

Insecticide control of Potato Tuber Moth (*Phthorimaea operculella*)

The potato tuber moth (PTM) remains a key insect pest for potato crops in the upper North Island, particularly around Pukekohe. Adult moths lay eggs on the potato foliage, resulting in larvae (caterpillars) mining into potato leaves causing damage to the green leaf portion of the crop. Through cracks in the soil, larvae then get access to potato tubers, causing direct loss of yield. In ground-stored crops, and potatoes stored in an ambient temperature shed, larvae can continue to damage potatoes, resulting in further loss of yield. Due to soil types around the Pukekohe area, cracking of soil, especially in summer, combined with high pest numbers means significant crop loss can result from PTM infestation.

PTM can be difficult to control due to resistance to insecticides (such as Synthetic Pyrethroids), adults being highly mobile and difficult to contact, and due to larvae mining into the leaves of the crop to protect them from contact-based insecticides. As with any insect control strategy, you want to target the most susceptible life stages of the pest, so eggs and larvae are the most effective targets for pest management.

While every step should be taken to manage PTM through biological and cultural control, as part of the wider Integrated Pest Management program. Insecticide control still plays an important role in the management of Potato tuber moth. This fact sheet aims to assist growers, agronomists, and advisors make informed decisions about selecting insecticide options for the control of Potato tuber moth.



Active Ingredient	Insecticide	IRAC Group ¹	Efficiency rating (1-3) ²	Beneficial impact ³	Notes
Chlorantraniliprole	Coragen	28	1	Green	Translaminar: effective at targeting mining larvae. Registered for PTM
Cyantraniliprole	Benevia	28	1	Green	Translaminar: effective at targeting mining larvae. Registered for PTM
Spinosad	Entrust SC Naturalyte, Chariot	5	1	Orange	Translaminar: effective at targeting mining larvae. Registered for PTM
Spinetoram	Uphold	5	1	Orange	Translaminar: effective at targeting mining larvae. Registered for Tomato Potato Psyllid
Lufenuron	Nuron	15	2	Green	Registered for Tomato Potato Psyllid, note 42-day WHP and Plant back interval of 12 months.
Abamectin *	Avid	6	2	Orange	Translaminar: effective at targeting mining larvae. Registered for tomato potato psyllid.
Deltamethrin + Thiacloprid	Proteus	3 4	2	Red	Some systemic movement from Thiacloprid. Registered for PTM
Lambda- Cyhalothrin	Karate Zeon, Kaiso 50WG, Lavron 50WG, Halex, Cyhella	3	3	Red	Contact insecticide with known resistance. Avoid in-program.

1 IRAC – Insecticide Resistance Action Committee, insecticide modes of action group describe how an insecticide targets an insect and the subsequent resistance management guidelines for that group.

2 efficacy rating on larvae – based on Potato NZ field trials, 1 = high efficacy, 2 = moderate efficacy, 3 = low efficacy.

3 Beneficial impact relates to the mortality rate of the insecticide on beneficial insects, in particular parasitic wasps, and generalists such as lacewings and ladybirds. Green = minimal impact, Orange = moderate impact, Red = high impact on beneficial insects.

Information sourced from IPM Technologies, Australia.