

US EPA ARCHIVE DOCUMENT

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Test Reference: EMD-003

CLBR Training Manual

§1.b. Handling ticks and observing their movement on the skin

A. Goals of exercise

1. Learn to move and handle ticks using a fine artist's paintbrush in preparation for participation in a tick repellent study.
2. Learn to observe ticks and measure their movement in preparation for collecting data on the effectiveness of a repellent against ticks.

B. General information

1. A technician will show you how to remove ticks from a plastic vial using a small paintbrush, how to avoid injuring the ticks, and how to place them on your arm and remove them, and how to dispose of them.
2. A technician will draw three lines on your forearm, each 3 centimeters apart. You will practice placing ticks on the arm, and practice both watching and timing their movement in relation to those lines.
3. You will work one tick at one time. The ticks are reared in the laboratory and are free from disease.

C. Materials and equipment needed

1. Fine paintbrush
2. Marking pen
3. Approximately 6 unfed ticks
4. Labeled vials for accessing and disposing of ticks
5. Shallow pans with water
6. Timer
7. Practice data sheet and pen

D. Learning the methods

Spend about 30 minutes practicing handling ticks in the laboratory in preparation for the repellent study. Your trainer will show you how to remove ticks from vials (held in water pans in order to keep ticks from escaping). Your trainer will draw three fine lines with removable ink across your inner forearm, near the wrist, 3 cm apart from one another. From the vial labeled 'Fresh', gently touch the paintbrush tip near the front of a tick's body. It will climb onto the brush. Place the tick on the line nearest your wrist, noting the time as soon as the tick begins to walk toward your elbow. If the tick instead walks toward your hand, elevate your elbow above the hand and use the brush to gently guide the tick back toward the lines. Stop using the brush once the tick is walking up the arm. When it passes the first line, walking toward the elbow, note the time at that point. Observe whether the tick crosses both the second and third lines toward your elbow within three minutes of the start time. After it has crossed the third line, or after three minutes if not, use your brush to remove the tick and place it in the vial labeled 'Used'. If it crossed that line within three minutes, record 'C' on the practice data sheet; otherwise record 'R' for 'repelled'. Practice these tasks several times to familiarize yourself with how to handle the ticks carefully and successfully. Ask your trainer for advice on how to do this at any time while you are practicing.

1. Study subjects
b. ticks
i. handling
ii. observing movement
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