

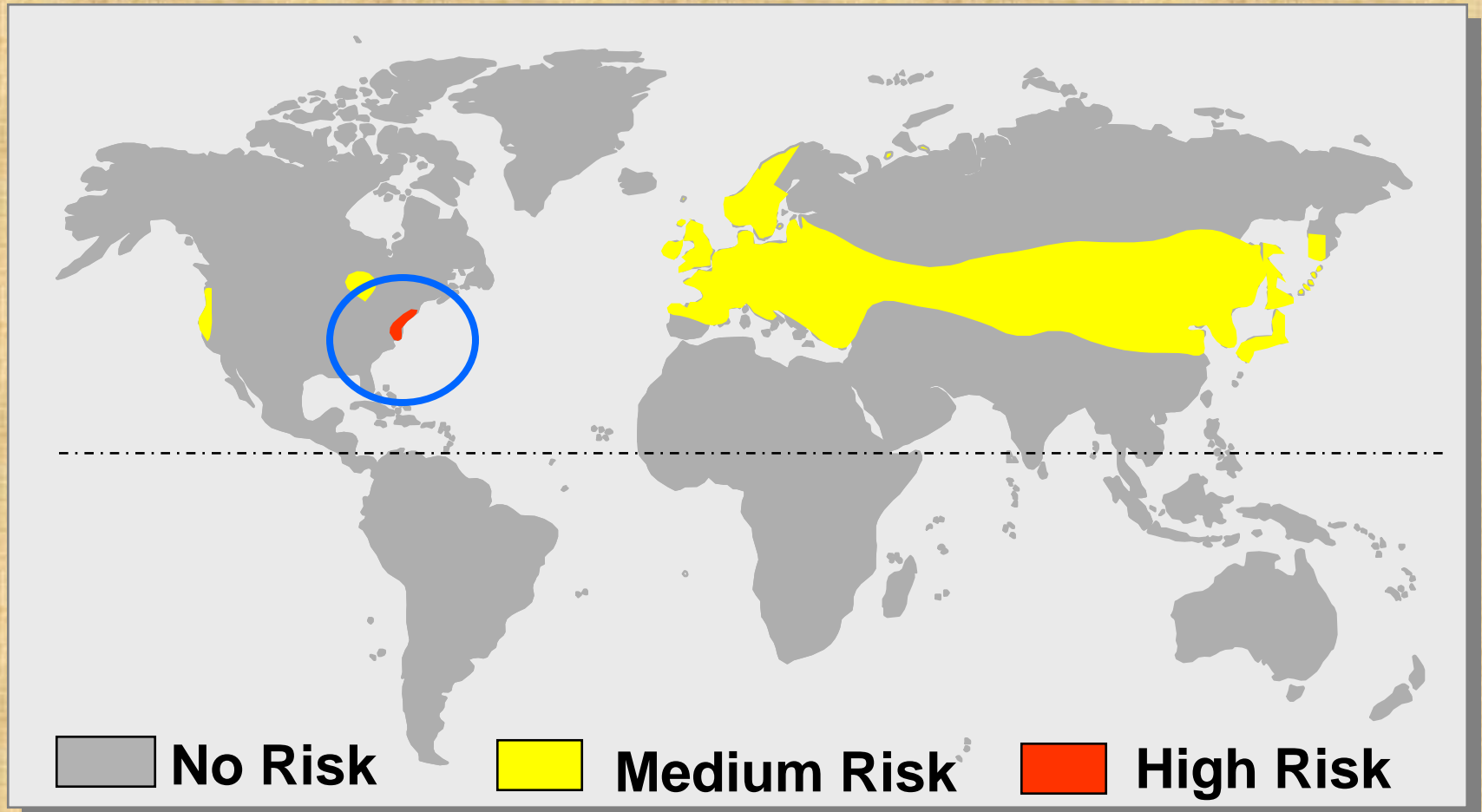


# Ticks at BNL

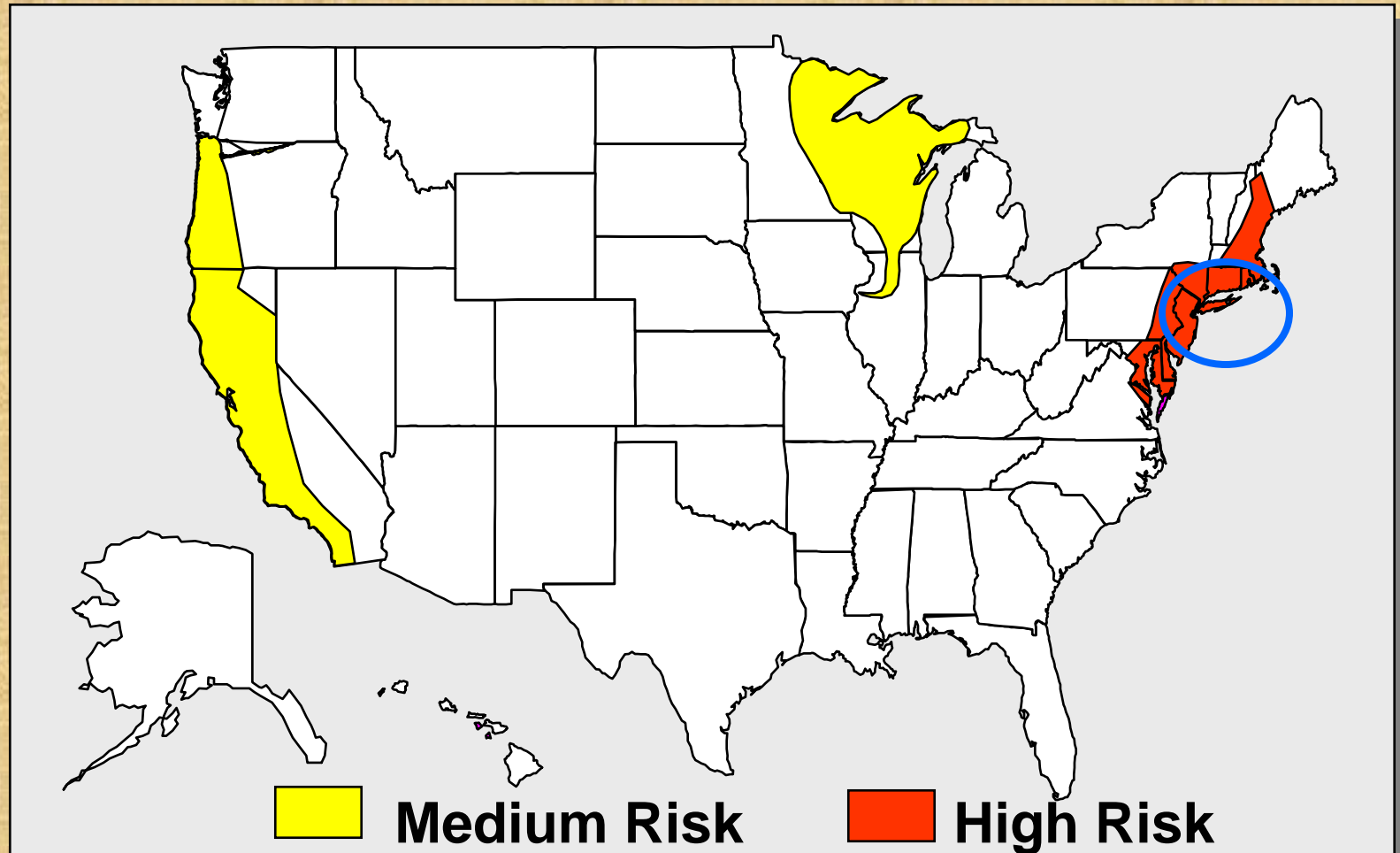
Robert Selvey  
Safety and Health Services Division  
X-3066  
Bldg 120

