Public Tick IPM Working Group

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Funded by:

Tick-Borne Disease is a Growing Problem!

Seventeen tick-borne diseases are found in the US including seven diseases affecting humans reportable to the Centers for Disease Control and Prevention. Health risks to humans, livestock and companion animals varies depending on the tick species and pathogens vectored.

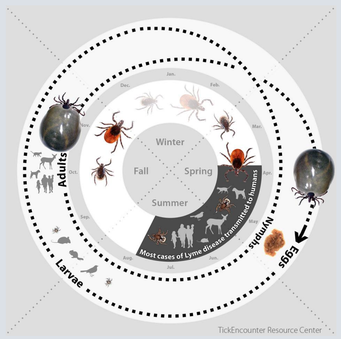
Over the past five years, tick populations have spread geographically, attributed to:

(1) ecological changes and shifts in land use patterns;
(2) increasing deer populations;
(3) changes in host availability; and
(4) improved identification and surveillance of ticks.

Documented numbers of different pathogens, and pathogen diversity among tick species, have increased with improvements in microbiological identification techniques.

IPM Strategies Include:

- Accurate identification of ticks and pathogens, and detailed understanding of life cycles, behaviors, geographic distribution.
- Monitoring techniques including “tick drags” and “tick flagging”, moving a cloth over ground cover and low vegetation and inspecting the cloth for ticks.
- Inspection of clothing and body after visiting tick habitat to detect and remove ticks before they feed/transmit.
- Habitat modification to reduce harborage and opportunities for encounters with hosts including humans, deer, rodents.
- Repellent or acaricide treatment of habitat, clothing and hosts including devices that treat deer and mice.
- Vaccines designed to reduce tick numbers or block the ability of ticks to transmit pathogens, e.g., vaccines designed to prevent infection in mice and other reservoirs break infection cycles.



Tick Identification Can Be A Challenge!

The public is generally poorly skilled at tick id. Tick life stages, and engorged ticks, can look very different from pictures commonly used in outreach materials. TickEncounter.org/TickSpotters is a crowd-sourced tick survey for North America. Users can send pictures of ticks they encounter and receive timely customized responses with tick id, duration of feeding, likely disease risk, information on tick testing and tick bite prevention info. TickEncounter.org has extensive resources related to tick IPM principles, including a growing portfolio of TickSmart™ Learning kits for schools and camps, and TickSmart Educator Certification.

Reducing Tick-Borne Disease

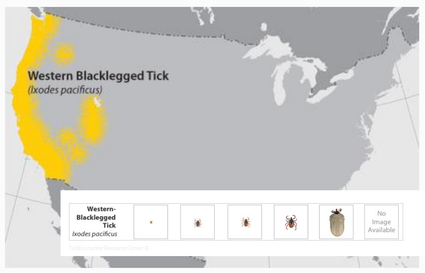
IPM works to reduce tick-borne diseases by reducing exposure to infected ticks. The primary goal of the Public Tick IPM Working Group is to reduce tick-borne disease incidence by coordinating and collaborating on IPM-related activities and efforts that will ultimately reduce host exposure to ticks and pathogens they carry. By working together, we can share information and resources, reduce duplication of effort and increase and accelerate impacts.

Distribution of Key Tick Vectors

Source: CDC for maps, TickEncounter.org for tick images

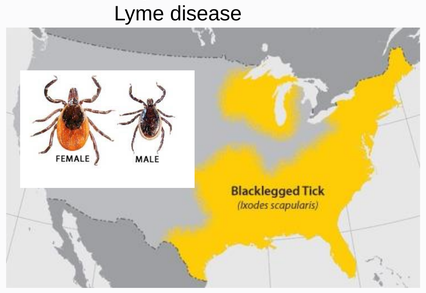
Western Blacklegged Tick

Vector for anaplasmosis, Lyme disease



Blacklegged Tick (aka deer tick)

