

FACT SHEET

Guava root-knot nematode

Guava root-knot nematode (GRKN, *Meloidogyne enterolobii*) was detected in Australia in late 2022. This microscopic pest, primarily found in tropical regions, has rapidly spread around the world and is among the most damaging species of root-knot nematodes. In Australia, it has been identified in residential gardens and commercial farms in the Northern Territory and a few restricted sites in Queensland. Its potential spread in Australia is uncertain, and its wide host range and lack of resistant cultivars mean that damage can be severe, making it more difficult to control.

Hosts

GRKN and other RKN species can infect most vegetable crops. Preferred hosts include:



Solanaceous vegetables



Cucurbits



Carrots, beans and lettuce

Symptoms - what do infected plants look like?

GRKN infests the plant's root system (b), disrupting uptake of water and nutrients and so affects growth, yield, and tolerance to stress of affected plants. Plants may show yellowing, stunting and wilting (a). Roots of infested plants have typical root-knot nematode galling (appear lumpy) (c)(d), which can be severe. Tuber crops may also be damaged or blemished (e), impacting on their saleability.



Image credits: Tony Pattison (a, b, c), Sebastian Kiewnick (d) and Wayne O'Neill (e)

Spread - how can GRKN move around?

Nematodes spread slowly on their own, so humans play a big role in their movement. They can be transmitted through infected plant material like bulbs and tubers, contaminated soil, and even farm equipment, tools, and shoes that have touched and may be carrying infested soil.



On-farm biosecurity is the best way to keep GRKN & other RKNs out of your property



Come clean, go clean

Anything moved onto your property may carry root-knot nematodes.



Monitor who & what comes on to your property

Biosecurity signage & restricting access (particularly in production areas) will help to manage movement.

What we know about managing GRKN so far

Soil sampling & crop monitoring

Regular soil sampling and testing for nematodes, as well as monitoring crops for symptoms of damage, especially root galling, helps to detect nematodes early. Knowing which nematode you are dealing with is key to management.



Crop rotation

Like other root-knot species, rotation with non-host crops, or clean (volunteer and weed-free) bare fallows are the best way to reduce GRKN populations to low levels between vegetable crops.



Research on the most resistant rotation crops is continuing. Some options that have shown good resistance in experiments to date include:

- Some varieties of forage sorghum,
- Sunn hemp,
- Peanut,
- Some varieties of oats; and
- Some pasture grasses (e.g. Rhodes and signal grass)

What should you do if you suspect GRKN?

Growers are encouraged to submit samples of plant material they suspect to be infected with GRKN to a diagnostic laboratory. This will help researchers to better understand the distribution, biology and emerging impacts of this nematode in Australia.

To learn more, please contact:

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Help us transform the management of GRKN in vegetables!

By telling us about your needs and the impact of nematodes on your business, you'll help the innovative new project led by the Queensland Department of Primary Industries project to map the distribution of GRKN & related nematode species in key vegetable production areas.



The project will investigate management options for industry, including:

A rapid and accurate diagnostic assay for the identification of these nematodes from root and soil samples, enabling growers to make informed management decisions



Evaluating the resistance of different cover crops so that growers will have rotation options for management if GRKN is found in their area



Have your say and help us develop the tools you need to crack down on GRKN! Please complete the project survey by scanning or clicking this QR code:

