

Primefact

Carpophilous beetle

September 2024, Primefact PUB24/843, first edition

Kevin Dodds, Development Officer – Temperate Fruits, Batlow, NSW

Jessica Fearnley, Development Officer – Temperate Fruits, Orange, NSW

Carpophilus spp. beetles are an economically significant pest of stone fruit. They can cause significant damage to fruit on the tree and postharvest, especially when temperatures exceed 20 °C after wet weather and when the fruit is ripening.

Pest identification

Carpophilus beetles are small (2–3 mm long) and black or brown (Figure 1). Their wing covers are short and they have clubbed antennae. The larvae are yellowish, about 5 mm long when fully grown, have a brown head and forked tail.

Damage

Most commercial damage is done to ripening stone fruit, which can be damaged on the tree as beetles burrow into the fruit, particularly near the stem end suture line. In other fruits such as apples, only fallen fruit is damaged, and the pest is not considered economically important. Adults lay eggs in rotting and damaged fruit on the orchard floor. Mature larvae emerge from the fruit and pupate in the ground. Adults overwinter on the tree under bark or in mummified fruit. The adult can fly several kilometres in search of hosts. Summer rain and rotting fruit are ideal conditions for breeding. Carpophilus adults are a major vector of brown rot.

Monitoring

Using pheromone traps early in the season will give warning of Carpophilus arrival or emergence, helping with early control and management. Weekly fruit inspections leading up to harvest might help identify the start of fruit infestation.

Management

Cultural and physical: the most important management strategy for Carpophilus beetle is good orchard hygiene, which is improved by removing and destroying waste fruit from orchards. Controlling Queensland fruit fly will decrease the amount of fallen fruit and reduce the potential for infestation.

A combination of weekly monitoring and/or mass trapping between stone hardening and harvest, orchard hygiene and good fruit fly control will give the best result. Traps are available from rural retailers.



Figure 1. Carpophilus beetle. Photo: Pest and Diseases Image Library, Bugwood.org.

Biological: an attract-and-kill system using synthetic aggregation pheromones plus food-attractant provides effective protection of ripening crops when deployed at least 4 weeks before harvest. Continuing to mass-trap through harvest and for an additional 2 weeks after harvest will help reduce the resident pest population. Placing traps upwind on the outside edges of the orchard will ensure maximum pheromone spread.

Chemical: check the [APVMA PubCRIS database](https://portal.apvma.gov.au/pubcris) for registered controls (<https://portal.apvma.gov.au/pubcris>).

Acknowledgements

The authors would like to thank Dr Amanda Warren-Smith for her editorial and publication skills in producing this Primefact.



© State of New South Wales through Department of Primary Industries and Regional Development 2024. You may copy, distribute, display, download and otherwise freely deal with this publication for any purpose, provided that you attribute the Department of Primary Industries and Regional Development as the owner. However, you must obtain permission if you wish to charge others for access to the publication (other than at cost); include the publication in advertising or a product for sale; modify the publication; or republish the publication on a website. You may freely link to the publication on a departmental website.

ISSN: 1832-6668

Disclaimer: The information contained in this publication is based on knowledge and understanding at the time of writing (September 2024) and may not be accurate, current or complete. The State of New South Wales (including Department of Primary Industries and Regional Development), the author and the publisher take no responsibility, and will accept no liability, for the accuracy, currency, reliability or correctness of any information included in the document (including material provided by third parties). Readers should make their own inquiries and rely on their own advice when making decisions related to material contained in this publication.