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KNAPSACK SPRAYER: ROUTINE OPERATOR CHECKLIST

GENERAL		O.K.
CONDITION	Clean	☐
	No apparent damage	☐
	Strap fixing points secure	☐
	FILL WITH WATER	
	Will straps take weight?	☐
	Is sprayer stable when filled?	☐
LEAKAGE CHECK	Check for leaks, upright and on side	☐
FUNCTION CHECK	Check pressure relief valve to max. limit	☐
	Spray Out -Is cut-off valve working?	☐
	Is spray pattern correct?	☐
	Is nozzle undamaged?	☐
	Is nozzle flow rate within 10% of manufacturer's stated output?	☐
INTERNAL RESIDUE	Spray out until fan collapses and air appears	☐
	Is remaining liquid less than cupful?	☐
FOLLOWING USE	Rinse with detergent	☐
	Rinse twice with water - flush out through lance	☐
	Clean nozzle and all filters in water with soft brush	☐
	Clean outside of tank and straps	☐
	Follow disposal procedure for rinsings	☐

MAKE SURE NO LIQUIDS ENTER ANY DRAINS

Developed by NSTS and the Crop Protection Association as part of the Voluntary Initiative

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Calibration: Standard Method

		Example
Read the LABEL	Spray VOLUME Product Dose Spray QUALITY	200 litres/hectare 5.5 litres/hectare Medium
Select NOZZLE	Refer to product label	D / 2.5 / 1 Deflector
Set PRESSURE	Adjust pressure relief valve to appropriate position if fitted or use a pressure control valve	"LO"
Measure TIME per 100 metres	Determine time in seconds taken to spray over 100 metres. Wear full protective clothing and work on similar ground of that to be sprayed. Do this at least twice and take the average	95 seconds
Measure WIDTH	Spray over a dry surface at consistent height. Measure width of sprayed band in metres.	1.7 metres
Measure nozzle OUTPUT	Spray into a bucket for the TIME in seconds per 100 metres. Decant into a calibrated container to measure output in millilitres (cc). Or measure quantity of water needed to replace the drop in the tank volume. Do this at least twice and take the average.	3500 ml in 95seconds (ie. 3.50 litres)
Calculate spray VOLUME	VOLUME = OUTPUT ÷ WIDTH ÷ 100 ml/sq.metre millilitres metres VOLUME = OUTPUT ÷ WIDTH ÷ 10 litre/hectare millilitres metres	3500÷1.7÷100 = 20.6ml/sq.metre 3500÷1.7÷10 = 206 litre/hectare

If the spray volume is not within ± 15% of the label recommendation, make small adjustments in speed or pressure and repeat the above steps. If these are not sufficient then change the nozzles and recalibrate.

Now, calculate the dose required for your sprayer tank:

DOSE RATE	Read the product dose label to get the dose rate for the job in hand	5.5 litres/ha
TANK CAPACITY	Find out the capacity of the tank, or the quantity of spray mixture if less than a full tank.	20 litres
Calculate amount of PRODUCT per tank	PRODUCT = DOSE x TANK ÷ VOLUME litre/tank l/ha litres litres/hectare	5.5 x 20 ÷ 206 = 0.53 litres plus 19.47 litres water

All details must be entered in records

We are grateful to the BCPC for permission to reproduce the calibration method from the BCPC Hand-Held & Amenity Sprayers handbook