

The moth complex on litchis

When cultivating litchi there are mainly two moth species that can cause significant fruit damage: the litchi moth, *Cryptophlebia peltastica* (Lepidoptera: Tortricidae) and the false codling moth, *Cryptophlebia leucotreta* (Lepidoptera: Tortricidae). Although damage caused by these two species look similar, damage caused by the litchi moth is more significant than that of the false codling moth (Grové, 2014).

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SUBTROP

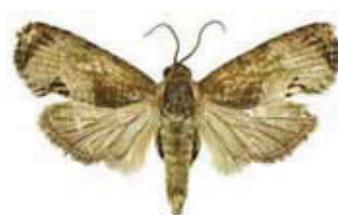
LITCHI MOTH

Although litchi moth is still considered as a minor pest, significant damage can be done by these pests. Damage levels up to 20% were observed when no control actions were implemented in litchi orchards (Manrakhan, 2008). Four orchards in Mauritius were observed for two consecutive seasons at different stages of maturity. Damage was found to start at an early stage, when the fruit were 3 mm in diameter. There were no significant differences between three orchards regarding the amount and timing of damage been caused, but an increase in fruit damage in the fourth orchard was observed at the end of the season.

The litchi moth lays her eggs on the skin of the fruit and the larva then eats through the skin into the seed, it develops into a red larva and pupates later on. The eggs are mostly translucent and 1 mm in diameter. When the fruit start to colour, the bulk of the egg laying takes place.

The ripening and colouring of the fruit seems to be a better indicator of when to spray, than fruit mass or size. A good pesticide coverage is essential for proper results, especially on fruit hanging inside the canopy. It is important to cover the halves of the fruit facing inwards (Grové, 2010). The only chemical registered for control of litchi moth is triflumuron (Alsystin) with a withholding period of 40 days. This product is not to be used for export litchis and is not being manufactured any more, but remaining stock can still be used in orchards from which the fruit will not be exported.

Litchi moth



False codling moth



FALSE CODLING MOTH

The false codling moth has a wide range of host plants and causes damage during most of the season due to our subtropical climates and the diversity of food available. False codling moth cause significant damage on citrus as well as other deciduous, subtropical and tropical fruit, including litchis.

The eggs are laid on the fruit surface where the larva emerges and penetrates the fruit, causing decay of the litchi fruit flesh. Upon pupation the larva exits the fruit and drops to the ground. The pupae reside among the leaf litter and loose soil on the orchard floor.

The adult moth emerges from its cocoon and lives for approximately 2 to 3 weeks, mating several times. The moths are nocturnal and inactive during day time. During the late summer, the population increases and then gradually decreases with the onset of winter temperatures. There are some egg parasitoids that do make an important impact on the numbers of false codling moth, like the Trichogrammatoidea species, although it is not certain how many natural parasitoids are present and effective in litchi orchards (Grové, 2010).

Chemicals currently registered for false codling moth control are methoxyfenozide (Runner 2405C) – not for the use on export fruit, *Beauveria bassiana* (Broadband), *Bacillus thuringiensis* (BeTa-Pro™) and *Cryptophlebia leucotreta granulovirus* (Cryptogran™).

REFERENCES

- T. Grové and P.S. Schoeman (2010) *In*: Litchi moth and false codling moth. The cultivation of litchi. pp. 186-189.
- T. Grové, P.S. Schoeman and M.S. de Beer (2014) Arthropod pests of Litchi in South Africa- Acta-Hortic 1029: 409-416.
- A. Manrakhan, D. Abeeluck and A. Gokool (2008) Assessment of damage by *Cryptophlebia peltastica* (Meyrick) (Lepidoptera: Tortricidae) in litchi orchards in Mauritius. African Entomology 16: 203-208. ♦