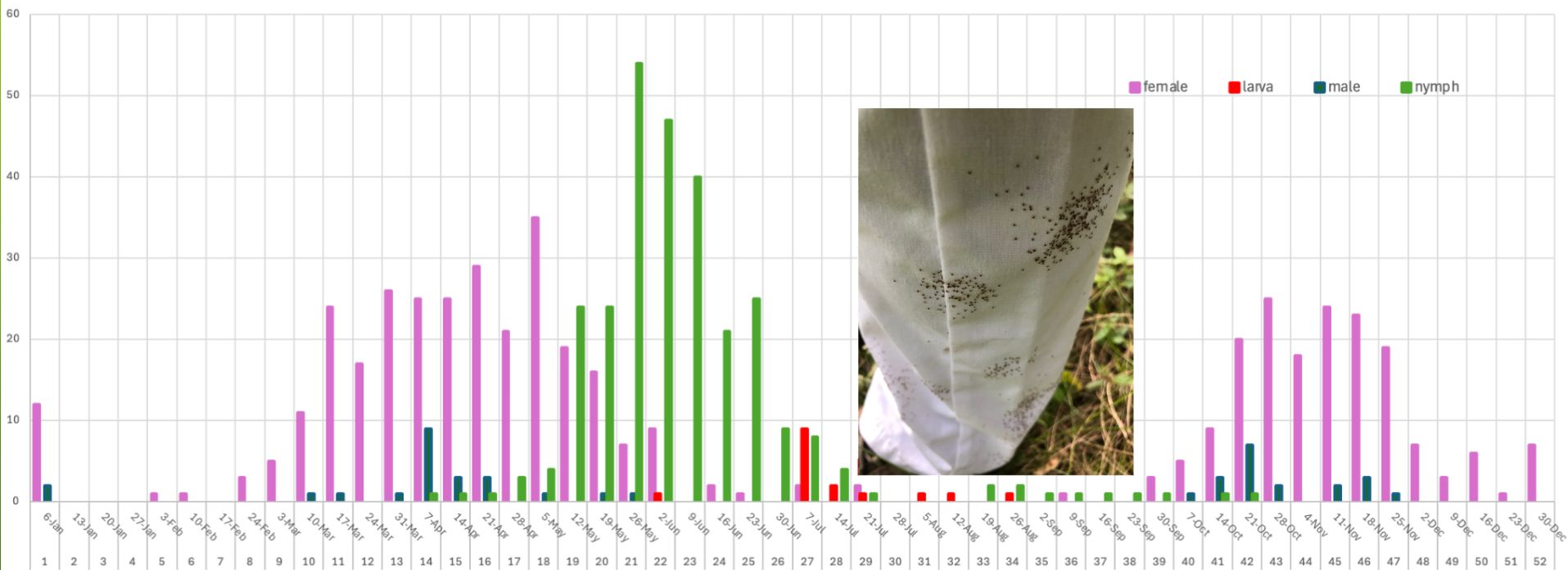


UNINFECTED

TICK SEASON IS EVERY SEASON!



1 year of blacklegged tick submissions to NJTicks4Science!



LIFE STAGE SIZES



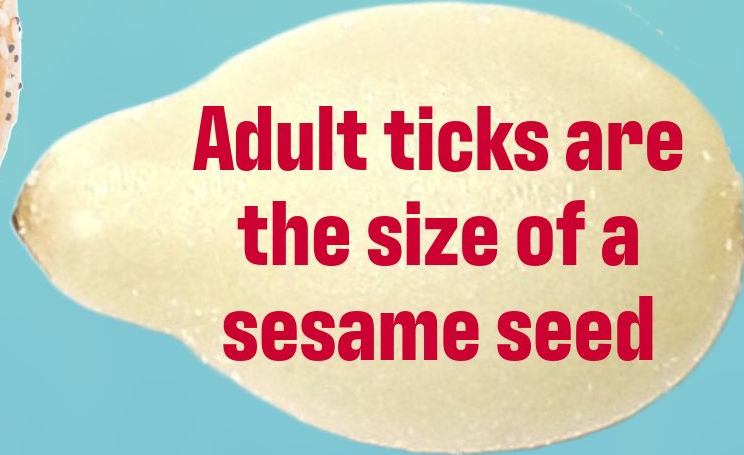
**Nymphal ticks
are the size of a
poppy seed**

