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Bronze leaf beetle (BLB) - an emerging pest in berries

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KEY POINTS

- Berry damage from outbreaks of bronze leaf beetle (*Diachus auratus*) is recent in Tasmania.
- BLB is a chewing pest that is difficult to control
  - no known registered sprays
  - no effective biocontrol
- Reduces fruit quality and marketability
- Can contaminate fruit in punnets

Features of adults

Adults are all females and lay 5-10 eggs/day, which is about 250 eggs in a lifetime.

***Fig. 1**: Features of adult BLB*

Eggs

Females protect and camouflage each egg by wrapping it in a case made from spirals of her own frass (Fig. 13).

The case not only disguises the egg as a piece of insect frass, but it protects the egg from drying out and from chemical sprays..

Fresh egg cases are yellow-brown, later becoming black and are visible with a 10x hand lens. They hatch within 2 weeks.

Larvae

Larvae camouflaged & protected in their frass case.

First instar larvae egg cases have spirals., Later instars enlarge the case with their own frass, forming smooth cases.

The larval stage lasts 5 weeks.

Pupae

When larvae are ready to pupate, they seal the entrance of their case with their flat head.

Pupation inside the case takes 3 weeks.

Ten weeks after being laid as eggs, they emerge as adults..

***Fig 2:** Egg with spirals of frass*

***Fig 3** Larvae - 1st instar (left); later instar (right).*

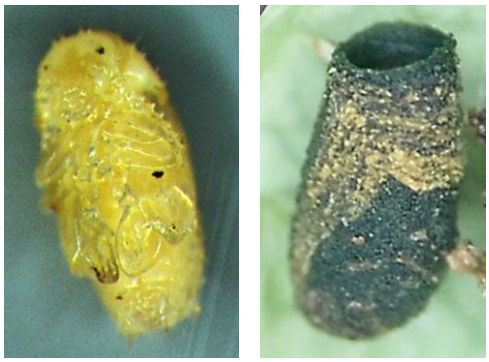

***Fig 4:** Pupa (left) and empty pupal case (right).*

Symptoms

Leaf damage

In strawberries look for chewed holes (Fig. 5 & 6) and skeletonised leaves (Fig. 7).
In raspberries look for BLB and eggs in growing tips of young leaves and elongate grazing that could be mistaken for caterpillar damage.(Fig. 8). In blueberries search leaf buds for BLB.

Fig 5: *Chewed holes from larva.*

Fig 6: *Leaves chewed by adult.*

Fig 7: *Skeletonised leaves.*

Fig 8: *Elongate grazing from adult BLB*

Flower and berry damage

Look for chewed and shredded petals. BLB can be found around the base of forming fruit, feeding on nectaries and laying eggs(Fig. 9).
On fruit, BLB feeding causes tunnels (Fig. 10), superficial scarring (Fig. 11) and deformed fruit.

Fig 9: *Chewed petals & 9 beetles feeding at base of fruit.(arrows) .*

Fig 10: *Tunnelling in fruit by adult. BLB.*

Fig 11: *Superficial scarring by adult BLB.*

A global pest

- BLB is originally from Central America. In Australia it was first recorded in 1986 from Queensland on an introduced legume. There are very few Australian records since then, but it has sporadically been recorded more recently in Victoria and Tasmania and may benefit from warmer microclimates in polytunnels.

Host plants

- BLB is polyphagous on a long list of plants including strawberry, raspberry, blueberry, avocado, elderberry, rose, willows, red clover, alfalfa, *Acacia*, *Leucaenea* (legume fodder plant) and wild carrot (Clark et al. 2004).

Fig. 12: *Monitoring for BLB is an important preventative measure.*

Fig. 13: *BLB coating an egg in frass.*

Management

- Add BLB to the list of species monitored by crop scouts
- Set up yellow sticky traps
- Minimise weeds.
- Monitor weeds inside & outside tunnels, including boundary plants.
- Regularly check flowers, fruit and young leaves on growing tips.
- Act immediately using an informal action threshold of 1 beetle/5m; consult an agronomist.
- Further research for control methods is underway.

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Please contact us for further information or to let us know if you see Bronze Leaf Beetles.
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