

Easy Approach to Calibrating Your Broadcast Sprayer

One ounce is 1/128th of a gallon. If you know the number of ounces sprayed in 1/128th of an acre, then gallons per acre are immediately known without the use of a formula. A table is used to find a nozzle spacing and a calibration distance equal to 1/128th of an acre. Follow these steps for a quick and easy calibration procedure.

1. **Make sure there is no more than a 10% variation** of spray volume across the boom.
2. **Use the chart** for distance to drive in the field.
3. **Set throttle for spraying and operate all equipment.**
Note seconds required to drive measured distance.
4. **Catch spray for the noted time in Step 3 at the same RPMs and pressure.** Use a container marked in ounces (a calibrated bottle or measuring cup). Catch spray from one nozzle during noted time.
5. **Nozzle output in ounces equals gallons per acre actually applied.**
6. **Divide the capacity of your tank by the gallons applied per acre** as determined in Step 5 to find the number of acres you can treat per tank of spray.
7. **To determine how much chemical to add to the tank, multiply the rate per acre recommended by the number of acres your tank will cover** as determined in Step 6.

Example:

- Horizontal boom – One nozzle per 20"; travels 204 ft. course in 19 seconds at 4 mph.
- Output per nozzle at 20" spacing is 15 ounces in 19 seconds.
- 15 ounces = 15 gallons/acre
- 20 acres to be sprayed.
- $20 \times 15 = 300$ gallons to be sprayed.
- Chemical application rate on label is 1 pt/acre.
- $20 \times 1 \text{ pt.} = 20 \text{ pts (2.5 gallons)}$ chemical added to 300 gallons of water in the spray tank.

Desired spray volume for most chemicals is 15-20 gallons per acre (10 GPA for glyphosate); Keep your pressure below 40 psi.

For more information contact your local University of Missouri Extension Center

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Nozzle Spacing (Inches)	Distance (Feet)
44	93
42	97
40	102
38	107
36	113
34	120
32	127
30	136
28	146
26	157
24	170
22	185
20	204
18	227
16	255
14	291

Your Figures

Tractor Make & Model _____

Tractor RPM _____

Tractor Gear _____

Sprayer Pressure _____

Determined Spray Volume:

_____ Gallons Per Acre

At the above settings add _____

(oz / pts / qts / gal.) of _____

pesticide to _____ gallons of water

to treat _____ acres.