Department of Primary Industries sweetpotato projects update September 2026

Pest management for the Australian Sweetpotato industry (Project: PW22000).

Funding: Hort Innovation from sweetpotato levies matched by federal government funding. October 2023 to October 2026. *This project builds on knowledge gained in the previous nematode project and aims to identify practical management approaches for nematodes and viruses. Maintaining capacity in the DPI Australian sweetpotato pathogen testing and investigation program limits industry vulnerability in the event of an incursion.*

With the project concluding in October this year, the team is busy consolidating learnings and preparing reports on project activities undertaken throughout the project, updating the list of resistant cover crops and fact sheets. The nematology team continue to process trial and survey samples and monitor nematode pests present, to maintain vigilance for guava root-knot nematode and other potential new threats to industry. Four populations of Meloidogyne javanica, an important root-knot nematode species in the Australian industry, were identified using molecular testing and put into pure culture for future research. The populations have also been forwarded (under permit and MTA) to the Louisiana State University AgCenter to be included in screening of sweetpotato germplasm for nematode resistance. This will benefit Australian growers, as current screening is focussed on Meloidogyne incognita, the dominant root-knot species in the US industry.

Table 1. Summary or resistance/susceptibility of potentially useful rotation crop cultivars to three species of *Meloidogyne* spp.

Common name	**Species**	**Cultivar**	**Species of *Meloidogyne***	
			M. incognita	***M. javanica***
barley	*Hordeum vulgare*	Dictator	Moderately susceptible	Moderately susceptible
barley	*Hordeum vulgare*	Harpoon	Moderately susceptible	Moderately susceptible
barley	*Hordeum vulgare*	Moby	Moderately susceptible	Moderately susceptible
barley	*Hordeum vulgare*	Shepherd	Moderately susceptible	Moderately susceptible
Brassica/radish	*Sinapis alba* (White mustard)/*Raphanussativus* (Doublet oilseed radish)	Biofum	Moderately susceptible	Moderately susceptible
Brassica	*Brassica nigra*	black		Moderately susceptible
Brassica/radish	*Raphanus sativus*	Black Jack	**Resistant**	Moderately susceptible
Brassica/radish	*Brassica nigra* (Black mustard)/*Brassica carinata* (Ethiopian mustard (cv. Cappucchino)	BQ Mulch	Moderately susceptible	Moderately susceptible
Brassica/radish	*Brassica juncea*	Caliente	Moderately susceptible	Highly susceptible
Brassica/radish	*Brassica carinata*	Cappucchino	Moderately susceptible	Moderately susceptible
Brassica/radish	*Brassica carinata* (Ethiopian mustard (cv. Cappucchino)/ *Raphanus sativus* (Terranova oilseed radish)	FungiSol	Slightly susceptible	Moderately susceptible
Brassica/radish	*Brassica juncea*	Mustclean	Highly susceptible	Highly susceptible
Brassica/radish	*Raphanus sativus* (Terranova radish)/*Eruca sativa* (Nemat)	Nemasol	Slightly susceptible	Moderately susceptible
Brassica/radish	*Eruca sativa*	Nemat	Slightly susceptible	Slightly susceptible
Brassica/radish	*Brassica napus*	Nemclear	Highly susceptible	Highly susceptible
Brassica/radish	*Brassica napus*	Nemcon	Moderately susceptible	Highly susceptible
Brassica/radish	*Raphanus sativus*	Terranova	**Resistant**	Moderately susceptible
Brassica/radish	*Raphanus sativus*	Tillage radish	Moderately susceptible	Moderately susceptible
buckwheat	*Fagopyrum esculentum*		Moderately susceptible	Highly susceptible
burgundy bean	*Macroptilium bracteatum*		Highly susceptible	Highly susceptible

The team at GRF have squeezed in a small virus transmission study at the last minute, to investigate the potential of Jassids to transmit sweetpotato viruses as we continue molecular testing of plants used in the glasshouse experiments. The pilot study at Gatton Research Facility to evaluate the effects of generational yield decline due to virus infection was harvested on the 17th of August and data analysis is underway. Project team meetings were held on the 22nd of June and the 25th of August.

If you would like a block sampled for nematodes, please contact Rach on 0436 928 512, we will be only too happy to sample it for you. If you are using cover crops that you would like tested for nematode resistance, feel free to contact Rach or Sandra on 0427 604 144. All we need is a cup of seed.

Image 1. Left, RKN symptoms, Right, assessing roots from the pilot study at GRF.

Causes and management strategies for skin loss in Sweetpotato (Project: PW21002).

