MAJOR COCOA PESTS SITUATION AND DAMAGE ASSESSMENT IN NIGERIA

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Introduction

- Nigeria used to be the 2nd leading producer of cocoa in the world.
- Today in 4th position after Côte d’Ivoire, Ghana and Indonesia attributed to:
  - Labour shift in favor of the industrial sector (Oil & Gas).
  - Exploitation of cocoa farms for arable crops.
  - Deforestation, Soil infertility and Land degradation for urbanization.
  - Old age of plantations and most importantly
  - Pest and diseases outbreak.
Major Pests in Nigeria

- Insect pests (Mirids, Stem borer, Pod borer, Shield bug & Termites)
- Fungal disease (Black pod)
- Viral disease (CSSVD)
- Parasitic weeds (Mistletoes)
- Nematodes
Insect Pest: Cocoa Mirids

Damage Characteristics

- Causes black lesions
- Causes 25-30% losses
Insect Pest: Cocoa Stem Borer
(Eulophonotus myrmeleon)

Damage Characteristics

- Bores into the stem.
- Kills the cocoa tree.
Insect Pest: Cocoa Pod Borer
*(Characoma stictigrapta)*

Damage Characteristics

- Bores into the pods.
- Damages the beans.
COCOA SHIELD BUG (*Bathycoelia thalassina*)

**DAMAGE**

**CHARACTERISTICS**

- malformation of pods, wilting of branches,
- die backs of shoots and stag-headed cocoa pole formation.
- bean decay
- Predisposes pods to parasitic fungi *Calonectria rigidiuscula, Fusarium spp*
Insect Pest: Termites

Damage Characteristics

- Ring barks the base of seedlings and mature trees.
- Kills the plant.
Achaea catocaloides
Insect Pest: warehouse moth (Ephestia sp.)

Damage Characteristics

- Damages pods in store before exportation.
Black Pod Disease

Damage Characteristics

- Caused by *Phytophthora megakarya*
- Small chocolate brown spot on the pods which later turns black
- Responsible for losses of ~90% if left untreated
Cocoa Swollen Shoot Virus (CSSV) Disease

Damage Characteristics

- Caused by CSSV
- Apical stem swelling
- Basal stem swelling
- Chupon swelling
- Red vein banding
- Vein clearing & chlorosis
Mistletoes

Damage Characteristics

- Parasitizes on the cocoa stems.
- Accounts for 70% infestation.
- Kills the plant if not removed
Nematode Disease of Cocoa

Damage Characteristics

- Caused by Root-knot Nematodes, *Meloidogyne incognita*
- Parasitizes on cocoa roots causing galling.
- Causes die back, stunting, wilting & leaf size reduction.
- Death of cocoa seedlings.
CONTROL MEASURES

Insect pests/Diseases
- Pruning
- Weeding
- Phytosanitary harvesting
- Use of Pesticides
- Destruction of mounds
- Removal of King/Queen
- Use of soil organic amendments
- Pairing of suckers

Mistletoes
- Pruning at time of flowering

Approved Pesticides
- Actara
- Ultimax plus
- Kocide 101
- Ridomil Gold
- Funguran OH
- Champ DP
- Copper Nordox
Damage Assessment

- In Nigeria cocoa pests damage assessment has been based on visual symptoms caused by the various pests.
- Most damage assessment by cocoa pests are based on the proportion of trees or pods in such farm, which show symptoms of attack by the various pests.
- Also pest damage assessment becomes very difficult because cocoa trees are attacked simultaneously by different pests.
Damage Assessment contd.

- In most cases, the adverse effects of damage caused by pests, are usually not fully manifested until several months or years later.

- In some situations where attack leads to the death of infected cocoa trees or seedlings, damage assessment is very difficult because it can not be attributed to any particular pest.
Damage Assessment before Pesticide Application

Take random sample of 100 cocoa trees/ha

- Less than 5% damage - do not spray
- 5 – 25% damage - spot spray
- Over 25% damage - blanket spray
- pods due for harvest in 2wks - do not spray
- 85% pods already harvested - do not spray
Thank you for your attention