

PSEP Fact Sheet: 1/128 Method of Calibration - Calibrating Single Nozzle Hand Sprayers and High Pressure Hand Guns

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Sprayer calibration using the 1/128th method is relatively easy and can be completed very quickly. The 1/128th method is also called the “ounce calibration” method. There is a direct ratio established when determining how much material is applied to 128th of an acre (128 equals the number of ounces in a gallon).

Because a gallon is equal to 128 ounces and the test area to be sprayed is 1/128 of an acre, ounces collected is equal to gallons per acre.

Step 1

Measure out an area equal to 1/128 of an acre. Approximately 340 ft² or an area 18.5 feet by 18.5 feet.

Step 2

Measure the time it takes to spray the measured area **with water only**. Repeat several times and take the average time.

Step 3

Spray into a container for the same amount of time it took to spray the measured area. Measure the water collected in ounces. The amount collected in ounces equals gallons per acre.

Example: Hand sprayer

Step 1

Measure area. 18.5 x 18.5 feet = 340 ft².

Step 2

Time to spray area = 51 seconds

Step 3

Amount collected = 40 ounces; therefore, 40 ounces = **40 gallons per acre**

Determining how much pesticide to add to the spray mixture

The recommendation is to apply 1 quart of 2,4-D per acre.

The sprayer is applying 40 gallons per acre; therefore, you will need to add **1 quart of 2,4-D to each 40 gallons of water**.



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Your sprayer only holds 1 gallon of spray mixture. So how much pesticide will you need to add to the gallon of water?

1 quart (32 ounces) divided by 40 gallons = 0.8 ounces.

1 fluid ounce = 2 tablespoons; therefore, you will need approximately 2 tablespoons of 2,4-D per gallon of water.

1 fluid ounce also = 29.57 milliliters (ml); therefore, if measuring in ml, you will need 0.8 ounces times 29.57 ml per ounce = **24 ml per gallon of water.**

How much area will 1 gallon spray? There is 43,560ft² per acre. If 40 gallons will spray one acre then one gallon will spray an area 1/40 that size or 43,560 ft² divided by 40 = **1,089ft².**

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