

Root-knot Nematodes

(*Meloidogyne spp.*) and their Management in Tomato Fields

Root-knot nematodes account for more than 10% loss in total crop production globally

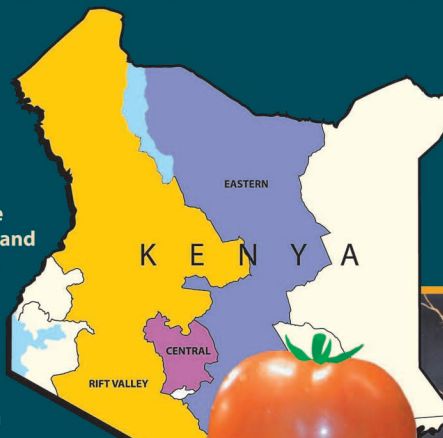
NB: Not to scale

Root-knot nematode is not visible to the human eye

The Problem

Root-knot nematodes (RKN) are microscopic worm-like animals and are major pests on farms where susceptible crops, such as tomato, are grown frequently

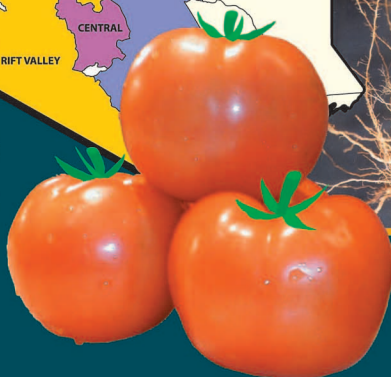
- RKN reproduces rapidly and numbers can increase several thousand-fold within a growing season
- It is not advisable to grow successions of susceptible crops but, in Kenya (and many other countries), tomatoes are most attractive economically
- Farmers are therefore keen to find remedies that will enable high value crops to be grown regularly



The Symptoms

Above-ground

- stunted growth patches of unhealthy plants in fields
- wilting on hot days
- yellowing of leaves (chlorosis)
- small fruit



Healthy root



Infested root

Below-ground

- galls and deformations on root systems

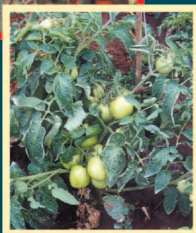
Management strategies

The most suitable methods of nematodes control involve integration of several strategies including:

- nematode-free transplants
- nematicides (have restricted use due to safety and cost)
- rotation of susceptible crops with poor hosts
- physical methods e.g. solarisation, trash burning
- biological control with naturally occurring micro-organisms
- resistant varieties
- organic amendments, trap crops and sanitation



Infested plant



Healthy plant



Farmer participatory evaluation of RKN management options in nursery beds



Scientists discussing RKN management options with farmers

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