**Adult ticks are
the size of a
sesame seed**

LIFE STAGE SIZES



**Nymphal ticks
are the size of a
poppy seed**



**Adult ticks are
the size of a
sesame seed**

SPECIES	LINKED TO	WE TEST 4
Black-legged Deer Tick 	Anaplasmosis	✓
	Babesiosis	✓
	Encephalitis	✓
	Lyme Disease	✓
	Relapsing Fever	✓
Lone Star Tick 	Ehrlichiosis	✓
	Red Meat Allergy	✗ *Nothing to test for
Gulf Coast Tick 	Tidewater Spotted Fever	✓
American Dog Tick 	Rocky Mountain Spotted Fever (RSMF)	✗ *Agent of RSMF not found in this tick species in NJ
Asian Long-horned Tick 	Under Investigation	✗ *Not associated with human disease in NJ

TICK INFECTED W/ LYME BACTERIA



**LYME INFECTS
AFTER 24 HRS**

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TICK INFECTED W/ LYME BACTERIA + BABESIA



**BABESIA INFECTS
36-48 HRS**

**LYME INFECTS
AFTER 24 HRS**



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TICK INFECTED W/ LYME BACTERIA + BABESIA



**INFECTED WITH
LYME AND BABESIA**



RUTGERS UNIVERSITY

Center for Vector Biology

New Jersey Agricultural Experiment Station

- **Wear light colored clothing—easier to spot ticks**
- **Apply repellent that contains DEET, picaridin, Oil of Lemon Eucalyptus, or IR3535**



RUTGERS UNIVERSITY

Center for Vector Biology

New Jersey Agricultural Experiment Station

- **Tuck pants into socks**
- **Tuck shirt into pants**



TICK HABITATS

Grassy Fields



Forests



Leaf Litter



HABITAT MODIFICATION

Grassy Fields



Forests



Leaf Litter

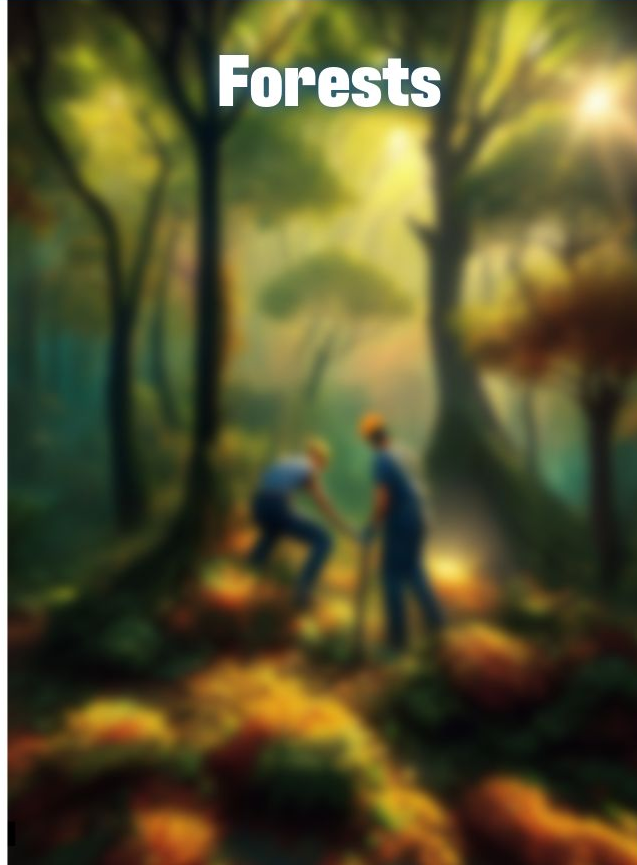


HABITAT MODIFICATION

Grassy Fields



Forests



Leaf Litter





NJ TICKS 4 SCIENCE!

**Citizens send us ticks
they encounter**



**We ID them and test
the ticks**



**Provide results and
incorporate on tick map**



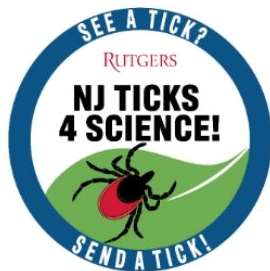
CITIZENS SEND US TICKS



NJ Ticks 4 Science!

[Home](#) [Join the Project](#) [Ticks of NJ](#) [Prevent Tick Bites](#) [Tick Blitz](#) [Donate!](#)

Welcome to NJ Ticks 4 Science!



This is a citizen science project where we enlist people to submit ticks they come across in their everyday lives while living, working, and visiting New Jersey or as part of a Tick Blitz!