06/11/09  
Community Advisory Council

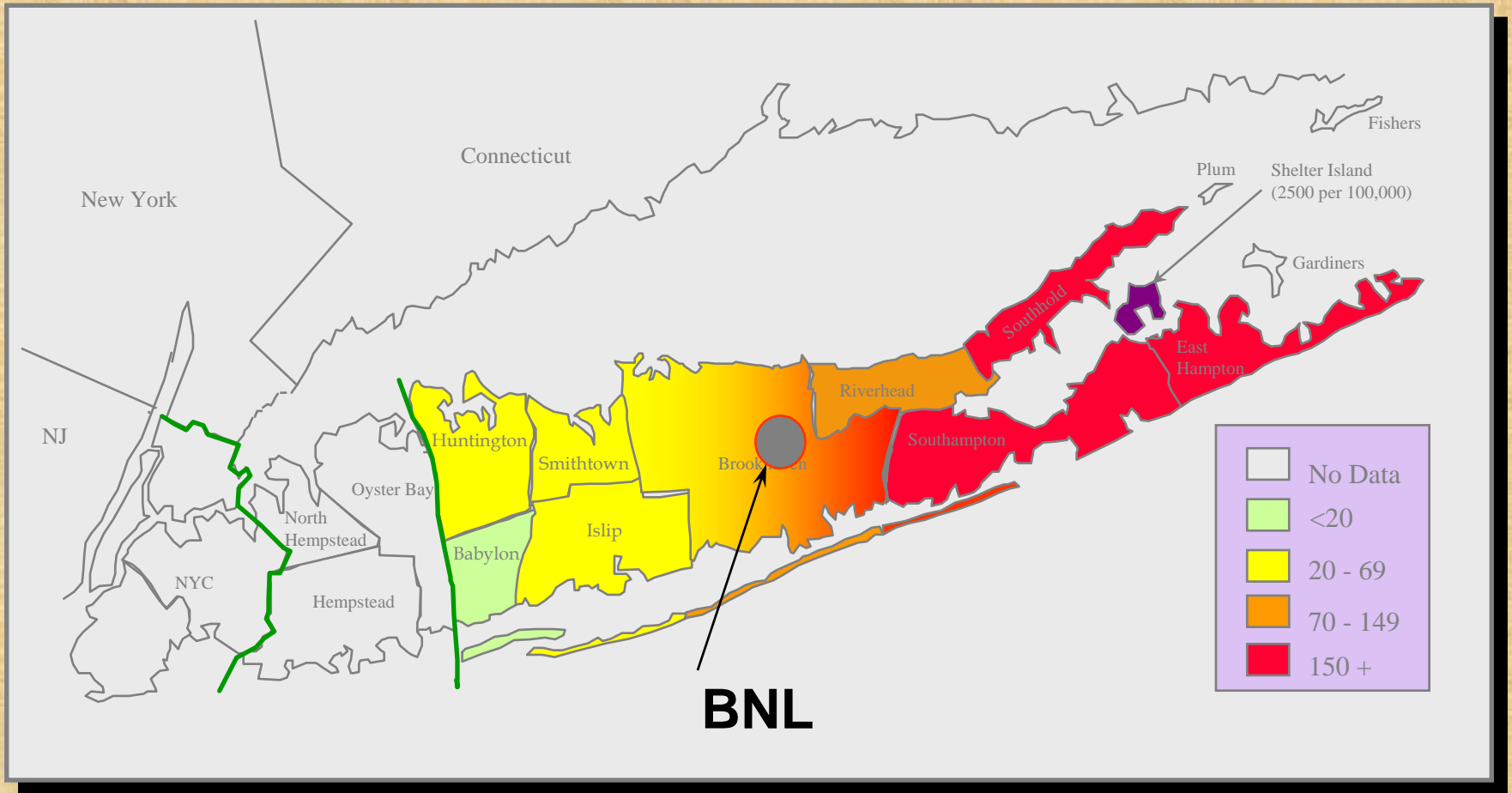
# Lyme Disease in the World



# Lyme Disease in the United States



# Lyme Disease in Suffolk County



# What types of **ticks** are on Long Island?

- Three types

- **Deer Ticks**

- Lyme Disease
    - Babesiosis



10%

- **Dog Ticks**

- Rocky Mountain Spotted Fever



10%

- **Lone Star Ticks**

- Ehrlichiosis,
    - Southern Tick Associated Rash Illness (STARI)



80%

# What causes Tick Diseases ?

**Lyme Disease:** Spirochete

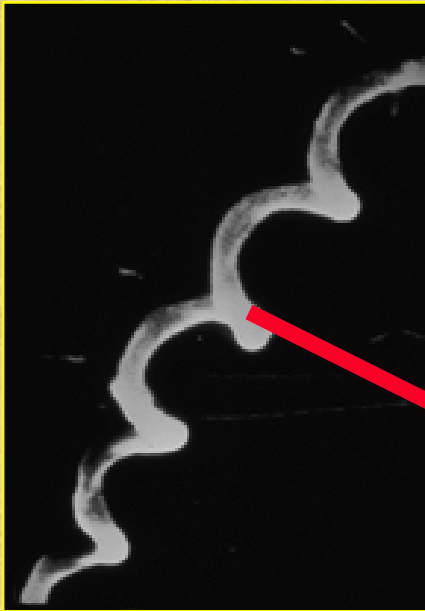
**Rocky Mtn Spotted Fever:** Rickettsia

**Ehrlichiosis:** Bacteria

**Babesiosis:** Protozoan

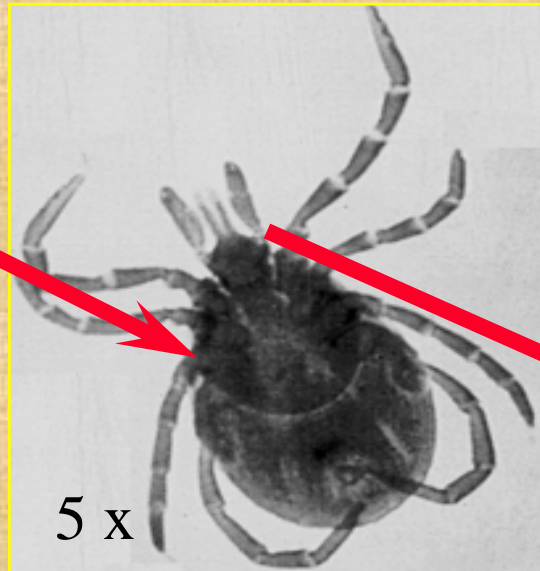
**STARI:** Spirochete ??

