

Calibration of Knapsack Sprayer

Information required

- a) Pesticide dose rate in litres/Ha (from product label) _____
- b) Mix volume range in litres/Ha (from product label) _____
- c) Spray quality (from product label) _____
- d) Tank size in litres _____
- e) Time in seconds to travel 100 metres _____
- f) Spray width in metres _____
- g) Nozzle flow rate in litres/minute _____

Step 1 *Workout the walking speed in Kilometres per hour (KPH)*

$360 \div \text{Time in seconds to travel 100 metres} = \text{Speed in KPH}$

$360 \div \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$ (to 2 decimal places)

Step 2 *Calculate the volume of mix applied per Ha* (check this is within label range above)

$600 \times \text{nozzle flow rate} \div \text{spray width} \div \text{speed(KPH)} = \text{Volume per hectare}$

$600 \times \underline{\hspace{2cm}} \div \underline{\hspace{2cm}} \div \underline{\hspace{2cm}} \text{ (step 1)} = \underline{\hspace{2cm}} \text{ L/Ha}$

Step 3 *Calculate the amount of pesticide to be added to each full tank mix*

$\text{Tank size in litres} \div \text{Volume per Ha} \times \text{pesticide dose rate} = \text{Litres per tank}$

$\underline{\hspace{2cm}} \div \underline{\hspace{2cm}} \text{ (step 2)} \times \underline{\hspace{2cm}} = \underline{\hspace{2cm}} \text{ (x 1000 for mls)}$
 $\hspace{15cm} = \underline{\hspace{2cm}} \text{ mls}$

Step 4 *Calculate the number of square metres each full tank mix will cover*

$\text{Size of tank} \div \text{Volume per hectare} \times 10000 = \text{Metres square per full tank}$

$\underline{\hspace{2cm}} \div \underline{\hspace{2cm}} \text{ (step 2)} \times 10000 = \underline{\hspace{2cm}}$

To calculate water and pesticide volumes to be mixed when treating small areas that require less than a full tank mix

What is the area in metres square ? _____ (this will be less than area calculated in step 4)

Step 5 Pesticide required

Pesticide dose rate x Area metres² ÷ 10000 = Pesticide required in litres

_____ x _____ (above) ÷ 10000 = _____ (x 1000 for mls)
= _____ millilitres

Step 6 Mix volume required (water volume + pesticide volume)

Volume per hectare (step 2) x Area m² ÷ 10000 = Mix volume required

_____ x _____ ÷ 10000 = _____ litres

Step 7 Water volume required

Mix volume required - Pesticide required in litres = Water volume

_____ (step 6) - _____ (step 5) = _____ litres