Management of Weeds and Soil Pests in Kenyan Vegetable Crops

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Summary. Training sessions were conducted in three Kenyan villages (Maito, Zambia and Kiambani) near Kitui, to demonstrate basic weed and pest management techniques appropriate to local vegetable crop production systems. Common vegetable crops in the area are mung bean, onion and tomato. Solarization is a simple and safe method to kill weed seeds, nematodes and soilborne diseases prior to planting vegetable crops. In the Kitui District of Kenya located near the equator, the sun is strong and solarization works well. Plastic films installed over moist soil, raised the soil temperature above the thermal death point, >50°C, killing soil pests.
Competition is the primary damage caused by weeds to the crop. Weeds left uncontrolled beyond the critical period of weed control can reduce crop yields. Traditional methods of weed control in Kenya allow weeds to compete with the crop and crop losses to weeds are common. Two simple tools, a hula hoe and a wheel hoe were introduced to rural Kenyans to permit more rapid and timely weed removal.

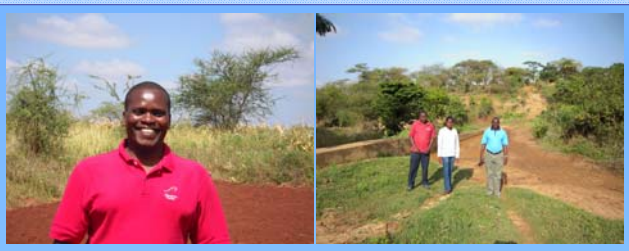

Fig. 1. Key personnel on the project Peter Mutua (left), Sasol personnel Ken, Mary and Muntinda (right)

Fig. 2. Steve Fennimore with SEUCO faculty visiting a high tunnel tomato production project (left), and Peter and Steve meeting with Dr. Muluvi the Principal of SEUCO.

Project effort February 2011

Steve Fennimore's trip to Kenya focused primarily on delivering some basic pest control methods to rural Kenyans. Hosts in the project were Peter Mutua and Sasol personnel (Fig. 1).

Southeastern University College (SEUCO) at Kitui is a new and expanding agricultural university. We visited the faculty at SEUCO and there appears to be great potential for a positive impact of that institution on the education of local producers (Fig. 2).

Fig. 3. Solarization demonstration in Maito with club members participating. Preparation for a poster presentation at Zambia.

Methods demonstrated in the villages were simple and could be taught in a few minutes. Methods covered were solarization (Fig. 3), cultivation with a wheel hoe (Fig. 4) and a hula hoe (Fig. 5).

Fig. 4. Wheel hoe demonstration in Maito right and left.

Upcoming plans

Peter Mutua, Jeff Mitchell and Steve Fennimore will visit other villages in June 2011 to demonstrate methods such as drip irrigation and fertilizer use in tomato.

Other possible activities include remote learning classes taught by SEUCO faculty and attended online by the village club members.

Fig. 5. Demonstrating the hula hoe in Maito (left) and Kiambani (right).

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