Funding: Hort Innovation from sweetpotato levies matched by federal government funding. September 2022 to August 2026. *Skin damage is the major contributor to loss of quality. This project aims to address knowledge gaps and identify mechanisms responsible for skin retention through production practices and generate knowledge on practical interventions to reduce skin loss with a best practice manual.*

With the skinning project now wrapped up, the team has been busy completing the final industry resources, including a Best Practice Guide, five fact sheets and a location-specific advisory guide. These bring together learnings from field trials, commercial field and packhouse surveys, SmartSpud® assessments and research into the physical causes of skinning damage, with the aim of giving growers practical options to reduce skin loss under different production conditions.

Retention samples collected during the project also provided a useful visual reminder of what can happen after relatively minor damage occurs. Scratches that initially looked minor often became darker and much more obvious as the roots were retained over time, showing how small injuries at harvest or during handling can become a bigger quality issue later in the supply chain.

The SmartSpud® work also helped identify areas in harvest and packhouse systems where handling could be improved, while reinforcing that skinning is not just about impact. Abrasion, friction and shear during harvesting and handling are also important parts of the story, which is why the final resources focus on practical ways to reduce damage from the paddock through to packing.

Image 2. Left Root 1, skin damage at harvest, Day 5, Day 11 and Day 25. Right root 2, skin damage at harvest, Day 5, Day 11 and Day 25.

Improving root crop resilience and biosecurity in Pacific Island Countries and Australia (Project HORT2018/195).

Funding: The Australian Centre for International Agricultural Research (ACIAR) from federal government funds.
August 2022 to June 2026 with a possible extension to June 2027. *The project builds on existing international collaborative relationships with researchers from the Centre for Pacific crops and Trees in Fiji to enhance and refine Australian sweetpotato virus diagnostics and support increased biosecurity preparedness, threat surveillance and response.*

Since the last newsletter, David Shorten and Michael Hughes have completed their visit to Samoa, Fiji and Tonga as part of the ACIAR-funded root crop resilience and biosecurity project. The trip provided a great opportunity to work alongside local

researchers, extension staff and growers, assist with harvesting and assessment of pathogen-tested versus non-pathogen-tested sweetpotato trials, and provide hands-on support and training.

A major focus of the project is helping Pacific partners improve access to healthier planting material and strengthen local capacity to recognise and manage virus problems. At the same time, the work is helping build stronger links between Pacific and Australian researchers and improving our understanding of sweetpotato virus threats across the region.

The Australian study component of this work concluded at the end of June, with the project now extended until June 2027, to allow international teams to complete their components. Across the project, virus surveillance and diagnostic capability have been strengthened, sampling and detection methods have been refined, and staff at the Centre for Pacific Crops and Trees (Fiji) have continued virus indexing and cleaning important sweetpotato varieties so pathogen-tested material can be returned to participating countries for multiplication and evaluation.

Image 3. Left, Michael Hughes and a Fijian sweetpotato farmer discuss a demonstration plot to evaluate planting in raised rows, compared to traditional mounds. Centre, Sweetpotatoes imported from New Zealand, individually cling wrapped in Samoa, for sale in a Samoan supermarket. Right, cutting vines to plant a demonstration trial at the Ministry of Agriculture in Samoa.

Image 4. Mike and David visiting the Ministry of Agriculture's tissue culture lab in Samoa.

GRKN - Reminder

Although *Meloidogyne enterolobii* or Guava Root-knot nematode (GRKN) has not been detected in commercial sweetpotato production areas to date, on-farm biosecurity measures are your front line of defence to keep GRKN (and many other pests) out of your property. Like other root-knot nematodes, *M. enterolobii* can be easily spread through infested soil and infected plant material. It is critical that growers are mindful of risk pathways and strive to avoid introduction to their property. Signage, restricted access (particularly to cropping areas), machinery wash-down and use of clean planting material are all measures which can help to reduce the risk. Simple, low-cost measures can make a big difference in keeping your farm safe. For any queries regarding GRKN or soil sampling requests please contact Rach on 0436 928 512.

Good information about farm biosecurity is available through the Farm Biosecurity Website, including the Farm Biosecurity Action Planner. The Australian banana industry has also produced a lot of resources (e.g. Better Bananas On-farm Biosecurity) to help growers protect themselves from Panama disease, and many of the same biosecurity principles can be used to prevent *M. enterolobii* spread and protect sweetpotato farms.

If you see any unusual or particularly severe nematode damage to crops, contact Biosecurity Queensland on 13 25 23 or via the Report a Pest or Disease website portal.