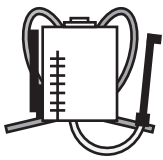


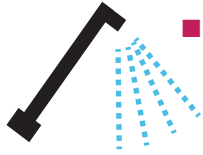
STANDARD OPERATING PROCEDURES: CALIBRATION: KNAPSACK SPRAYER

Poor control results are, in most cases, due to incorrect calibration and not the product!

STEP ONE Carry out basic equipment checks



- Ensure equipment is in good working order



- Ensure the correct nozzle is selected

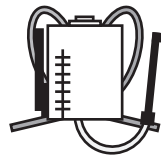


- Check for blockages, leakages and damage

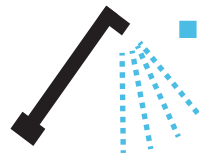
STEP TWO Calibration requirements



- Chemical dosage rate



- Size of the spray tank



- Nozzle width and output

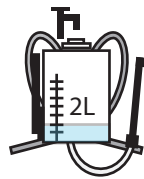


- Walking speed

STEP THREE Walking speed - do this exercise three times over the same terrain that will be sprayed and calculate the average



- Measure 25m



- Pour 2L of water into the knapsack tank

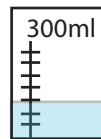


- Measure the time to walk the 10m distance at a steady speed, while pumping at a constant rate and pressure

STEP FOUR Nozzle output - do this procedure three times and calculate the average



- At the same pumping rate and pressure used in step three, spray into a container for the average time generated in step three



- Measure the amount of water collected

STEP FIVE Calculate the volume applied (VA)

$$VA = \frac{10\,000 \times \text{Nozzle output (L)}}{\text{Distance walked (m)} \times \text{Nozzle swath (m)}}$$

$$VA = \frac{10\,000 \times 0.31}{25\text{m} \times 0.5\text{m}}$$

$$VA = \frac{3\,000}{12.5}$$

$$VA = 240 \text{ L/ha}$$

EXAMPLE

- Nozzle swath (width) 50cm
- Nozzle output 300ml

STEP SIX Calculate the amount of chemical needed

$$\text{Chemical volume (CV)} = \frac{\text{Tank size} \times \text{Dosage rate}}{\text{Volume applied}}$$

$$CV = \frac{20 \times 0.5}{240}$$

$$CV = \frac{10}{240}$$

$$CV = 0.041667\text{L}$$

$$CV = 41.6\text{ml pesticide per tank}$$

EXAMPLE

- Knapsack tank 20L
- Dosage rate 0.5L/ha