

# FACT SHEET

## Guava root knot nematode

Guava root knot nematode (GRKN; *Meloidogyne enterolobii*) is a microscopic plant pest found in the soil, mostly commonly in tropical and subtropical regions. Its broad host range and the lack of resistant cultivars mean that damage can be widespread and control difficult.

### Symptoms - what do infected plants look like?



GRKN-infested cucumber crop. Image credit: AgNet Media



Galling on tomato roots. Image credit: LSU Ag



Galling on sweetpotato. Image credit: Carmilo Parada

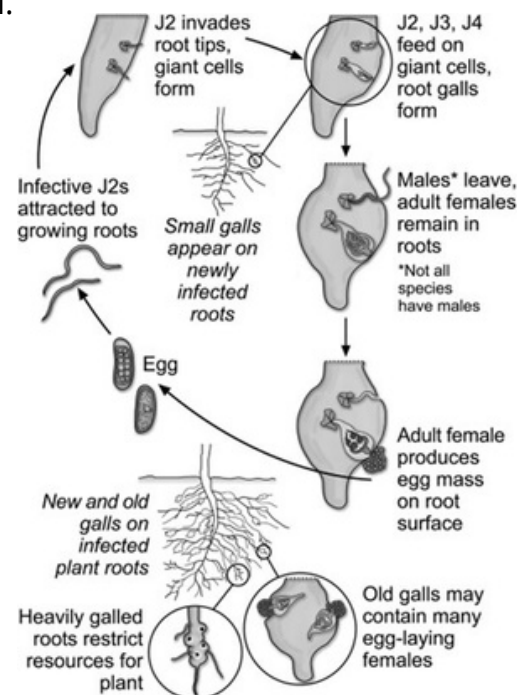
GRKN infects the plant's root system, disrupting uptake of water and nutrients causing yellowing, wilting, and stunting of plants. Early symptoms may appear in small patches when GRKN first establishes, before spreading more widely if susceptible crops continue to be grown in the same site.

### Lifecycle

Juvenile nematodes hatch from eggs in the soil or infected plant material and move through the soil to infect plant roots, bulbs, rhizomes and tubers. Inside the root, female nematodes produce 100s of eggs. The plant responds by producing galls. The cycle from egg to reproductive adult takes 30-35 days which means that many generations of nematode are possible within a growing season.

If you suspect GRKN, dig up a few plants and examine the roots or tubers for lumps or galls.

GRKN infection often goes unnoticed until harvest but early detection is key. Infection by GRKN may lead to infection by secondary pathogens such as root-rotting fungi.



Disease cycle of GRKN.

Image credit: Pauline Hunt, AgResearch

**IF YOU SEE ANYTHING UNUSUAL,  
CALL THE EXOTIC PLANT PEST HOTLINE**



**1800 084 881**



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### Hosts - understanding these can help with management

Many plant species can become infected with GRKN. Managing these is critical in reducing GRKN levels. Some reported hosts include, but are not limited to:

Vegetables and herbs: sweet potato, potato, tomato, peppers, eggplant, cucumber, squash, pumpkin, broccoli, okra, carrot, parsley, sugar beet, ginger, white yam, salvia

Field crops: tobacco, soybean, cotton, cowpea, sugarcane

Fruits and trees: grape, plum, peach, almond, guava, banana, mulberry, jujube, jackfruit, dragon fruit, coffee, papaya, watermelon

Ornamentals: poinsettia, snapdragon, gardenia, lantana, willow

Weeds: Pigweed, morning glory, nutsedge, nightshade, wild mustard

### Spread - how can GRKN move around?

Growing medium, planting material (bulbs, tubers etc.) as well as infested soil attached to machinery, tools, footwear and plant products are pathways by which GRKN can be introduced to new areas. Preventing this helps reduce spread of GRKN.

### Preparedness - what can I do now?

1. Implement best practice farm hygiene procedures on your property:

- Come clean, go clean. If it can move, it can carry pests and diseases.
- Monitor who and what comes on to your property.
- Clean footwear, vehicles, equipment and plant material before moving between sites.
- Clean up and dispose of plant waste appropriately as this can be a source of infection.
- Manage weeds. Many weed species are hosts of GRKN and can increase the risk of spread to your crop.

2. Commence a nematode monitoring program:

- Collect samples for diagnostics and understand your soil population.

3. Manage GRKN populations in the soil:

- Introduce nematode-resistant cover and rotation crops.
- Apply practices that increase soil carbon and encourage beneficial soil organisms (e.g. avoid excessive tillage, bare fallowing, and soil fumigation).

Regular updates can be found at  
NT DITT and Qld Biosecurity  
websites, scan or click these QR  
codes for more info



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Contact the AUSVEG team with  
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