The goal is to understand the changing distribution of ticks and tick-borne pathogens across New Jersey. With your help, we will learn where and when people are exposed to ticks and tick-borne diseases.

Get Started



[Send us your ticks!](#)

[Tick Prevention](#)

[Tick Removal](#)

If you have already submitted ticks

[Track your progress](#)



Photo of a female blacklegged tick (sometimes called "deer tick"), (photo credit Jim Occi, PhD).

CITIZENS SEND US TICKS



NJ Ticks 4 Science!

[Home](#) [Join the Project](#) [Ticks of NJ](#) [Prevent Tick Bites](#) [Tick Blitz](#) [Donate!](#)

Join NJ Ticks 4 Science!

Here's what to do:



**Step 1 - Fill out the form
and upload your pics**

**Step 2 - Write down tick
identification number**

**Step 3 - Check our
website for a tick request
(usually 24hrs or less)**

Step 4 - Mail tick in

**Step 5 - Check our
website for results in a
few weeks**



Multiple life stages of common ticks of New Jersey (photo credit Andrea Egizi, PhD).

Are you sure it is a tick?

Learn to take tick pics

CITIZENS SEND US TICKS



Tick Submission Form

Submitter Information

Municipality *

ZIP Code *

Tick Attachment Information

Indicate on who/what tick(s) were found *:

☐ Person ☐ Animal ☒ Environment/Outside

☐ Other

Tick Location Information

Date tick was found *

Municipality where tick was found *

County where tick was found *

ZIP code where tick was found *

Descriptor of Location*

☐ Backyard ☐ Park/Playground

☒ Recreational area outside

☐ Forest/Wooded area

☐ Field/Grassy area

☐ Garden/Agriculture ☐ Other

Describe activity/activities when tick(s) were acquired:

Please submit at least one photo of the tick between 2kb and 8Mb in size.

Reminder: Review [How to Take a Tick Pic](#)

Any additional information about the environment, tick(s), and/or person/pet: (please keep character number below 200)

Character count: 0



CITIZENS SEND US TICKS



**Write this number down or take a
screenshot.**

1108

Thank you for your submission!

Your personalized tick id number is 1108.

**Mail your tick to the Center for Vector Biology
180 Jones Ave, New Brunswick, NJ 08901**

You MUST include this number in your tick mail!



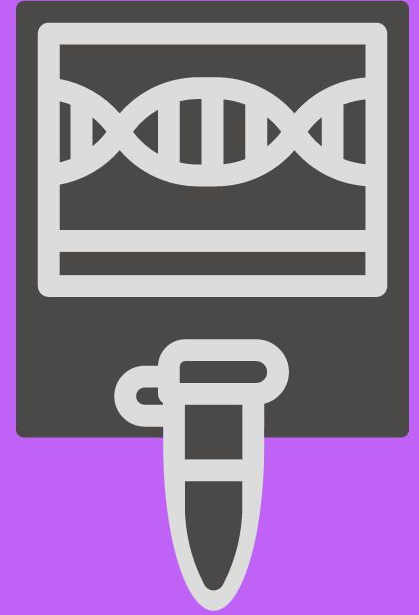
IDENTIFY AND TEST



Identify



DNA Extraction



qPCR

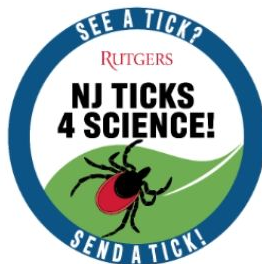
IDENTIFY AND TEST



NJ Ticks 4 Science!

[Home](#) [Join the Project](#) [Ticks of NJ](#) [Prevent Tick Bites](#) [Tick Blitz](#) [Donate!](#)

Welcome to NJ Ticks 4 Science!



Get Started

[Send us your ticks!](#)

[Tick Prevention](#)

[Tick Removal](#)

If you have already submitted ticks

[Track your progress](#)

This is a citizen science project where we enlist people to submit ticks they come across in their everyday lives while living, working, and visiting New Jersey or as part of a Tick Blitz!

The goal is to understand the changing distribution of ticks and tick-borne pathogens across New Jersey. With your help, we will learn where and when people are exposed to ticks and tick-borne diseases.



Photo of a female blacklegged tick (sometimes called "deer tick"), (photo credit Jim Occi, PhD).

