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primefact

Green vegetable bug in macadamia

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Green vegetable bug (*Nezara viridula*) adults and nymphs will feed on macadamia nuts at all stages. When disturbed, the green vegetable bug (GVB) releases a strong aroma to deter predators.

Risk period

Table 1. The highest risk period for green vegetable bugs is from peak flowering to harvest.

Pre-flowering	Early flowering	Peak flowering	Nut set	Pea size nut and spring flush	Shell hardening to harvest	Harvest to pre-flower

Pest identification

The adult green vegetable bug is 15 mm long, green and shield-shaped (Figure 1). The nymphal stage looks similar to the adult, but with a range of green, yellow and black markings. Females lay egg clusters of 40 to 80 eggs, which are pale yellow but become pink over time. They will hatch in about one week.

Figure 1. Adult green vegetable bug.

The nymphs develop through five stages before becoming adults. The complete life cycle takes approximately 5–8 weeks and there are about 3–4 generations a year. The bug will overwinter on other host crops, under bark or in farm sheds. In warmer coastal areas, GVB will feed and breed all year round.

Damage

There might not be any signs of GVB damage on the shell, but when the kernel is extracted, the signs will be obvious (Figure 2) and similar to those caused by FSB (see Primefact 1779 Fruit spotting bug in macadamia). Most damage occurs from early shell-hardening onwards. Lack of external damage requires pest monitors to physically crack open the nuts to assess them.

Figure 2. Green vegetable bug damage to macadamia nuts. Photo: Craig Maddox.

Management

GVB does not normally develop on macadamia; most infections are caused by the adults migrating into the orchard from another host crop. GVB will also attack legumes (such as beans and soybeans) so growing areas where sugar cane is rotated with bean crops should have thorough monitoring, particularly after a bean crop has been harvested.

Cultural and physical

Remove weeds that could be a source for GVB breeding. A diverse inter-row planting can still be used but avoid planting host species within the inter-row and close monitoring for GVB populations will be essential within the inter-row and adjoining macadamia crop. Options for managing pests within the inter-row plantings are still being refined through 'The IPM program for the macadamia industry' (MC16008).

Biological

GVB eggs are frequently parasitised by a wasp, *Trissolus basalis* and GVB nymphs are attacked by ants, spiders and other predatory bugs. The fifth instar and adult can be parasitised by the tachinid fly, *Trichopoda giacomellii* (Figure 3).

Figure 3. *Trichopoda* spp. eggs on an adult green vegetable bug. Photo: Craig Maddox.

Chemical

Timing is critical. Monitor orchard boundaries, particularly if backing onto GVB host species for the full season. Use previous years' incidence to help predict incursion. Generally, the control program for FSB and BSB will also control GVB. The chemical control option for GVB is listed in the Macadamia plant protection guide.

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