



ROOT-KNOT NEMATODE OF TOMATO



Tomato roots swollen due to root-knot nematodes^a, resulting in the drying of the tomato leaves^b © CABI/Plantwise

Root-knot nematodes (*Meloidogyne* spp.) survive in soil (in roots of weeds or as eggs in infected roots of previous crops) and are destructive to tomatoes. *Meloidogyne* has a wide host range among cultivated crops, like egg plants and potatoes, as well as some weeds.

ROOT-KNOT NEMATODES GROWTH CYCLE

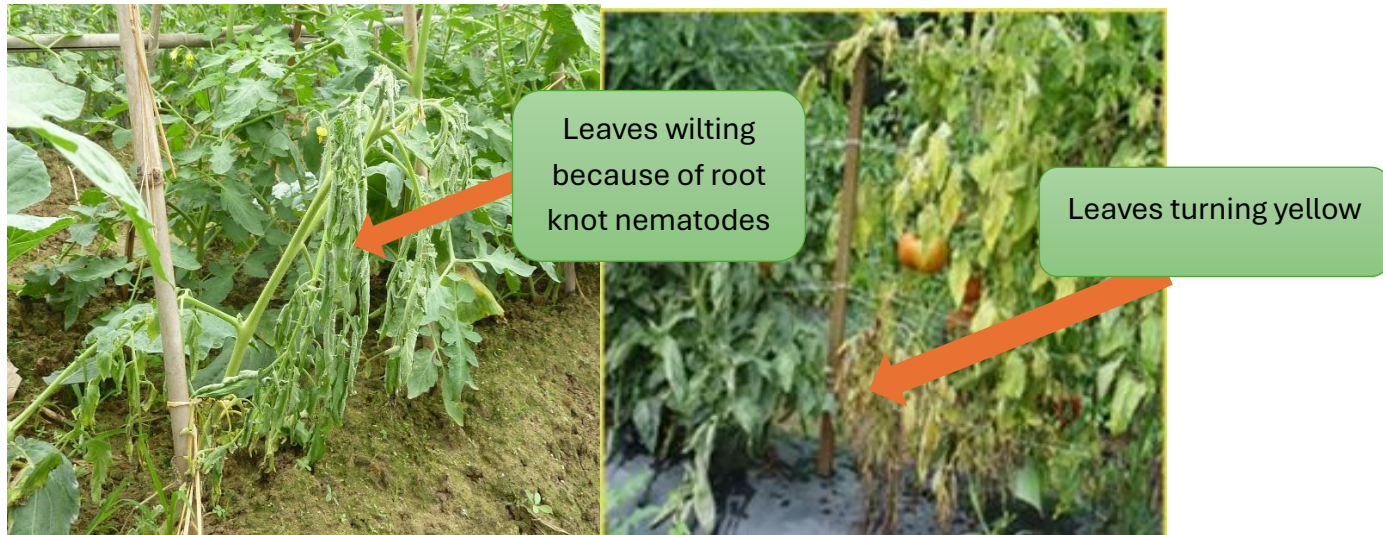
A female worm can lay up to 600 eggs. The eggs can remain in the soil for more than 5 years.

When the eggs hatch, the larvae move with the soil moisture and enter the roots of the tomato plant. Inside the roots, the larvae block the channels that transport nutrients from the roots to the stem as they grow.

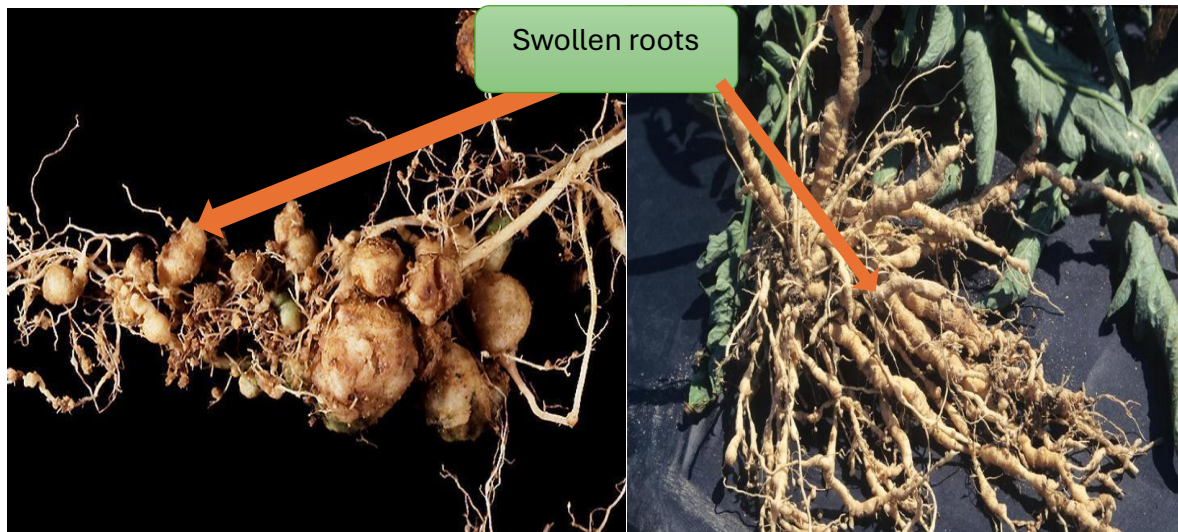
After a few days (7–12), the larvae begin laying eggs. The worms live for about 25 days.

DAMAGE SYMPTOMS OF ROOT KNOT NEMATODES

Infected plants become stunted. When the tomato plant is uprooted, its roots develop swellings that look like nodules/galls/lumps.



Leaves wilting and turning yellow because of root knot nematodes © DARS



Roots are swollen because of root knot nematodes © CABI/Plantwise

MANAGEMENT OF ROOT KNOT NEMATODES

Use the following management options to reduce root-knot nematodes in tomato:

- Scout/inspect the tomato field regularly
- Use tolerant varieties
- Sterilize soil in nurseries
- Practice crop rotation
- Transplant healthy seedlings, free of nematodes
- Control weeds and volunteer plants
- Avoid use of contaminated water with nematode
- Uproot and destroy infected plants
- Use organic manure.
- Plough immediately after harvest and prior to the fallow season to expose roots to dry
- Apply recommended Nematicides. Nematicide are toxic hence they should be applied following recommended application procedures.

NOTE: Integrated pest management (IPM) is the best approach to manage plant-parasitic nematodes of tomato.

Malawi

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