DRAFT CASSAVA CROP'S PROTECTION POCKET BOOK

AIRTEA TP 008 – Kenya, Rwanda and Uganda

DRAFT POCKET BOOK FOR EXTENSIONISTS

CASSAVA AIRTEA TP 008 –

Strengthening cassava innovation ecosystems and knowledge transfer for inclusive rural livelihoods development in Kenya, Rwanda and Uganda

2023

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In an effort to promote cassava industry in EA several programmes have been implemented. Although very promising the cassava industry in EA is not yet benefiting the cassava farmers and value chain actors as expected. There is a steady growth of needs to improve the production both in quality and quantity.

One of the most important challenges facing the cassava farmers is to devise methods for economic control of diseases and insect pests which often go unattended by the farmers for scarce knowledge of the impact they have on the crop. Rapidly rising costs of pesticides, and other agri-inputs of production calls for a careful examination of the cos/benefits before recommendations are made. The small scale farmer who carries the responsibility for the primary production of the crop is the first to experience the losses that may arise

The handbook is concerned about diseases and arthropod pests causing losses of cassava crop. It is prepared by the AIRTEA- TP 008 programme through expert information and observations obtained from the laboratory, experiments and experiences in the field. The handbook will be a valuable guide to the extension workers and technical officers in enhancing improvement of the production for the cassava crop. It is also a valuable reference to other researchers in these countries and neighbouring countries with similar situations.

This handbook was proposed and initiated from a farmers training in Kenya. The farmers and the extension officers desired a pocket book for quick reference to help them uproot and maintain clean planting material for sale and crop for root production to reduce losses that are incurred especially from diseases such as the CBSD which causes up to 100% loss if the viruses infect the crop earl as it is developing. The authors and all others are commendable for their hard work and contribution. The publication is made possible by AIRTEA- OACPS programme that funded the third party AIRTEA programme (TP 008) on Strengthening cassava innovations and knowledge transfer for the transformation of cassava smallholders in Kenya, Rwanda and Uganda

Diseases and insect pests constitute a major constraint of production of cassava crop in Africa. Although adequate estimates of losses cannot be made, the pests and diseases do cause losses in quantity and also lower quality of cassava leaves and roots. Some insect pests are also able to spread plant pathogens especially viruses and bacteria in addition to direct damage they inflict to the crops. Small modifications in farming practices can be made to control pests and diseases. However, such practices are scarcely known by the farmers and the cost of pesticides inhibit the utilization. It is essential to make correct diagnosis to make informed pests management decisions which will affect the farmer, environment and the national economy in general. Therefore, important diseases and insect pests have been

documented in this pocket book. It is by no means exhaustive but is intended to cover the most frequently encountered problems. Integrated pest management will be emphasized but where pesticides are mentioned, these are general given as examples and are not exclusive recommendations. Further Research is appropriate to give more detailed recommendations for pest and disease management.

SECTION I- DISEASES

CASSAVA BROWN STREAK DISEASE

Description

Management

CASSAVA MOSAIC DISEASE

Description

Management

CASSAVA BACTERIAL BLIGHT

Description

Diagnosis

Management

SECTION II- INSECT PESTS

WHITEFLY

Description

Geographical distribution

Detection and damage

Management

MEALYBUG

Description

Geographical distribution

Detection and damage

Management

APHIDS

Description

Geographical distribution

Detection and damage

Management

SCALES

Description

Geographical distribution

Detection and damage

Management

TERMITES

Description

Geographical distribution

Detection and damage

Management

RED SPIDER MITES

Description

Geographical distribution

Detection and damage

Management

NEMATODES

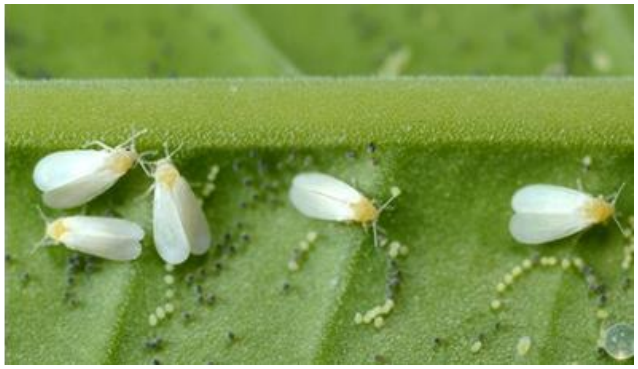
Description

Geographical Distribution

Detection and damage

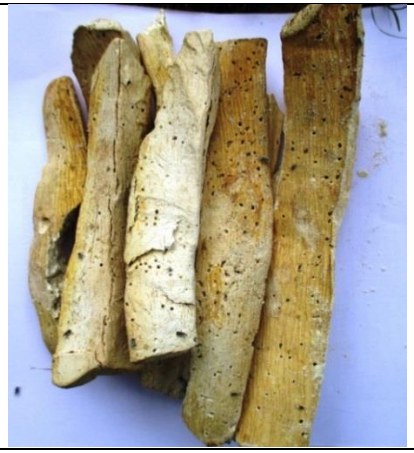
Management

Cassava Insect Pests Practical lay out

Pest	Damage	Management
Whiteflies  Real pest	Indirect Plant with CMD, CBSD	
Mealy bugs 	Distorted plant parts of cassava	

Red spider mites 	Leaves with bronzing effects	
Cassava Scale 		Display dermis (Insectcides) , Diaznon Whiteoils Detergents Soaps Mixing ratios

White peach scales 		Display dermis (Insectcides) , Diaznon Whiteoils Detergents Soaps
 Termites		Display dummies (Insectcides)
Large grain Borer		Display dummies (Insecticides)

 Real LGB		

SECTION III : WEEDS

Grasses and Sedges

Broadleaf weeds

HOW TO MANAGE WEEDS

Weed management requires a combination of measures from biological, cultural, chemical and physical.

1) **Hand weeding** to uproot the weeds from the field
2) **Mulching** cassava seedbeds with dead organic plant foliage
3) Use of **chemicals**: herbicides both pre-emergence and post emergence herbicides Applicable when cassava fields are too large to weed by hands.
4) **Remove** weed rhizomes, solons, and tubers from cassava seed beds to reduce weed problems.
5) Grow cassava **varieties** with early, low, and much branching habit; these will Suppress weed growth better than varieties with late, high, or no branching habits.
6) **Intercrop** cassava with appropriate crops to reduce weed problems and improve soils.
7) **Combine** the most appropriate weed control practices for more effective control of the weeds.

References