## Microorganism



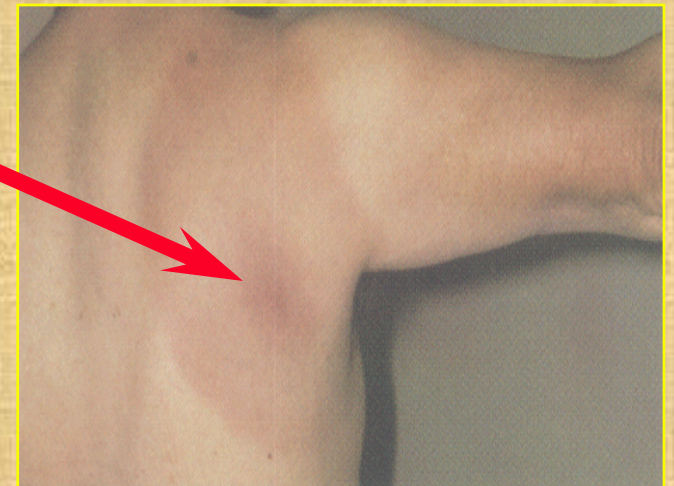
Spirochete  
1000 x

## Tick



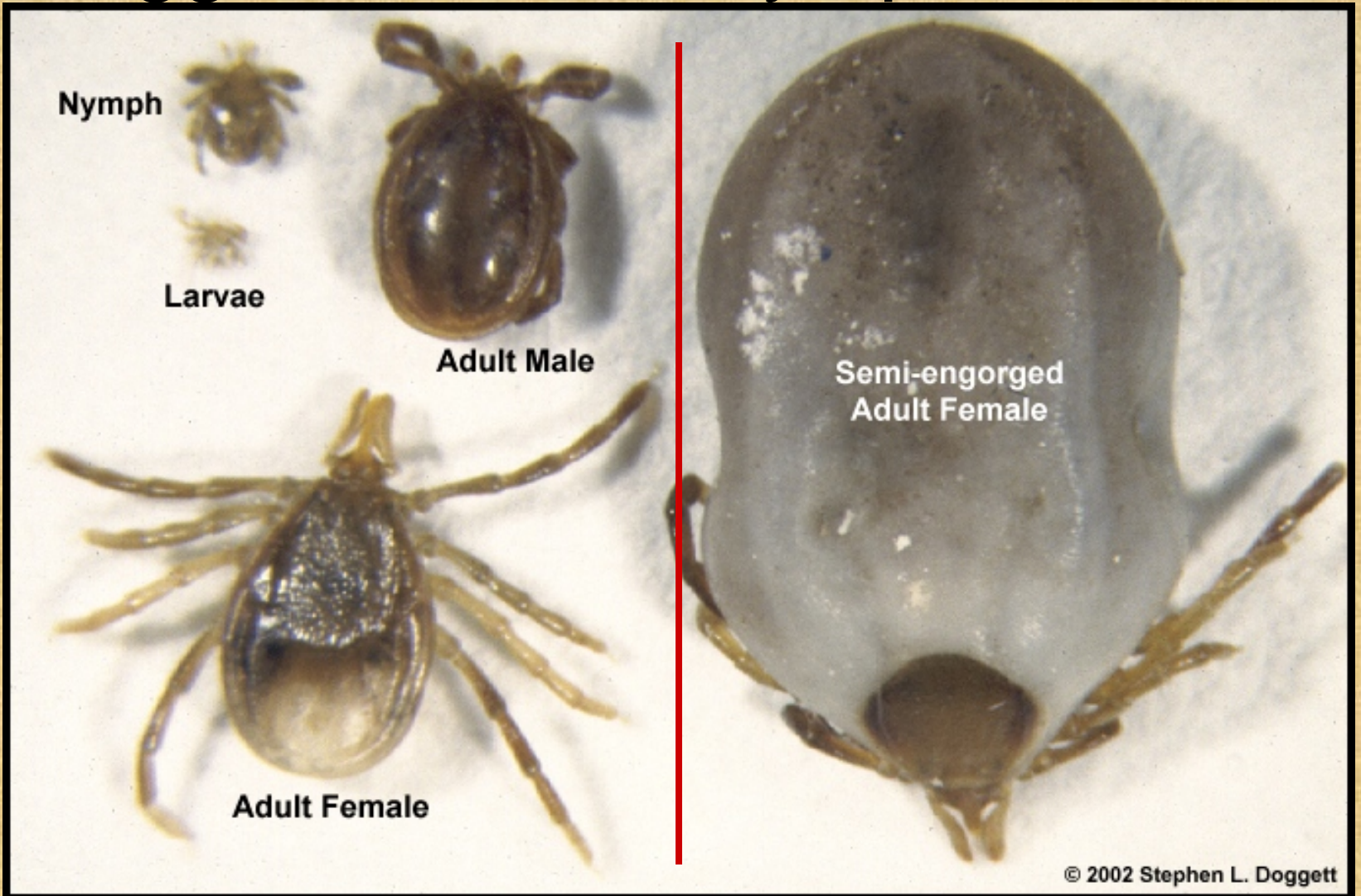
5 x

## Human

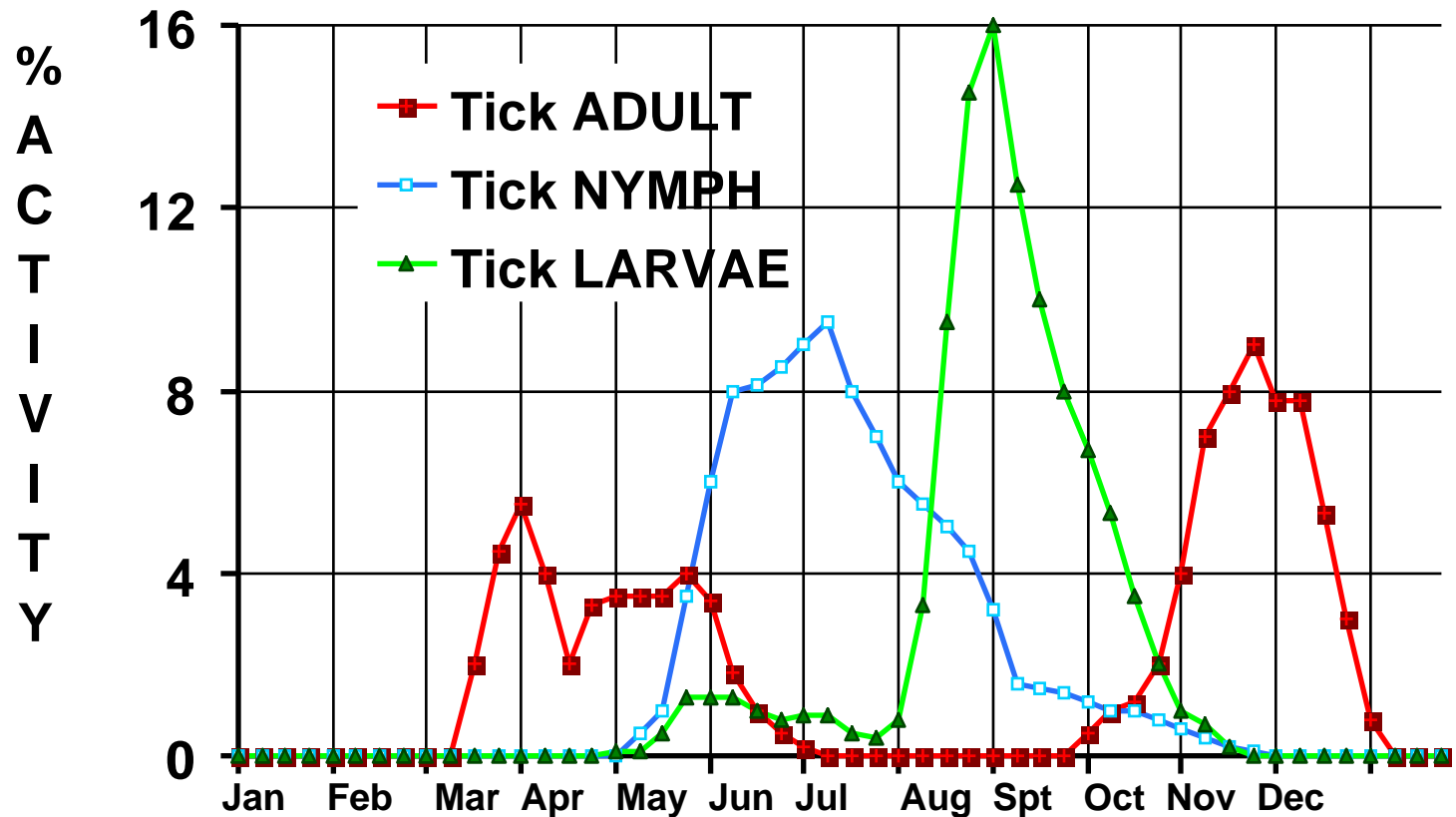


