GET THE BEST FROM YOUR KNAPSACK SPRAYER

Do You Want To:-

◊ Get optimum results from your spray can?
◊ Mix just enough chemicals to spray your garden (with no spray mixture remaining in the can)?

Then YOU need to CALIBRATE!!
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**What is Calibration?**

Calibration is a process to determine the exact amount of spray solution required to apply to a given area.

**8 Easy Steps For Calibrating Your Sprayer:**

1. Ensure sprayer is clean by rinsing with water
2. Fill sprayer with a measured amount of clean water e.g. 4 litres
3. Check to ensure that sprayer is working correctly and safely
4. Use correct nozzle height and check swath width
5. Practice spraying at comfortable walking speed and correct nozzle height approximately 45 cm (18 ins.) from plant
6. Measure an area e.g. 10 ft. (3 m) by 10 ft. (3 m)
7. Spray measured area
8. Determine the amount of spray used.

If 3.5 litres remained after spraying area, 0.5 litre was used to spray

Amount of Spray Used = Amount at beginning – Amount after spraying.
**Why Calibrate?**

You may need to apply chemicals to manage insects, diseases and weeds.

**Calibration is done to:**

- Ensure that most of the chemical reaches pests, diseases or weeds
- Minimize damage to your crops
- Avoid need to repeat spray
- Reduce waste
- Reduce negative effect on environment
- Reduce overall costs
**Spraying Land?**

**Calibration for 1 Lot**

How much spray solution (chemical and water) will you need?

Amount of solution needed to spray 1 lot of land = amount used to spray 100 sq. feet x 50

How much chemical (pesticide) will you need?

Amount of chemical for 1 lot of land = amount of solution for 1 lot x application rate of spray 100 sq. feet x 50

**Example**

If 3½ litres remained after spraying, ½ litre was used to spray 100 sq. feet.

Amount of spray solution needed for 1 lot = ½ L x 50 = 25 litres

If the application rate = 6 ml chemical pesticide per litre (READ LABEL)

Amount of pesticide required = 6 ml x 25 = 150 ml

NB. 1 lot of land = 5000 sq. feet
SPRAYING LAND?

CALIBRATION FOR 1 ACRE

How much spray solution (chemical and water) will you need?

Amount of solution needed to spray 1 acre of land = amount used to spray 100 sq. feet x 400

How much chemical (pesticide) will you need?

Amount of chemical for 1 acre of land = amount of solution for 1 acre x application rate

EXAMPLE

If 3½ litres remained after spraying, ½ litre was used to spray 100 sq. feet.

Amount of spray solution needed for 1 acre = ½ L x 400 = 200 litres

If the application rate = 6 ml chemical pesticide per litre (READ LABEL)

Amount of pesticide required = 6 ml x 200 = 1200 ml = 1.2 litres

NB. 1 acre = 8 lots of land
Spraying Land?

Calibration for 1 Hectare

How much spray solution (chemical and water) will you need?

Amount of solution needed to spray 1 hectare of land = amount used to spray 100 sq. feet x 1000

How much chemical (pesticide) will you need?

Amount of chemical for 1 hectare of land = amount of solution for 1 acre x application rate

Example

If 3½ litres remained after spraying, ½ litre was used to spray 100 sq. feet.

Amount of spray solution needed for 1 acre = ½ L x 1000 = 500 litres

If the application rate = 6 ml chemical pesticide per litre (READ LABEL)

Amount of pesticide required = 6 ml x 500 = 3000 ml = 3 litres

NB. 1 hectare = 2.5 acres of land
POINTS TO NOTE

APPLICATION RATE (AMOUNT OF CHEMICAL USED)

Application rate is the amount of chemical to be used for every litre or gallon of water.
The application rate is found on the label.

Amount of Spray Used = Amount at beginning – Amount after spraying area e.g. 100 sq. feet

1 lot of land = 5000 sq. feet
1 acre = 8 lots of land
1 hectare = 2.5 acres of land
Take Precaution – Safety First

- Read label of chemical
- Follow manufacturer’s recommendations
- Dilute chemical to correct concentration
- Apply chemical at recommended application rate

Rate is the amount of product required for a given area (e.g. litres per hectare).
Take Precaution — Safety First

External Components of a Knapsack Sprayer

1. Trigger valve
2. Pressure control valve
3. Pump
4. Pump handle
5. Lance
6. Nozzle holder and nozzle
7. Delivery tube
8. Tank lid
9. Spray tank
Take Precaution – Safety First

Check circled areas for leaks
TAKE PRECAUTION — SAFETY FIRST

Remember!! ALWAYS Wear Protective Gear When Handling Chemicals

- Head protection (hat)
- Eye protection (safety glasses)
- Face protection (respirator)
- Full body protection (preferably long sleeve coverall)
- Hand protection (rubber gloves)
- Foot protection (rubber boots)
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