Mosquito Landing Rate Guidelines

North Carolina Department of Health and Human Services

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The Landing Rate Count (LRC) is a measurement of the density of adult mosquitoes attempting to land on a person over a short period of time (i.e., 1 minute).

It is imperative to avoid getting bitten during the process. Wear protective clothing and apply an EPA-registered repellent to all exposed skin prior to attempting a LRC. Do not use LRCs while there is a risk of mosquito-borne disease in your area.

For the purpose of reporting North Carolina LRC data to FEMA, please use the following method for the counting.

RECOMMENDED LRC METHOD:

1. Wear long sleeves, pants, and close-toed shoes. Apply an EPA-registered repellent to all exposed skin prior to possible contact with mosquitoes. Wear a mosquito head net amd/or light gloves if practical.
2. Walk into the harborage site where you intend to count (i.e., shrubby area where mosquitoes normally hide)
3. Disturb the vegetation as you are walking in, and just before starting
4. Wait a minute or two before starting counting in order to allow mosquitoes to sense your presence
5. Stand, keep still, and keep your arms out away from your body (This minimizes the effect of repellent if there is any on your arms, and does not stir up air around your legs)
6. Count all mosquitoes attempting to land on the front side of your body, your whole body, or a portion of your body. In any case, convert the number to a “whole body” count when recording the total number of mosquitoes per minute. For example:
   * + 20 mosquitoes around whole body = 20
     + 10 mosquitoes on front half of body x 2 = 20
     + 10 mosquitoes on legs only x 2 = 20
     + 5 mosquitoes on front of legs only x 4 = 20
7. Count for a <1 to 5 minute period.
   1. Use 1 minute or less if mosquito numbers are high (i.e., 5 to 50+ per minute)
   2. Use 5 minutes if mosquito numbers are low (i.e., 1- 5 per minute)

Note: Convert all counts to “1 minute.” For example:

* + - 30 mosquitoes in one minute = 30 mosquitoes/minute
    - 30 mosquitoes in 30 seconds x 2 = 60
    - 30 mosquitoes in 15 seconds x 4 = 120
    - 5 mosquitoes in 5 minutes / 5 = 1

8. (OPTIONAL) Collect hovering mosquitoes with an aspirator or butterfly net. Transfer them to a labeled tube or other hard container for later identification to species.

1. After leaving, record the following in CDC’s “MosquitoNet” format:
   * Collection Method/Trap Type: “Landing Counts”
   * Attractant Used: “ None”
   * ID or Collection Location: Any text of your choice (e.g., “Johnson Park Ballfield #1”)
   * Collection Location Latitude: This can be added later using Google Earth, if not available.
   * Collection Location Longitude: Same as above
   * Nearest Street address (no Latitude and Longitude needed if an address is provided)
   * City
   * State
   * County
   * Type of Collection Site: “Residential”, “Rural,” “ Urban”
   * Trap Set Date:
   * Time of Day: “Morning,” “Afternoon,” or “Evening”
   * Life Stage Targeted for Collection: “Adult”
   * # Adults of Unknown Sex Collected: The number of mosquitoes counted per minute over whole body.