# Ticks have four stages

## Egg – Larvae – Nymph - Adult



# Seasonal Activity of *Ticks* in southern N.Y.





# QUESTING: Search for a Meal

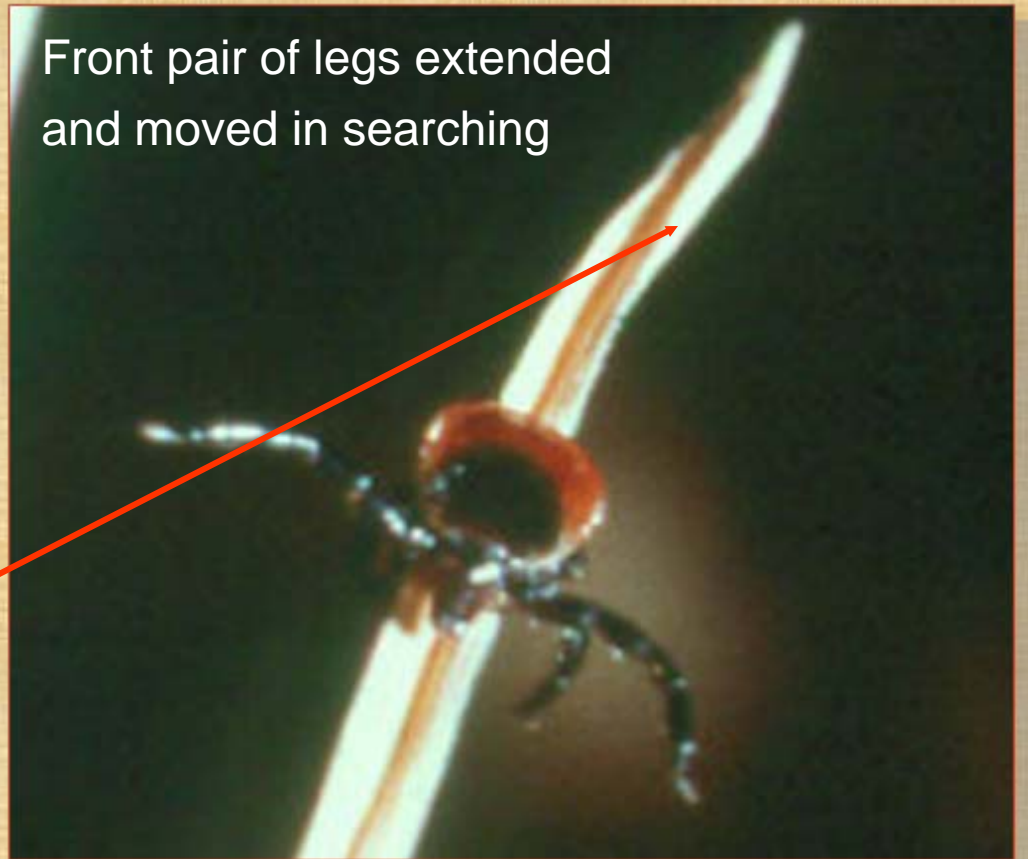
Search for animal  
lasting up to 2 yrs.

