

Nozzles & Booms

Sprayer Calibration

Broadcast Application

Sprayer Calibration (1) readies your sprayer for operation and (2) diagnoses tip wear. This will give you optimum performance of your TeeJet® tips.

- Equipment Needed
- TeeJet® Calibration Container
 - Calculator
 - TeeJet® Cleaning Brush
 - One new TeeJet® spray tip matched to the nozzles on your sprayer
 - Stopwatch or wristwatch with second hand

Step No. 1

Check Your Sprayer Speed!

Knowing your real sprayer speed is essential for accurate spraying. Speedometer readings and some electronic measurement devices can be inaccurate because of wheel slippage. Check the time required to move over a 100 or 200 foot strip of turf similar to that which will be sprayed. If permanent markers are present, the starting marker should be positioned to allow the sprayer to reach desired spraying speed. Hold that speed as you travel between the "start" and "end" markers. Most accurate measurement will be obtained with the spray tank half full. Calculate your real speed. When the correct throttle and gear setting are identified, mark your tachometer or speedometer to help you control this vital part of accurate chemical application.

$$\text{Speed (mph)} = \frac{\text{Distance (ft)} \times 60}{\text{Time (seconds)} \times 88}$$

Step No. 2

The Inputs

Before spraying, record the following	EXAMPLE
Nozzle type on your sprayer	XR8002 Flat SprayTip
(All nozzles must be identical)	
Recommended application volume	44 GPA or 1 GAL/1000FT ²
(From manufacturer's label)	
Measured sprayer speed	3 mph
Nozzle spacing	20 inches "w"

Step No. 3

Calculating Required Nozzle Output

Determine GPM nozzle output from formula

$$\text{FORMULA: GPM} = \frac{\text{GPA} \times \text{MPH} \times \text{W}}{5940}$$

$$\text{EXAMPLE: GPM} = \frac{40 \text{ GPA} \times 3 \text{ MPH} \times 20 \text{ in}}{5940} = .4 \text{ GPM}$$

or

$$\text{GPA} = \frac{\text{GPM} \times 5940}{\text{MPH} \times \text{W}}$$

Step No. 4

Setting the Correct Pressure

Turn on your sprayer and check for leaks or blockage. Inspect and clean, if necessary, all tips and strainers with a TeeJet® tip cleaning brush. Replace one tip and strainer with an identical new tip and strainer on sprayer boom.

Check appropriate tip selection table and determine the pressure required to deliver the nozzle output calculated from the formula in Step 3 for your new tip.

Since all the tabulations are based on spraying water, conversion factors must be used when spraying solutions which are heavier or lighter than water.

Turn on your sprayer and adjust pressure. Collect and measure the volume of the spray from the new tip for one minute in the collection jar. Fine tune the pressure until you collect 0.44 GPM.

You have now adjusted your sprayer to the proper pressure. It will properly deliver the application rate specified by the chemical manufacturer at your measured sprayer speed.

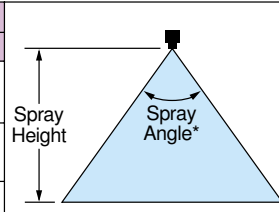
Step No. 5

Calculating Required Nozzle Output

Problem Diagnosis: Now, check the flow rate of each tip. If the flow rate of any tip is 10 percent greater or less than that of the newly installed spray tip, recheck the output of that tip. If only one tip is faulty, replace with new tip and strainer and your system is ready for spraying. However, if a second tip is defective, replace all tips on the entire boom. This may sound unrealistic, but two worn tips on a boom are ample indication of tip wear problems. Replacing only a couple of worn tips invites potentially serious application problems.

Suggested Minimum Spray Heights

Spray Angle	Nozzle Height	
	20' Spacing	30' Spacing
65°	22' to 24'	33' to 35'
80°	17' to 19'	26' to 28'
110°	15' to 18'	14' to 18'



*Spray angles apply to flat spray tips spraying at a rated pressure of 40psi. Lower pressures will result in reduced spray angles, except for the XR TeeJet® tip.