Systemwide Program on IPM

Pilot site: Lambwe Valley, Kenya

Rationale

The Western Kenya pilot site will be located in the Lake Victoria Basin which is a moist (>550mm), mid-altitude (1110-1500m), agroecological zone as defined by Corbett, 1998. This zone is the largest maize growing area of Kenya, representing 44% of the total land devoted to maize. The moist, mid-altitude zone is also representative of a large part of the maize growing area in other countries in East and southern Africa. In the dryer areas of the zone, maize is often replaced with sorghum. In addition to cereals, many farmers grow legumes (cowpeas or beans), cassava, and groundnuts, and maintain livestock.

Major biotic contraints to agricultural production the area include striga, stemborers and diseases in maize and sorghum. Farmers have identified striga (Striga hermonthica) as the most important constraint to maize production in the region. The two most economically important stemborers in East and southern Africa, Chilo partellus and Busseola fusca, attack maize and sorghum in the Lake Basin.

Several IARCs, working in partnership with KARI, MOA and NGOs, are presently active in the Lake Victoria Basin. CIMMYT, ICRAF and ICIPE, working with national and local partners, have activities related to striga management. CIMMYT has striga tolerant varieties, and has proposed various cultural controls, ICRAF is working on improving soil fertility to suppress striga, and ICIPE has developed a habitat management approach using the fodder legume, Desmodium. ICIPE and CIMMYT are also developing IPM tactics for stemborers, with CIMMYT focussing on resistance and ICIPE on a 'push-pull' habitat management approach (manipulating wild grasses on field margins) and biological control. Streak resistance maize varieties are also available from CIMMYT.

In addition to maize IPM, ICRISAT has groundnut varieties resistant to rosette virus which are available for testing, and IITA has a series of cowpea pest management options (developed by the PEDUNE network) which they believe would be appropriate for the moist, mid-altitude zone of East Africa.

The pilot site will be located in Lambwe Valley which lies between Homa Bay and Mbita. ICIPE has worked extensively in this area, primarily on tsetse fly management, and thus, the Lambwe Valley has been well-characterized, both

physically (climate, soils) and socio-economically. ICIPE/KARI/MOA are currently promoting a habitat management approach for cereal stemborers and striga in maize.

Entry points

- Striga on cereals (maize and sorghum): tolerant varieties, cultural controls, soil fertility
- Stemborers on cereals (maize and sorghum): tolerant varieties, cultural controls
- Groundnut rosette virus: resistant varieties
- Cowpea pests: resistant varieties, botanicals and solarization

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