6-8 months/ea

X

3 life stages

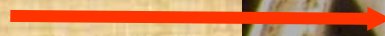
Leaf on shrub



# QUESTING: Search for a Meal

They sense a host in the area by “smelling” CO<sub>2</sub>

Spiracles



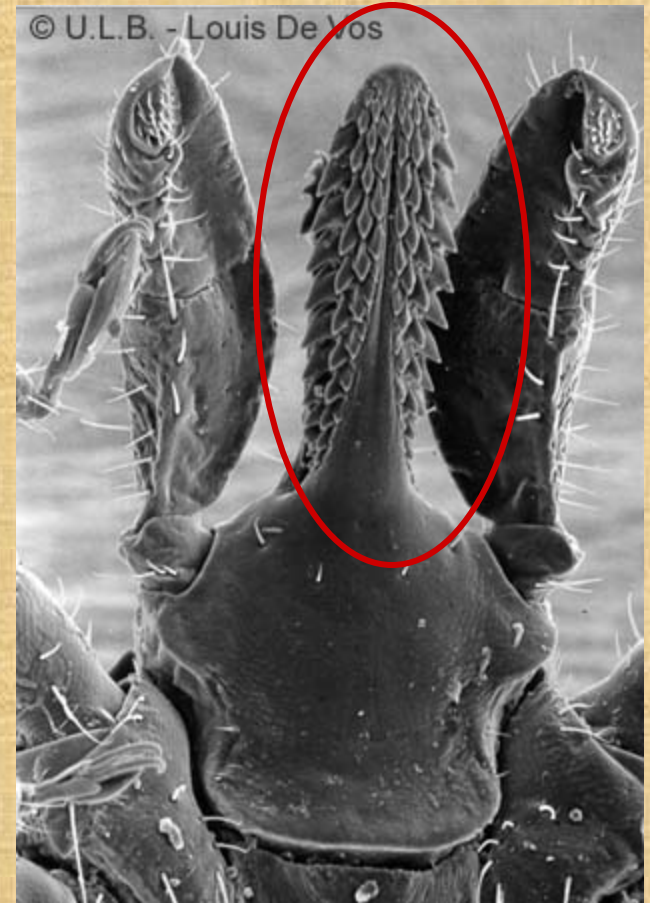
# Success in QUESTING

- The tick touches a host as it passes by and **GRABS ON** for the ride.
- The tick moves to the source of CO<sub>2</sub> on the host (mouth and nose) which is close to the ears (the thinnest skin and highly blood veined).



# Tick Bite

- Tick inserts a tube like structure into the skin
- The tick injects anticoagulants and glue
- Spits in and sucks out over a 24 to 76 hour feeding period
- Typically not painful or itchy, a rash may be present



# Tick Removal

## If Bitten, act promptly:

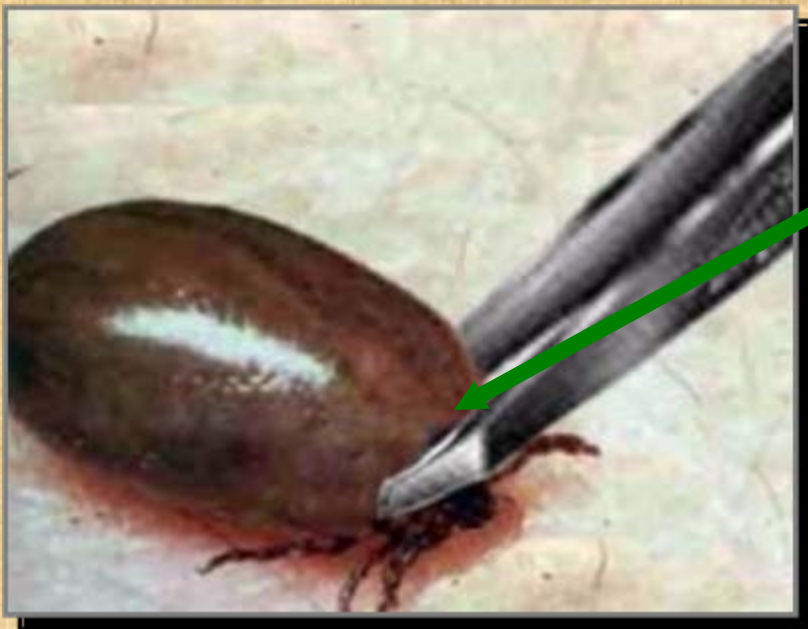
- Remove tick immediately
- Record date of bite
- Watch for symptoms, seek medical attention if needed

## NO:

- Burn with match
- Cover with Vaseline
- Squeeze body of tick
- Wait till it falls off

## YES:

- Use Tweezers
- Pull gently at head
- Remove tick ASAP, within 24 hours
- Wash hands and skin



