PROGRESS IN MANAGEMENT OF COWPEA PESTS IN WEST AFRICA

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<table>
<thead>
<tr>
<th>COWPEA IN WEST AFRICA</th>
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<td>The most important grain legume crop in West Africa</td>
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<td>Cultivated both for subsistence and commerce</td>
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<td>Cultivated everywhere but suited most for the savannas and forest-savanna transition zones</td>
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<td>One of the cultural crops of the Sub-region</td>
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<td>Eaten across the region in various food preparations</td>
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<td>A major source of protein in the diet of the poor</td>
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<td>A proven source of animal feed</td>
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<td>Useful for soil rejuvenation and as a cover crop</td>
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Constraints to Cowpea Production

- Pests and diseases (including weeds)
- Weather (climate change)
- Suitability of varieties and other technologies
- Land scarcity and suitability Issues
- Poor storage facilities or their lack
- Pricing
Important Cowpea pests in West Africa

- Aphids
- Thrips
- Flower/Pod Borers
- Pod sucking bugs
- Viruses
- Fungal diseases
- Storage weevils
SOME COMMON PESTS OF COWPEA IN WEST AFRICA

- **Aphids**
- **PSBs**
- **Thrips**
- **Thrips damage**
Drought compromised field
How to Enhance Production

- Breed for suitable varieties (High stable yields and tolerance to pests and diseases) (IITA, National Research Centres and Universities)

- Develop and disseminate Sustainable Pest Management Technologies (manipulation of environment, effective pesticides and application techniques, use of non-pesticidal management options)

- Subsidies on pesticides (to keep or to remove?)

- Assistance for development and use of bio-agents

- Providing technical support (tractors, threshers, storage etc)

- Improved post harvest handling and management

- Provide marketing avenues for stable prices
Traditional Pest Management Approaches

- Early (strategic) planting to evade peak pest populations
- Mixed cropping to reduce risk of crop failure
- Planting tolerant landraces
- Using botanical products (ashes, powders, extracts etc.) (Storage)
- Application of pesticides
Some concerns

- Use of non food crop pesticides for cowpea pest management
- Rampant bush fires destroying natural enemies and their refuges
- Inconsistency in the effectiveness and unavailability of botanical pesticides
- Lack of a sustained supply network for biopesticides
- Inadequate understanding/appreciation of the contribution of beneficials to crop production
- Inadequate appreciation of the impact of pesticides on man, animals and the environment
- Unalloyed consumer crave for blemish free cowpea
CURRENT TRENDS IN PEST MANAGEMENT

• Mainly geared at reducing the use of noxious synthetic chemicals in IPM of cowpea pests
  – Determining the movement patterns of insect pests
  – Determining pest thresholds and designing Scouting methods
  – Pesticide application techniques that reduce abuse
  – Identification and use of alternatives to conventional pesticides (neem and other botanicals pesticides)
  – Inter-planting and mixed cropping to reduce pest pressure and risk of crop failure
  – Exploitation of pest host plant relationships through chemical ecological studies
  – Equipping Extension personnel with right technologies
Establishing and using population thresholds in IPM of Cowpea Pests

- Combination of early warning systems and use of biological pesticides for cowpea pest management
  - Use of Maruca pheromone traps to indicate to farmers about population build up and when to most efficiently use of pesticides (neem and other botanicals)
- Application of specific targeted pesticides at specific times
  - Limiting application of conventional pesticides to the management of pod sucking bugs.
Biological Control Field Activities

- Rearing, release and monitoring of natural enemies (Thrips and Maruca) in the wild on wild host plants (Longicarpus spp.) and booster cowpea and alternate host plant fields
  - Sesbania spp., Tephrosia spp.
- Testing of NPhV for control of Maruca
- Encouraging minimum tillage to reduce disturbance of the ecological settings
Challenges to Bio-control and IPM Efforts

• Inadequate of understanding, trust and appreciation of IPM based on Biocontrol
• Inadequate know how among extension agents
• Lack of resources for execution
• Regular use of noxious pesticides
• Burning of crop residue
• Bush fires (destruction of habitats and refuges)
• Demand for blemish free produce
• Poorly equipped and motivated extension personnel
Way forward

- Extensive Extension Education using novel techniques developed (IPM-Omics) for pest management.
- Provision of reliable alternatives to conventional pesticides (bio-agents, botanicals and biopesticides)
- Train Extension Personnel and farmers on paradigm shifts in use of pesticides to conserve, preserve and enhance beneficials especially natural enemies
- Farmer and Consumer education to tolerate some damage of their produce
Way forward cont.

- Identify and train personnel to take up the new paradigm of pest management
- Motivate personnel to stay focused in use of biological pest management
- Conduct studies of chemical ecological relationships between cowpeas, cowpea pests and their natural enemies for effective manipulation
- Develop strong private sector systems for sustained supply of botanical extracts and other biological pesticides
Thanks for Your Attention