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.
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 tablespoon 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 43,560 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 = 1,089 ft².