# Tick Habitats- Places they like

## Unlikely:

Roads, Sand,  
Tall trees

---

## Possible:

Low Grass,  
Mown lawns,  
Low tree branches

---

## Very likely:

Tall Grass,  
Shrubs



# BNL Housing Area

**SAFE** in Grass,  
**NOT SAFE** in woods

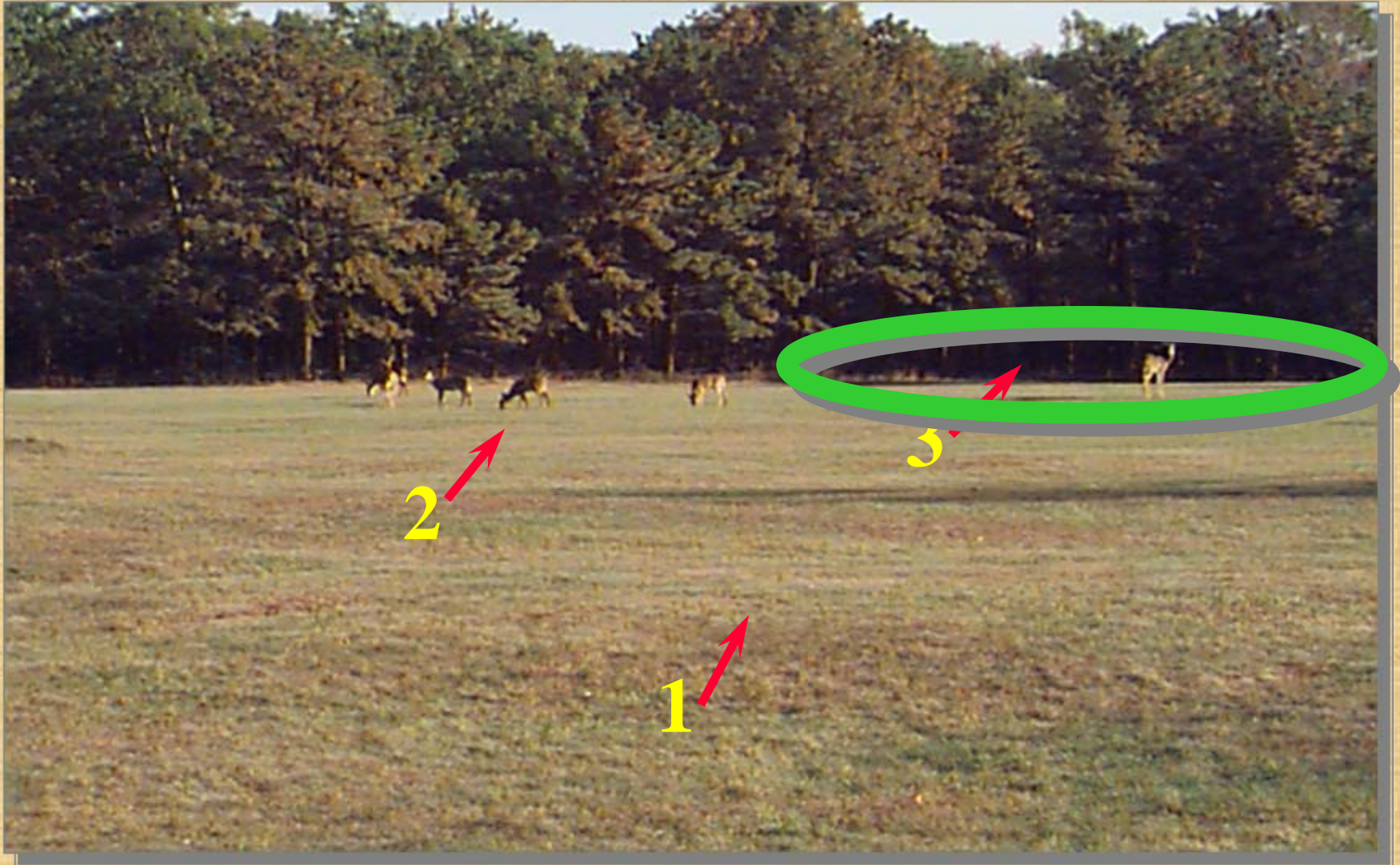
**20 -30 feet** from woods = much reduced tick population

**A**

**B**



QUIZ: Where are ticks likely to be found?





# How do ticks get on people ?



**Ticks** live in tall weeds and grass.

- Adults climb into shrubs at sock to waist height.
- Nymphs are picked up at sock to knee level.
- Larvae are picked up at shoe level.

Tips for  
Self- Protection



# Tick Control

## Personal control

### Barrier of socks, pants, and shirt

- **Tuck socks into pants or Tape at legs**, Light colored clothing
- (Plastic Booties / Tyvek type suit)
- Remove clothes within 1 hour of being in woods
- Shower soon after being in woods
- Clothes into hot dryer or plastic bag
- Apply repellants (as per directions)



# Dressed out well

- Light colored
- Barrier at sock level
- Tight cuffs
- Continuous barrier up to the neck



# Chigger & Tick Control

## Personal control

Barrier at the sock,

- Plastic Booties
- Tyvek type suit

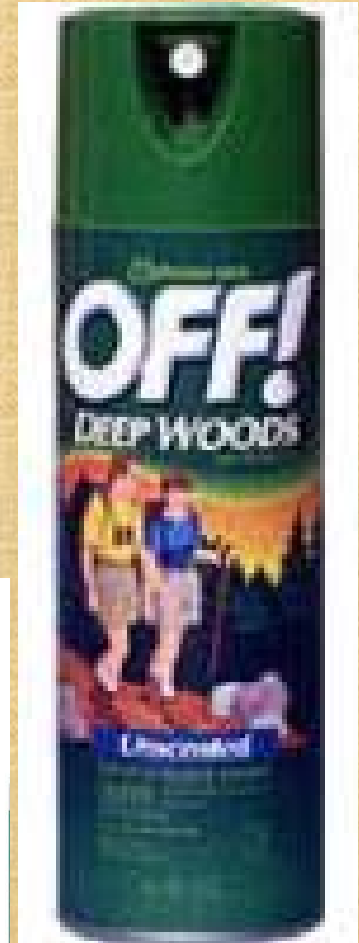


# Personal control

- Insect repellents are useful for deterring bites when walking through chigger & tick infested areas.

