

# Sprayer Calibration Basics: Tips for getting the correct amount of coverage and measuring safely

## 1. Calibration of a manual sprayer – gallons per acre

- Start with water
- Spray set area (340 sq feet), count the number of seconds it takes
- Collect spray in a separate container for the same amount of time
- Ounces collected will equal gallons/acre for total volume
- Use label instruction for amount of product included in each gallon of total volume



### Calibration Example

It takes you 50 seconds to spray 340 sq feet. Then, you spray water into a collection container for 50 seconds and collect 25 oz. So, your output is 25 gallons per acre (GPA). (This is because there are 43560 sq. feet in an acre, and 218 ounces in a gallon, so by calibrating with an area of 340 sq. feet, you eliminate some conversion steps in your math equation.)

The label you plan to use tells you to use 32 oz (2 pints) per acre of concentrate. You've just calculated that at your speed, you will be spraying 25 gallons of water per acre. However, you have a small sprayer that holds only 4 gallons.

$$\frac{32 \text{ oz}}{25 \text{ GPA}} = 1.28 \text{ oz per gallon.}$$

Your sprayer holds 4 gallons, so you can multiply 1.28 oz. x 4 = 5.12 oz. This is the quantity of concentrated product you will add to your 4 gallon sprayer to achieve 32 oz. active ingredient per acre.

## 2. Measuring, dispensing and storage

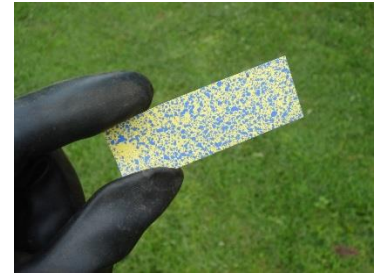
- Read label for required Personal Protective Equipment (PPE)
- Dispense small amounts into measurable containers
- If mixing and loading larger quantities of pesticides on a regular basis, consider purchasing a pump to reduce exposure.
- Use a level surface for physical measurements
- Return excess to original container
- Put rinse water into the sprayer
- Triple rinse product containers before recycling
- Keep spray products locked up in a temperature controlled room



### 3. Application verification

Use water sensitive paper to confirm:

- a. Droplet size
- b. Whether your spray is drifting to unintended areas
- c. Whether you're getting good coverage

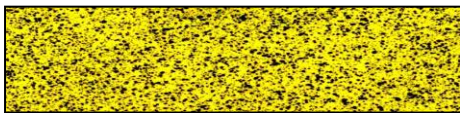


### 4. Droplet size considerations

Contact pesticides:



Good coverage is necessary

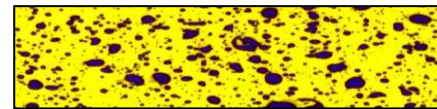


Small droplets provide good coverage, but are more likely to drift. Use small droplets only when necessary.

Systemic pesticides:



Pesticide move to all parts of plant



Large droplets are less likely to drift. Systemic pesticides are absorbed by the plant and moved throughout its tissues, so small droplets are not necessary.