

Pest Management: Keurboom's Moth

Cyclopia, commonly referred to as honeybush, is an economically important plant species used to produce honeybush tea, a herbal drink with numerous health benefits. Much of this production is exported to overseas markets, with an increased call for more exports to these areas (McGregor, 2017). *Cyclopia* species are endemic to the fynbos area and can be found in regions of the southern and western cape. For the most part, the production of honeybush tea has relied solely on wild harvesting (Joubert *et al.*, 2011). However, owing to an increase call for exports, wild harvesting is becoming unsustainable and has prompted the organic farming of these plants to maintain commercial viability. Only six species of *Cyclopia* are utilized as commercial crops, of which *C. subternata* and *C. longifolia* grown in Southern Cape coastal areas, appear to have become prone to damage by the Keurboom moth, *Leto venus* Stoll (Lepidoptera: Heliapidae), amongst other pests, limiting their productivity and discouraging the cultivation of this species altogether (Metcalf *et al.*, n.d.).

Effective pest management relies on a thorough understanding of the biology of the pest, the crop and the environment in which interaction occurs (Kogan, 1998; Zehnder *et al.*, 2007). Some aspects of *L. venus* distribution and biology are already known for honeybush based on interviews with various growers (Metcalf *et al.*, n.d.):

- Infestation (boring and development of larva in stems or branches) occurs in *Cyclopia* cultivated for more than five years in areas where rainfall is high (> 800 mm) and in farms surrounded by either natural or pine forests in coastal areas of the southern cape. This is not conclusive.
- Adults are apparent from February to April annually and are only visible after dusk.
- Eggs are laid on the base of host plant stems. This corresponds to previous research of *L. venus* on its host plant *Virgilia capensis* (Keurboom), with early instars possibly grazing externally prior to boring (Janse, 1945)
- Larval development within the tree stems/branches can be up to one year with a strong correlation between stem thickness and larval infestation.
- *Cyclopia subternata* appears to be favoured over *C. longifolia*, accounting for 90% of infestations
- Plants of poor health may be more susceptible to infection.

Currently, growers have an effective method of preventing complete dieback of plants, although this may be labour intensive. If lateral branches show signs of infestation (sawdust), they can be physically removed and appropriately disposed, thus eliminating the problem. Alternately, Broadband[®], a fungal based biopesticide, is injected into the larval entry hole ultimately killing the larva. However, neither method prevents infestation (Metcalf *et al.*, n.d.). Preventing infestation will require targeting the external life stages of the pest, most notably the adults and eggs.

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