IDENTIFY AND TEST



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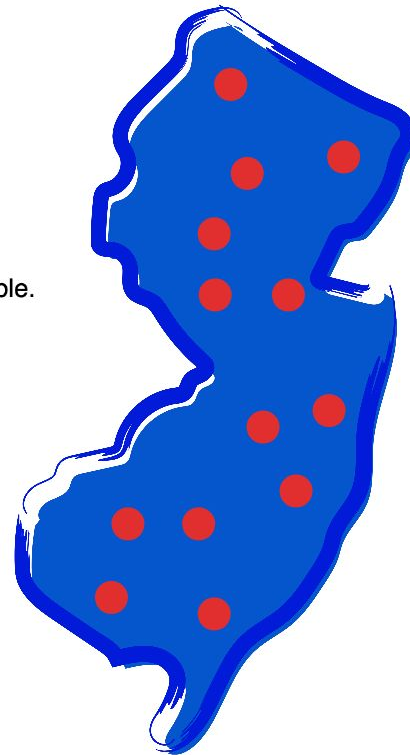
SPECIMEN IDENTIFIED

BLACKLEGGED TICK (OLD NAME "DEER TICK") - *IXODES SCAPULARIS*

[View more about blacklegged tick \(old name "deer tick"\) here](#)

Your tick will be tested for the following pathogens. The results will be posted here when they are available.

- *Borrelia burgdorferi* - positive
- *Anaplasma phagocytophilum* - positive
- *Babesia microti* - positive
- *Borrelia miyamotoi* - negative





TICK CONFIDENCE!

Identify Ticks



Tickborne Disease

Anaplasmosis
Babesiosis
Ehrlichiosis
Encephalitis
Lyme Disease
Relapsing Fever
Spotted Fever
Tularemia

Tick Bite Prevention



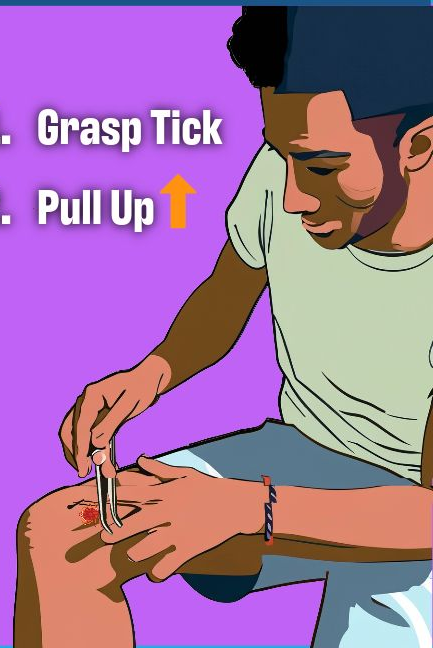
Repellent

Tick Checks

Light-Colored
Clothes

Tick Removal

1. Grasp Tick
2. Pull Up ↑



ENTHUSIASTICK ADVENTURERS



¿VES UNA GARRAPATA? ¡ENVÍA UNA GARRAPATA!

1. Ve a la página de inicio del sitio web y haz clic en "¡Envíanos tus garrapatas!"



TICKS.RUTGERS.EDU

Send us your ticks!

2. Haz clic en "Paso 1"

Step 1 - Fill out the form and upload your pics

4. ¡Llena el formulario de envío de garrapatas y haz clic en enviar!

I UNDERSTAND, continue to for

FREE TICK TESTING!

www.ticks.rutgers.edu

cvbquestions@njaes.rutgers.edu

5. Captura la pantalla con el # de garrapata o anótalo (NO OLVIDE)



#000

7. Haz clic en "Rastrear tu progreso" e ingresa el # ID de la garrapata

Track your progress

MISSION

"NJ Ticks 4 Science" is a citizen science project organized by Rutgers Center for Vector Biology. Our goal is to create a tick map showing the changing distribution of ticks and tick-borne pathogens in NJ and bring more awareness to tickborne disease. If you are a New Jersey and encounter a tick you can send it to us and we will test it for disease-causing pathogens for free!

SEND US YOUR TICKS!



FILL OUT FORM



MAIL TICK IN



CHECK RESULTS

RUTGERS UNIVERSITY
Center for Vector Biology
New Jersey Agricultural Experiment Station

SPECIES

DISEASES

GARRAPATAS COMUNES EN NUEVA JERSEY

Garrapata de patas negras Garrapata de la estrella solitaria Garrapata de Gulf Coast



TICKS4SCIENCE



RUTGERS UNIVERSITY
Center for Vector Biology
New Jersey Agricultural Experiment Station

MÁNDANOS TUS GARRAPATAS!

¡ENVÍA LA GARRAPATA!

¡ENVÍA LA GARRAPATA!

