



REPUBLIC OF KENYA



GOVERNMENT OF MAKUENI COUNTY

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DOCUMENT: PROCEDURE FOR CALIBRATION OF KNAPSACK SPRAYER

DEPT: AILFCD, A&I

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ISSUED BY: Chief Officer

AUTHORIZED BY: CECM

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1.0 DOCUMENT CHANGES

DATE	CHANGES	AUTHORIZED BY

2.0 DOCUMENT DISTRIBUTION

COPY NO.	COPY HOLDER
01: MASTER COPY	DR
02	CS
03	CO
04	HOD

3.0 PURPOSE: This procedure outlines the process of calibrating knapsack sprayer for effective, efficacious and uniform application of Pest Control Products (PCP) and, to reduce wastage of pest control products and enhance Food safety standards

4.0 SCOPE: This standard operating procedure (SOP) is for spray service providers and fruit & vegetable farmers to follow during calibration of knapsack sprayer in Makueni County.

5.0 RESPONSIBILITIES: The Directorate of Agriculture and Irrigation, Spray service providers and Fruit & vegetable farmers.

6.0 TERMS & DEFINITIONS

AILFCD	Agriculture, Irrigation, Livestock, Fisheries & Cooperative Development
CO	Chief Officer
CS	County Secretary
DEPT	Department
DOC.	Document
DR	Departmental Representative
HOD	Head of Department
NO.	Number
PPE	Personal protective equipment
SOP	Standard operating procedure

7.0 MATERIALS / EQUIPMENT

- PPE (Overall, gloves, gumboots, goggles, helmet)
- Knapsack sprayer
- Portable water
- Nozzles (cone and flat nozzle)
- Measuring cylinder
- Stationaries (Books, Pens)
- Stop watch
- Measuring tape

8.0 OCCUPATIONAL HEALTH & SAFETY

- 8.1 Assistance when loading, unloading and recording
- 8.2 Manageable weight for the knapsack sprayer

9.0 PROCEDURE

- 9.1 Assemble all the necessary materials and equipment
- 9.2 Designate an even ground
- 9.3 Inspect the knapsack sprayer (hoses, regulators, filters and spray tank) for leaks and repair or replace worn out parts
- 9.4 Select the correct nozzle for the PCP to be applied
- 9.5 Fill the sprayer with a measured volume of water
- 9.6 Mount on the back carefully, then apply maximum pressure
- 9.7 Begin timing the discharge
- 9.8 Start walking and spraying a predetermined area
- 9.9 Carefully measure the amount of water remaining
- 9.10 From the figures, calculate how many pumps will be needed to spray an acre
- 9.11 If the amount of water sprayed out is within the specifications of pesticide manufacturer, then the sprayer is calibrated and the same settings should be used in actual application
- 9.12 If it is not within this range then repeat steps 9.2 to 9.9 after adjusting the pressure, ground speed, or nozzle tips until you are reasonably sure you are applying the correct volume of spray/acre

10.0 DOCUMENTATION

- 10.1 Calibration records
- 10.2 Manufacturers specifications

11.0 COMPLIANCE VERIFICATION / VALIDATION

- 11.1 Nozzles not damaged
- 11.2 Knapsack sprayer not leaking
- 11.3 Nozzles are spraying uniformly

12.0 REFERENCES

- 12.1 Manufactures Manuals