- DEET (skin & clothing)
- K70766
- Permethrin (clothing only)
- K70764

Do not rely on this as the sole line of defense



# Control of habitats around the home.

<http://www.cdc.gov/ncidod/dvbid/lyme/resources/handbook.pdf>

An excellent reference :  
**Center for Disease Control  
Tick Management Handbook**

## *Integrated Tick Management*

- *Habitat control*
  - *Mowing*
  - *Brush reduction*
- *Life style- Avoid tick areas*
- *Manage hosts*
  - *Fencing*
  - *Food reduction for animals*
  - *Predators- Buy a cat, fox, and snake*
- *Pesticide applications*

## Tick Management Handbook

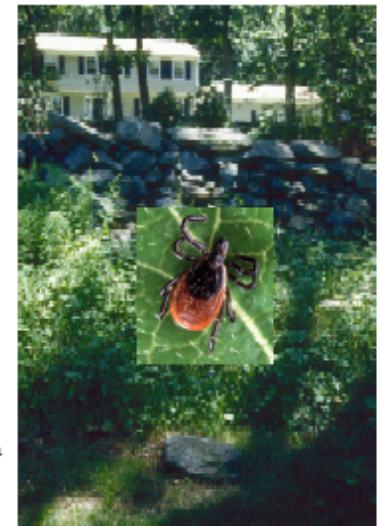
A integrated guide for homeowners, pest control operators, and public health officials for the prevention of tick-associated disease

*Prepared by:*

**Kirby C. Stafford III**  
Chief Scientist  
The Connecticut Agricultural  
Experiment Station, New Haven

Produced as part of the Connecticut community-based Lyme disease prevention projects in cooperation with the following Connecticut health agencies:

The Connecticut Department of Public Health  
The Westport Weston Health District  
The Torrington Area Health District  
The Ledge Light Health District

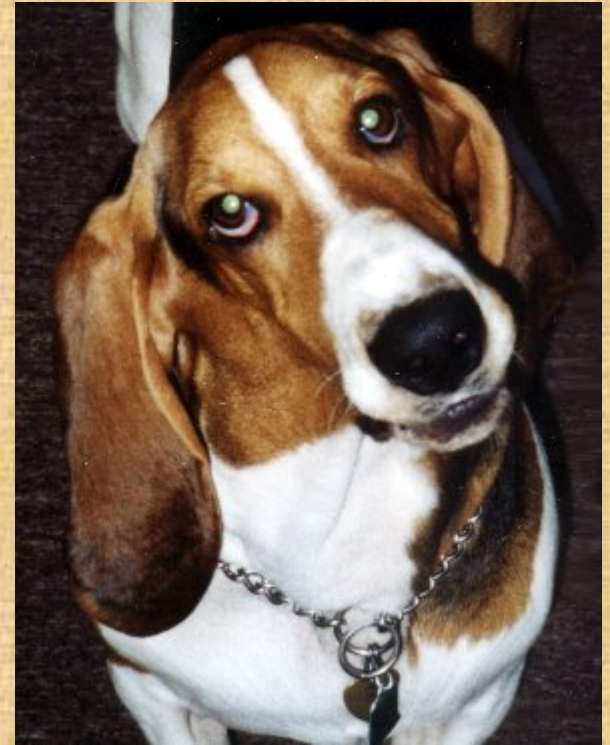


*Funding provided by*

**The Centers for Disease Control and Prevention  
The Connecticut Agricultural Experiment Station**

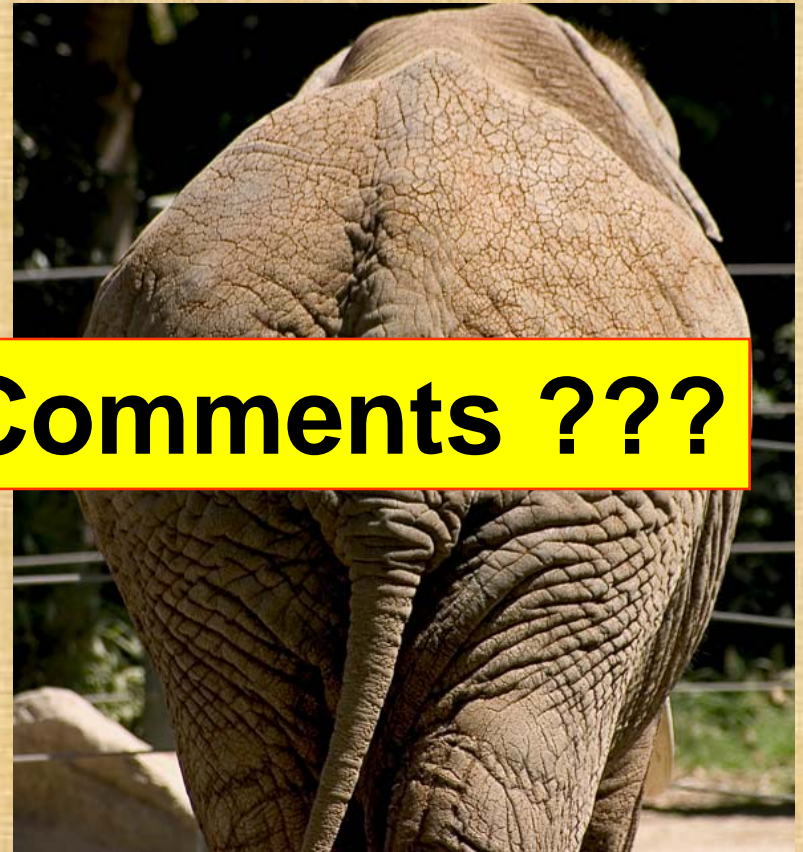
# Pet Protection

- Pet collars, Sprays, & Dips-  
pyrethrin, permethrin, amitraz, fipronil, carbaryl  
(K9 Advantix™, Kiltix®, Frontline®, )
- Canine Lyme disease vaccine-  
annual booster
- Electronic fencing to control  
pet's range
- Check daily for ticks





# The end (s)



**Questions or Comments ???**