COMPLETA EL FORMULARIO

GUARDA EL # DE IDENTIFICACIÓN

MÁNDANOS LA GARRAPATA SELLADA CON EL #

PRUEBAS DE GARRAPATAS GRATUITAS

¡Enviar!

#000

#000

GARRAPATAS DE NUESTRA JERSEY

PREVENCIÓN DE GARRAPATAS

CONCEPCIONES MAL ENTENDIDAS

¿Culada a Testeamos

aplastamiento	✓
deformación	✓
hemorragia	✓
infección de Lyme	✓
recurrer	✓
hinchazón	✓
de carne roja	✓
"Nada que probar"	✓
de maculosa	✓
de las alas de las Mariposas	✓
Agente no encontrado en esta especie de garrapata en NJ	✓
Investigación	✓
"No asociado con enfermedad humana en NJ"	✓

En busca de agentes, que han sido, consulte la tabla de arriba, estamos en cada especie de los ayudamos a mantener las

Ropa

- Usa ropa de colores claros
- Meter los pantalones dentro de los calcetines y la camisa dentro de los pantalones
- Utiliza ropa tratada con repelente

Repelentes

- Usa un repelente que contengan DEET, picaridin, Aceite de Limón y Eucalipto, o IR3535

Chequea Garrapatas

- ¡Revisa en todas partes!
- Especialmente detrás de las orejas, rodillas, alrededor de los tobillos, ingle.

MITOS

- ✗ Hay solo una especie de garrapatas en Nueva Jersey
- ✗ Las garrapatas solo están activas durante los meses cálidos
- ✗ Si la "cabeza" de la garrapata se queda en la piel todavía transmite patógenos
- ✗ Todas las especies de garrapatas transmiten la bacteria de Lyme
- ✗ Una garrapata infectada siempre te

HECHOS

- ✓ Hay 15 especies de garrapatas en Nueva Jersey
- ✓ Las garrapatas solo están activas durante los meses cálidos
- ✓ Si la "cabeza" de la garrapata se queda en la piel todavía transmite patógenos
- ✓ Todas las especies de garrapatas transmiten la bacteria de Lyme
- ✓ Una garrapata infectada siempre te

TICKS OF NJ

Species	Can Transmit
Black-legged tick	✓
Lone Star	✓
Gulf Coast	✓
American Long-horned	✓
Tick-Borne Diseases	
Anaplasmosis	✓
Babesiosis	✓
Ehrlichiosis	✓
Encephalitis	✓
Lyme Disease	✓
Red Meat Allergy	✓
Relapsing Fever	✓
Spotted Fever	✓
Under Investigation	✓

FREE TICK TESTING!

FILL OUT FORM



SAVE TICK ID#



MAIL SEALED TICK IN WITH #



CHECK RESULTS



TICK REMOVAL

1. Grasp the tick



2. Pull up



3. Wash your hands



4. Submit to NJ Ticks 4 Science!



@NJTICKS4SCIENCE

COMMON TICK MISCONCEPTIONS

Myth	Fact
✗ Ticks are insects	✓ Ticks are arachnids
✗ There is only one tick species in NJ	✓ There are 15 known tick species in NJ
✗ Ticks are only active during warm months	✓ Ticks are active year-round
✗ A tick "head" left in the skin can still transmit pathogens	✓ A tick can only transmit pathogens with its body attached
✗ All NJ tick species transmit Lyme bacteria	✓ Only blacklegged "deer" ticks transmit Lyme bacteria
✗ An infected tick will always make you sick	✓ An infected tick doesn't always transmit

TICK BITE PREVENTION

Clothing	Repellent	Tick Checks
✓ Wear light colored clothing	✓ Use a repellent that contains DEET, picaridin, Oil of Lemon Eucalyptus, or IR3535	✓ Check everywhere!
✓ Tuck pants into socks and shirt into pants		✓ Especially behind the ears, knees, around the ankles, groin, head, and belly button
✓ Wear repellent treated clothing		

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PUNTOS IMPORTANTES

- Retire las garrapatas adheridas con pinzas o un quitagarrapatas (si no hay otra opción, use dedos).
- La garrapata de patas negras puede transmitir la enfermedad de Lyme y otras, como la encefalitis de Powassan.
- La garrapata estrella solitaria puede transmitir la ehrlichiosis y dos virus (Bourbon e Heartland).
- Un signo de la fiebre manchada transmitida por la garrapata de la costa del Golfo es una costra oscura en el sitio de la mordedura.

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