The avocado sucking bug complex

The avocado bug (*Tayloryligus* sp., Family Miridae) is the dominant sucking bug in avocado orchards and is predominantly a nectar feeder. Its mouthpart is both sucking and piercing, which enables it to not only penetrate plant tissue, but also feed (suck) on the nectar of the flowers (Stones, 2014).

![Image](image.jpg)

**Figure 1.** ‘Vosknoppe’ – lesions under the skin of avocado fruit caused by the avocado bug.

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**SUBTROP**

Most of the larger insect sucking bugs (*Pentatomidae* and *Coreidae*) hibernate during the colder winter period. The minute avocado sucking bug complex (*Miridae*) is very active during this colder period (Alberts, 2011).

**Life cycle**

Two field generations are present during blossom and early fruit development. The early flowering cultivars, such as ‘Fuerte’ and ‘Pinkerton’, lure the adults of the first generation. Their eggs are inserted as single eggs beneath the epidermis of new leaves and flowers in slits made by the female’s ovipositor (Stones, 2014).

After five days the eggs hatch and the immature wingless nymph stages last ± 28.6 days. These new winged adults colonise the later flowering cultivars, ‘Hass’, ‘Ryan’ and ‘Edranol’. This is then the second field generation. The duration of the life cycle is about 33 days and an adult avocado bug lives ± 45.2 days (Stones, 2014).

**Damage caused by the avocado bug**

According to Alberts (2011), losses of up to 60% have been reported by various pack houses and farmers in the past. In most years, however, the losses are less than 5%. Forecast models to pre-warn farmers in advance are therefore very important.

Damage on the early cultivars is usually lower than on later flowering cultivars, except if there is a prolonged flower on the early cultivars. The five wingless nymph stages cause fruit lesions, malformed fruit and fruit drop. They are forced to feed on the newly set fruit, as they do not have wings to fly to other avocado flowers in the orchard. They reach maturity 5 – 6 weeks after fruit set before they can fly away to re-infest other flowers. ‘Hass’ damaged fruit tends not to drop off like ‘Fuerte’ and ‘Pinkerton’ fruit (Stones, 2014).

**Scout thresholds**

On year: > 13 avocado bugs / block
Off year: > 7 avocado bugs / block

10% flower infestation = 3% fruit damage per tree
20% flower infestation = 5% fruit damage per tree.

**Control**

Control measures must take place before petal fall, therefore, when 80% – 100% flowering on cooler side of tree is finished. Therefore, scouting is of utmost importance, as timing of the chemical spray is crucial to the success of control. The following procedures must be followed:

- Scout very early in the morning (06:00)
- Scout 10 trees/block and 10 flowering panicles/tree
- Scout the cool side of the tree at 80% – 100% flower
- When the avocado fruit is > 30 mm, there is no risk for damage in the orchard
- Fruit damage on fruit smaller than 5 mm will drop.
Chemical treatments: Three pesticides: Acephate (trade name Ace 750 SP), Beta-cyfluthrin (trade name Bulldock Beta 125 SC), and Pymetrozine (trade names Chess, and Trivia 500 WDG).

There is resistance in the EU market to Acephate, as the chemical is metabolised by insects into Methamidophos (classified by the World Health Organisation as Toxicity Class 1b, Highly hazardous) and is a hard chemical i.e. also kills predatory insects.

Beta-cyfluthrin should only be sprayed during flowering and up to fruit set and is not intended to be sprayed on fruit.

**Conclusion**
As part of control, allow weed growth in the orchard. The additional flowers in the orchard will also lure the adult avocado bugs to feed on, rather than the avocado flowers. Flower infestations of ± 10% will result in 3% fruit damage and 20% will result in 5% fruit damage.

It is important to keep record of the number of avocado bugs in the orchard, even when they do not exceed the threshold number. In this way you will build up a history of that orchard and when the crucial time will be, with regards to spraying.

Remember, it is the nymph stages of the avocado bug that cause damage, not the adult avocado bug.

**REFERENCES**

