

Larval Equipment Calibration



Why Calibrate?

- Essential to assure correct application rate
- Saves material and money
- Assures compliance with the label and the law



Equipment Calibration

- Simple, but often overlooked step
- Every applicator & piece of equipment are different
- Must factor in the applicator, equipment & habitat



Factors Affecting Application Rates

- speed of travel
- width of swath
- flow rate
- dilution rate



Speed of Travel

- Aircraft or vehicle speed can be adjusted
- Walking speed can be adjusted but not recommended
- Best to walk at natural pace



Width of Swath

- Variations determined by:
 - equipment & settings
 - travel speed
 - habitat type (vegetation)
 - product formulation



Flow Rate

- Also varies based upon equipment, settings, and formulation selected
- For easily adjustable flow rates:
 - best to adjust flow rate to desired speed, swath, & application volume



Dilution Rate

- Constant for granular formulations
- Widely variable for liquid applications
- Adjustments needed when flow rates are not easily adjusted



Calibration Formulas

Flow Rate = (Application Rate x Speed x Swath Width)/495

Application Rate = (Flow Rate x 495)/(Speed x Swath Width)



Parameter	US Liquid	US Dry
Application Rate	Gallons/Acre	Pounds/Acre
Flow Rate	Gallons/Minute	Pounds/ Minute
Speed	Miles/Hour	Miles/Hour
Swath Width	Feet	Feet

Measuring Walking Speed

- Use your own comfortable pace
- Mark a known distance
- Time your walking of that distance
- Repeat to ensure accuracy



Measuring Swath Width



Measuring Swath Width



Measuring Swath Width



Measuring Swath Width



Measuring Flow Rates

- Easily determined with a graduated cylinder or other liquid measuring device
- Spray liquid into the cylinder for one minute
- Flow rate per minute is determined by the volume in the cylinder
- Once the flow rate is known, total delivery volume per area can be calculated



Measuring Flow Rate



Measuring Granular Flow Rates

- Two methods can be employed
 - Weigh, run & weigh method
 - Catch and weigh method



Measuring Flow Rate



Measuring Flow Rate



Standardizing Applications

- Repeat calibration steps regularly throughout the season
- Individual applicators should practice their pace and check their swath measurements
- Practicing these motions will assure consistent and effective delivery of larvicides