Vector for anaplasmosis, babesiosis, Lyme disease

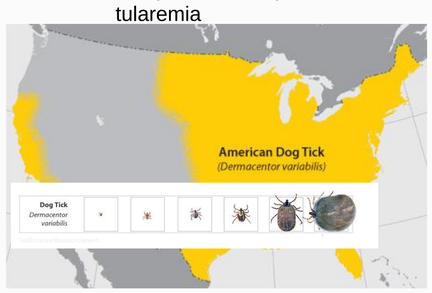


Brown Dog Tick

Vector for Rocky Mountain spotted fever

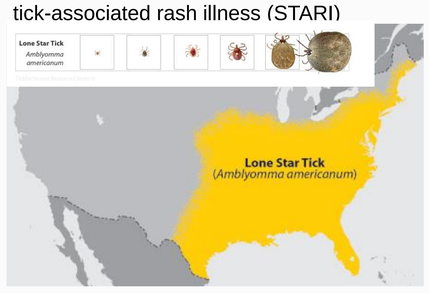
American Dog Tick

Vector for Rocky Mountain spotted fever, tularemia



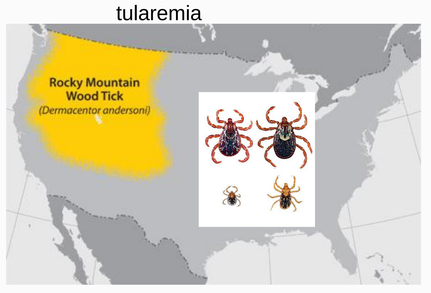
Lone Star Tick

Vector for ehrlichiosis, tularemia, Southern tick-associated rash illness (STARI)



Rocky Mountain Wood Tick

Vector for: Rocky Mountain spotted fever, tularemia



Lyme Disease Facts

The most common tick-borne disease is Lyme disease. Rapid northward expansion of the Lyme disease pathogen and vector, the blacklegged tick, *Ioxodes scapularis,* has been documented in multiple states. CDC estimated 300,000 diagnosed cases in 2013. Wisconsin reports a twelvefold increase in probable and confirmed cases of Lyme disease since 1990, and increasing incidence of all other tick-borne diseases.

- There is no reliable test for Lyme disease.
- 40% of Lyme patients end up with long-term health problems.
- There are more annual reports of Lyme disease in US than hepatitis, HIV, colon cancer and breast cancer.
- Lyme research receives roughly $21 million from NIH compared to $674 million for breast cancer and $3 billion for HIV research.

Working Group Priorities

Working groups funded by the IPM Centers are charged with creating and maintaining stakeholder-identified priorities for research, education and regulation. Priorities can be used by funders to shape requests for applications, and be cited by those seeking funding as evidence of need. Priorities are also used by regulators and policy makers to inform decision making.

Priorities identified in 2014:

1. Develop and promote adoption of IPM strategies to reduce incidence of tick-borne disease by reducing risk of exposure to ticks and pathogens.
2. Clarify and minimize risks associated with acaricides and other tick-borne disease management products.
3. Coordinate with the Federal Tick-Borne Disease IPM Workgroup to complement activities.
4. Build partnerships and communicate with diverse stakeholders about the importance of IPM strategies for managing tick-borne diseases and maintaining a safe and healthy environment.
5. Facilitate collaborative initiatives within the working group, especially among academic, government and non-government organizations.
6. Develop, maintain and communicate current specific stakeholder priorities for research, regulation, education and management, to be used by the working group, grant makers, grant seekers, regulators and others to identify and pursue stakeholder-identified needs.

Resources

- TickEncounter Resource Center tickencounter.org/
- TickMap www.tickmap.org/
- Mainely Ticks www.mainelyticks.com/
- CDC Tickborne Diseases of the U.S. www.cdc.gov/ticks/diseases/

Get Involved!

We are a multi-stakeholder organization with 55 members from 13 states including representatives from land-grant universities, advertising, graphic and web design, school boards, public health and other public agencies, professional organizations including agriculture, forestry, landscaping, parks and recreation, veterinary health, pest management professionals.

To join the Working Group or learn more, contact Chloe Nelson at cnelson@ipminstitute.org

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