



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
(All nozzles must be identical) Spray Tip
- Recommended application volume . . . 44 GPA or
(From manufacturer’s label) 1 GAL/1000FT²
- 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 40 PSI. Lower pressures will result in reduced spray angles, except for the XR TeeJet® tip.

TEEJET® SELECTION GUIDE



		Herbicides		Insecticides		Fungicides		Drift Control	Available Mat.		
		Contact	Systemic	Contact	Systemic	Contact	Systemic		Brass	Polymer	Stainless Steel
	XR TeeJet® EXTENDED RANGE FLAT SPRAY TIP	Excellent	Good	Excellent	Good	Excellent	Good	Very Good (AT LOW PRESSURES)		110° only	•
	TeeJet® STANDARD FLAT SPRAY TIP	Good		Good		Good			•	80° only	•
	Turbo TeeJet® WIDE ANGLE FLAT SPRAY TIP		Excellent		Excellent		Excellent	Excellent		110° only	
	Turbo FloodJet® WIDE ANGLE FLAT SPRAY TIP		Excellent		Excellent		Excellent	Excellent			•
	FullJet® WIDE ANGLE FULL SPRAY TIP		Excellent		Excellent		Good	Excellent			•

*Note: Consult the chemical manufacturer's product label for specific rate and application recommendations.

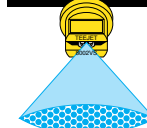
Characteristics of Common Spray Tip Materials	
Material	Characteristics
 Stainless Steel	Good wear life; excellent chemical resistance; durable orifice
 Polymer	Good wear life; good chemical resistance; orifice susceptible to damage when cleaned improperly
 Brass	Poor wear life; susceptible to corrosion, especially with fertilizers

XR TeeJet®



- AT LOW PRESSURE
- AT HIGH PRESSURE
- Larger droplets and uniform coverage at lower pressures
- Smaller droplets at high pressures for thorough coverage
- Nozzle spacing—20 inches
- Spraying pressure—15-60 PSI

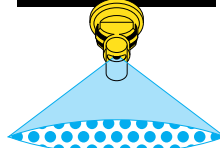
TeeJet® STANDARD



- Good spray penetration
- Uniform coverage along boom
- Nozzle spacing—20 inches
- Spraying pressure—30-60 PSI

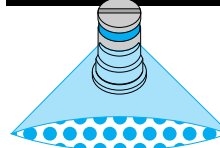


Turbo TeeJet®



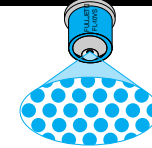
- Large, round free passages to minimize clogging
- Excellent to use with automatic sprayer controls
- Excellent spray pattern quality
- Unequalled drift control from 15-90 PSI

Turbo FloodJet®



- Very uniform coverage along boom
- Pre-orifice design produces large droplets to reduce drift
- Nozzle spacing—20 inches
- Spraying pressure—10-40 PSI

FullJet®



- Uniform coverage along boom
- Larger droplets—less drift
- Typically mounted at 30°-45° angle on spray boom
- Nozzle spacing—20 inches
- Spraying pressure—15-40 PSI

Relative droplet size for each spray tip is shown in each pattern.