SiteOne LANDSCAPE SUPPLY
Stronger Together

Equipment Calibration – Backpack & Hand Held Sprayer

Importance of Calibration

- Properly calibrated equipment affords applicators significant value including:
  - Effective product performance
  - Reduced potential for plant injury
  - Reduction in callback/cancellations
  - Enhanced reputation
  - Environmental stewardship
  - Regulatory compliance
  - Reduction in legal vulnerability
  - Economic efficiency

Tools Needed for Calibration

- Turf marking paint or marking flags
- Measuring wheel
- Calibrated 1 gallon pitcher (ounce increments marked)
- Calculator

Backpack & Hand Held Sprayer Calibration

- Step #1 – Calibration Preparation
  - Measure out and mark with turf paint or marking flags a 20 ft. x 50 ft. area (1,000 sq. ft.)
  - Fill your sprayer with 2 gallons of water
    - No chemical

Backpack & Hand Held Sprayer Calibration

- Step #2 – Determine Spray Rate
  - Spray the marked off area
    - Remember to spray the marked off area just as you would when applying product
      - Consistent walking speed
      - Consistent spray pattern
  - Determine the amount of water sprayed out
  - Result is your spray rate per 1,000 sq. ft.
    - I.E. 1 gallon per 1,000 sq. ft.

Backpack & Hand Held Sprayer Calibration

- Step #3 – Determine Coverage of Sprayer
  - Divide the tank capacity by the spray rate to determine coverage
    - I.E. 4 (gallons) ÷ 1 (gallon per 1,000 sq. ft.) = 4
    - One 4 gallon tank would cover 4,000 sq. ft.
- NOTE: If you use different spray tips (fan, adjustable, cone, etc.) you will need to calibrate your sprayer for each tip!

Backpack & Hand Held Sprayer Calibration

- Step #4 – Determine Amount of Chemical
  - Labeled rate of LESCO® Three-Way™ is 1.5 oz. per 1,000 sq. ft.
    - Multiply Chemical rate by sprayer coverage
      - I.E. 4 x 1.5 = 6 oz.
      - We would use 6 oz. of LESCO® Three-Way™ in 4 gallons of water

Backpack & Hand Held Sprayer Calibration

- Important that calibration is completed for each person spraying
  - For example:
    - Spray rate is now 2 gallons per 1,000 sq. ft.
    - Backpack has a 4 gallon capacity
      - 4 ÷ 2 = 2 (2,000 sq. ft. coverage)
      - 2 x 1.5 oz. = 3 oz.
      - Use 3 oz. of LESCO® Three-Way™ in 4 gallons of water
    - Used ½ the amount of Three-Way™ as in previous example

Achieving the Correct Application Rate

- Many factors can influence rate including:
  - Application speed, Weather conditions, Age & condition of sprayer & boom
- Maintain the same application speed that was used during calibration
- Swing with your forearm (not wrist) a consistent width

Achieving the Correct Application Rate

- Keep the pressure in the tank at appropriate & consistent level
  - Use a Control Flow Valve to maintain spray pressure
- Try not to overlap or under-lap too much
  - Use LESCO® Tracker Green® (also available in blue) to identify where you have sprayed

Common Problems/Issues

- There is a loss of pressure due to clogged filter screens
  - Pump filter, tank filter, gun filter, etc.
- Age & condition of sprayer can cause inconsistent spray pattern
- Excessive Under or Over lapping
  - May apply too much chemical (which is a waste of money & could cause harm to desired plants)
  - Not enough chemical to kill targeted pest

Common Problems/Issues

- Low or no pressure due to worn out or broken diaphragm or piston
- Nozzle clogged with debris
- Inconsistent spray pressure
  - Requires periodic pumping throughout spraying
  - Recommend a Control Flow Valve (CFV) which maintains spray pressure

Backpack & Hand Held Maintenance Tips

- Empty, rinse, and clean the sprayer after each use or at a minimum at end of each round
  - Properly disposing of mixed chemical as per local regulations
  - Make sure tank, pump, hoses, etc. are rinsed out
- Calibrate sprayers a minimum of once a month
  - Many factors can alter the application rate in a short period of time

Backpack & Hand Held Maintenance Tips

- Change Diaphragms/Pistons, O-Rings, etc. every 12-18 months
  - This could change depending on:
    - Chemical used in tank
    - Frequency of use
- Lubricate O-rings and gaskets in wand assembly and pump assembly twice a year at a minimum
  - Depends on frequency of use