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.

**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

- **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

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