5 Steps to Canopy Sprayer Calibration

Step 1: Check your tractor/sprayer speed.

Formula: MPH = $\frac{\text{feet traveled x 60}}{\text{sec. traveled x 88}}$

Step 2: Record the inputs.

Example:

Nozzle type on your sprayer (all nozzles must be identical)	D6 disc DC23 disc core
Recommended application volume	50 GPA
Measured sprayer speed	3.5 mph
Pressure	100 psi
Row width	9 feet

Step 3: Calculate the required nozzle output.

Gallons/minute (GPM) = $\frac{\text{GPA x mph x row width (feet)}}{495}$

GPM = $\frac{50 \times 3.5 \times 9}{495} = \frac{1575}{495} = 3.18$

GPM = $\frac{3.18}{2} = 1.59$ per side

GPM per nozzle = 1.59 divided by 5 nozzles = 0.318

Note: to convert to ounces, multiply by 128 (ounces per gallon). Thus, 0.138 GPM x 128 ounces/gallon = 40.7 fluid ounces in one minute.

Step 4: Operate the sprayer.

Set the correct pressure at the gauge using the pressure-regulating valve. Connect hoses to each of the nozzles and measure the flow from each nozzle into a calibrated jug, as shown, for one minute. Output of each nozzle should be approximately the same as calculated in Step 3.

Step 5: Compare nozzle outputs with those in the manufacturers' nozzle charts.

If output varies by this amount	Take this corrective measure
Up to +/– 5% error	Adjust pressure or speed
More than +/– 10 % error	Change nozzles

If more than 20% of the nozzles need replacing, then replace all the nozzles on the sprayer. The advantage of using this method of calibration compared to others is that the individual nozzle output is measured, thus identifying nozzles that may be worn, damaged and need replacing.