

# A guide to calibrating backpack sprayers

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**Step 4:** Spray into a container for the average time calculated in Step 3. Be sure to maintain constant sprayer pressure while you spray into the container.

**Step 5:** Measure the number of fluid ounces of water in the bucket. The number of fluid ounces collected from the bucket is equal to the number of gallons of water per acre the sprayer is delivering: Volume sprayed in fluid ounces = Gallons of water per acre (GPA).

**Step 6:** Now read the label of the product that you will be applying, to determine the amount of herbicide to add to each gallon of water based on the recommended herbicide application rate. **Note: the amount of herbicide that you put in per gallon of water is not the amount of herbicide that you will put in your backpack sprayer (please refer to the example below).**

### (EXAMPLE)

You are using a 4 gallon backpack sprayer, and want to control Dalmatian Toadflax on your property. The label on the chemical tells you to apply 2 pints of product per acre to control Dalmatian Toadflax. In step 5 you determined that you are applying 20 gallons of water per acre. Using the conversion below you know that there are 32 oz in 2 pints. To figure out how much product to put in one gallon of water divide the amount of product per acre by the number of gallons of water per acre that you are applying (from step 5). 32 oz of product divided by 20 gallons of water per acre equals 1.6 oz of chemical per gallon of water. Multiply 1.6 oz per gallon by the 4 gallons of water you put in your backpack. (1.6 x 4 = 6.4 oz of product per full backpack of water)

### Common Conversions

5 CC = 1 TSP	4 QT = 1 GAL
30 CC = 1 FL OZ	128 FL OZ = 1 GAL
1 CC = 1 ML	2 PTS = 1 QT
15 ML = 1 TBSP	2 CUPS = 1 PT
236.5 ML = 1 CUP	8 FL OZ = 1 CUP
473 ML = 1 PT	3 TSP = 1 TBSP
946 ML = 1 QT	2 TBSP = 1 FL OZ
3,785 ML = 1 GAL	6 TSP = 1 FL OZ

**Step 1:** Clean the sprayer and nozzle thoroughly. Then fill the spray tank with clean water. Using water only, check to see that the nozzle forms a uniform spray pattern. If the pattern is uneven, check to make sure the nozzle is clean and replace if needed. Adjustable nozzles should be set and marked to permit repeated use of the spray pattern.

**Step 2:** Measure an area 18.5 feet by 18.5 feet, which is roughly equal to 1/128th of an acre. If possible, do this in the field on which you will be spraying.

**Step 3:** Time the number of seconds it takes to spray the measured area uniformly using a gentle side-to-side sweeping motion with the spray wand. Record the number of seconds required to spray the area. Be sure to maintain a constant sprayer pressure. It will take about four to six passes through the area for complete coverage.

**Repeat this step at least twice and use the average number of seconds it took to uniformly cover the area in step 4.**