

BOWLS Fact Sheet SPRING 2015



Porina

Introduction

Porina (*Wiseana spp*) is a common problem on many bowling greens throughout New Zealand. There are 7 species and 3 sub species of Porina, each with a slightly different flight time and which can result in damage on the greens over a period of time from April to October.

Porina are found throughout New Zealand, but damage is generally only seen south of Hamilton and typically gets worse the further south your bowling green is located.



Figure 1: Typical Porina caterpillar damage on a bowling green

Life cycle

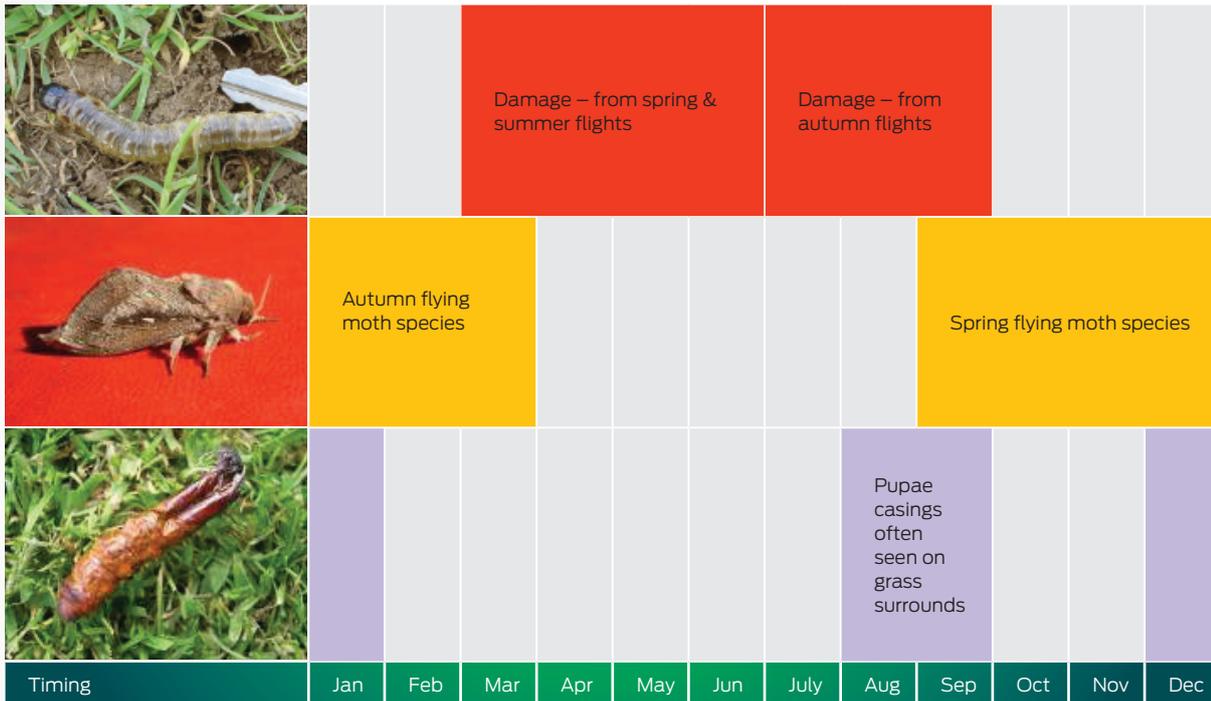


Figure 2: Porina life cycle

The main Porina moth flights (depending on the species present) and hence egg laying typically occur in late October and again in mid-January. Recently in the lower North Island and parts of the South Island, a late February flight has been seen resulting in damage even later than normally seen at present. The adults don't feed and only survive for several days.

The eggs hatch giving rise to the grey green oily looking caterpillars with a yellowish cream underside. The caterpillar passes through 6 – 9 instar stages (moults) finally reaching up to 50 – 75mm in length. Initially the caterpillars live on the surface under a silk lined casting but as they age the caterpillar will excavate a deep burrow (up to 250mm deep) where the caterpillar survives during winter.

The caterpillar emerges from the burrow at night to feed in close proximity to their burrow on the turf leaves and shoots (tillers). As a result of this activity they leave a diagnostic horizontal cast made up of soil, frass and plant parts, held together with a silk-like webbing.



Figure 3 & 4: Porina cast showing the silk-like threads holding the casts together

Pupation occurs during late winter – early spring. The presence of pupae cases on the grass is an indication that the moths are flying. Start looking for the “peak flights” of the moths to correctly time any control measures and ensure the best results. Even though the damage may occur over an extended period of time, Porina takes a full year to complete its life cycle.

Managing Porina

While the caterpillar may go through 6-9 moults before pupating, the first 4-5 moults are quite quick, while the last 3-4 may each take 3-5 weeks to complete. The size and stage of the caterpillar has a major influence on the chemical choice.

Chemical control

A range of insecticides as summarised in the NZSTI Bowls Chemical Guide are effective against Porina. The main chemical options are summarised below:

Active ingredient	Trade names	Rate /1340sqm green	Comment
Alpha-cypermethrin 100g/L	Alpha-Scud® Bestseller® 100EC Cypher® Dominex® 100EC Sheriff®	35-50mls	Needs to be applied in 100L water/green. Not registered for controlling Porina.
Beta-cyfluthrin 25g/L	Tempo®	625 mls	Apply after mowing in 100L of water/green. Wash in with 4mm of water after application. Registered for controlling Porina.
Chlorantraniliprole 200g/L	Acelepryn	100-200mls	Delay watering & mowing for a day after application. Apply in late spring /early summer.
<i>The chemical group below (Diflubenzuron) only stops the caterpillar from moulting not feeding</i>			
Diflubenzuron 240g/L	Dimilin® 2L	7mls	Product must be ingested and works by stopping the caterpillar moulting. Most effective when applied to the early larval instars before they reach 20-25mm in length, Apply 8-12 weeks after peak moth flight. Generally first application is in the early autumn. Preventative rather than curative with large infestations. Only controls Porina caterpillar. May need to be repeated 4 weeks later, depending on activity.
Diflubenzuron 250g/kg	Avert® 25WP Difuse® 25WP Porinex™	7gms	
Diflubenzuron 250g/L	Sniper™	7mls	
Note: There are other traditional products such as chlorpyrifos and diazinon which will provide control.			

Additional information

Establishment & Management of Natural Bowling greens in New Zealand (Cotula manual) Anticipating & Planning for Porina. C Ferguson, NZ Turf Management Journal Nov 2104, p20.

NZSTI Contact Details

AUCKLAND Alex Glasgow 09 415 0302 027 496 2486 aglasgow@nzsti.org.nz	AUCKLAND Everett Darlington 09 415 0325 027 232 4545 edarlington@nzsti.org.nz	AUCKLAND Spencer Myer 09 415 0303 027 521 4954 smyer@nzsti.org.nz	HAMILTON David Ormsby 07 846 7698 027 442 8053 dormsby@nzsti.org.nz
PALMERSTON NORTH Brendan Hannan 06 355 7024 027 442 8046 bhannan@nzsti.org.nz	PALMERSTON NORTH Andrew Mitchell 06 355 7027 027 662 0148 amitchell@nzsti.org.nz	PALMERSTON NORTH / NELSON / MARLBOROUGH Chris Gribben 06 355 7026 027 552 4488 cgribben@nzsti.org.nz	CHRISTCHURCH / DUNEDIN / WEST COAST David Howard 03 477 7333 027 446 2875 dhoward@nzsti.org.nz