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 NUMBER 1

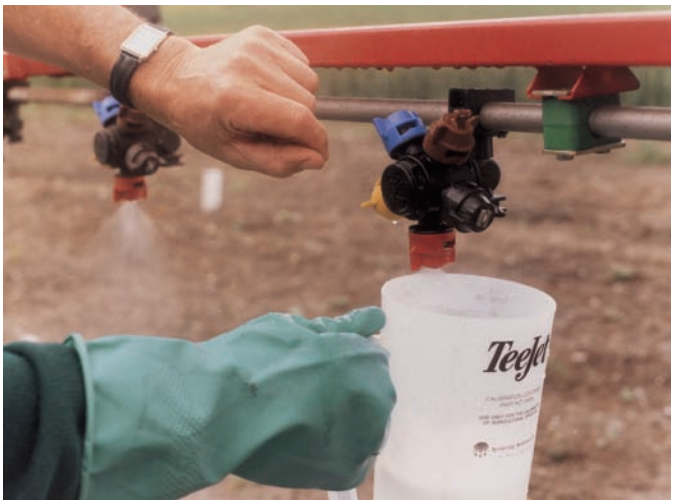
Check Your Tractor/Sprayer Speed!

Knowing your real sprayer speed is an essential part of 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 on your field. Fence posts can serve as permanent markers. The starting post should be far enough away to permit your tractor/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. Refer to the table on page 140 to calculate your real speed. When the correct throttle and gear settings are identified, mark your tachometer or speedometer to help you control this **vital** part of accurate chemical application.

STEP NUMBER 2

The Inputs

Before spraying, record the following:	**EXAMPLE**
Nozzle type on your sprayer (All nozzles must be identical)	TT11004 Flat Spray Tip
Recommended application volume (From manufacturer's label)	20 GPA
Measured sprayer speed	6 MPH
Nozzle spacing	20 Inches



STEP NUMBER 3

Calculating Required Nozzle Output

Determine GPM nozzle output from formula.

FORMULA: $\text{GPM} = \frac{\text{GPA x MPH x W}}{\text{5,940 (constant)}}$

EXAMPLE: $\text{GPM} = \frac{20 \times 6 \times 20}{5{,}940} = \frac{2{,}400}{5{,}940}$

ANSWER: 0.404 GPM

STEP NUMBER 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 TeeJet 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 of the tabulations are based on spraying water, conversion factors must be used when spraying solutions that are heavier or lighter than water (see page 141).

Example: (Using above inputs) refer to TeeJet table on page 7 for TT11004 flat spray tip. The table shows that this nozzle delivers 0.40 GPM at 40 PSI.

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 .40 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 NUMBER 5

Checking Your System

Problem Diagnosis: Now, check the flow rate of a few tips on each boom section. 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.

Banding and Directed Applications

The only difference between the above procedure and calibrating for banding or directed applications is the input value used for "W" in the formula in Step 3.

For single nozzle banding or boomless applications:
W = Sprayed band width or swath width (in inches).

For multiple nozzle directed applications:
W = Row spacing (in inches) divided by the number of nozzles per row.