

Pesticide Education Program Fact Sheet

MP-93.4

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1/128 Method of Calibration Calibrating Hand Sprayers and High Pressure Hand Guns

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

STEP 1.

Measure out an area equal to 1/128th 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 by 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**.

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 would need 0.8 ounces times 29.57 ml per ounce = **24 ml per gallon of water**.

How much area will 1 gallon spray? There are 43,560 ft² 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 = **1089 ft²**.