

Greenhouse Sprayer Calibration and Spray Calculation Worksheet: Example

Retain the following information for your records:

Date 12/23/19

Business Jill's Greenhouses Operator Jill Doe

Phone 603.555.1234

Address 4 Main Street Town Manchester State NH Zip code 12345

Sprayer Identification

Sprayer Dramm Hydraulic

Pressure 100 psi

Tip Lance

Location Information

Greenhouse House 4

Growth stage young (transplanted 3 weeks ago)

Hangers Present? No

How much do you spray with this sprayer in this house at this stage of growth?

To know how much chemical to mix, you need to know how much spray volume you will need for the area to be treated. By calibrating yourself to your sprayer to the crop at this stage of growth, you can start off with the correct amount of spray.

Step 1: Find the square footage of a portion of your greenhouse to test.

Perhaps this is a few benches or a given section of floor, but the crop in it should represent the crop throughout the section to be sprayed. Calculate the "test area" by multiplying the length of the test section times the width of the test section (not including aisles).

120 square feet ("test area")

Step 2: Figure out how much liquid it takes to spray the test area.

In your sprayer, put more water than you think will be needed to spray the "test area". Do not add any pesticide for this step; you are simply determining how much you spray with that sprayer in a given area. The amount you start with is the "initial volume". Spray the "test area", giving the same coverage you would during a real spray. When you finish the "test area", measure how much water is still in the tank. This is the "remaining volume".

Calculate the volume used for this test ("test volume")

"Initial volume" minus "Remaining volume" equals "Test volume"

8 gallons - 7.5 gallons = 0.5 gallons ("test volume")

Step 3: Measure the total square footage to be sprayed with chemical.

This may be the entire greenhouse or just a portion. Call this the “spray area”. The “spray area” is the length times the width (not including the aisles).

1,800 square feet (“spray area”)

Step 4: Calculate how much spray you need for the “spray area”.

This is the total amount of liquid (water plus chemical) you will need in your tank. Call this the “spray volume”.

“Test volume” times “Spray area” divided by “Test area” equals “Spray volume”

0.5 gallons (“test volume”) X 1,800 square feet (“spray area”) ÷ 120 square feet (“test area”) = 7.5 gallons (“spray volume”)

Step 5: Calculate how much chemical to use.

This will be the amount of chemical you mix into the “spray volume” to treat your crop. Call this the “spray chemical”. The label may give this to you in “ounces, fluid ounces, lbs, etc **per gallon**”. If so, simply multiply that number times the “spray volume” to find “spray chemical”.

More likely, the label will tell you how much chemical to use (in ounces, fluid ounces, lbs, etc.) **per 100 gallons**. If so, calculate “spray chemical” as follows:

“Chemical per 100 gallon” times “Spray volume” divided by 100 equals “Spray chemical”

6 oz, floz, lbs (“chemical per 100 gallon”) X 7.5 gallon (“spray volume”) ÷ 100 =

0.45 oz, floz, lbs (“spray chemical”)

Step 6: Mix your tank

Put approximately ½ of the “spray volume” in the tank. Add “spray chemical”. Continue filling the tank to the “spray volume”. Always follow mixing directions on the label.