

Passionfruit collar rot (155)

Common Name

Collar rot

Scientific Name

This is a problem caused by an insect and two fungi. It includes the ginger weevil, *Elytroteinus geophilus* (previously, *subtruncatus*), and the fungi *Lasiodiplodia theobromae* and *Nectria haematococca*. The latter is also known by its asexual name, *Fusarium solani*.

Distribution

Collar rot was first reported from Samoa; the weevil is present in Fiji and Tonga, but the complex has not been reported on passionfruit from these (or any other) countries.

Hosts

Passionfruit. This problem has not been recorded on other hosts. The ginger weevil has a wide host range, including coconut, chillies, eggplant, kava, roselle (*Hibiscus sabdariffa*), sweetpotato, and some orchids.

Symptoms & Life Cycle

Ten to 12 months after planting, cracks appear in passionfruit stems just above soil level. The cracks become larger and the diameter of the stem increases (Photo 1). When the stem is cut open, grubs with black heads are seen inside short tunnels (Photo 2). Later, rots start from the tunnels, and destroy the collar region. The rots cause the stems to break, but even if that does not happen, the rots cause the leaves to turn pale green and fall, the branches to die back and, eventually, the death of the plant.

The eggs of the ginger weevil are laid in the stem at the collar region. After a few days, the larvae hatch and tunnel through the stem, moult 5-6 times and develop into pupae. One or 2 weeks later, the adults hatch and emerge from the stem by making small holes. The tunnels then become home to the two fungi, which rot the stems that eventually kills the plants.

Impact

In Samoa, collar rot is a serious problem. It is said that losses can be high, with 50% of the plants attacked and killed at 2 years. Note, *Lasiodiplodia theobromae* and *Fusarium solani* are very common fungi in the Pacific and elsewhere, and are often found in plants that have been wounded. Damage from the weevil is considered worse during the dry season.

Detection & inspection

Look for cracking and swelling in the collar region just above soil level. Cut open the stem, and look for grubs and tunnels. Look for an unhealthy colour of the leaves, leaf fall, vine dieback and death.

Management

CHEMICAL CONTROL

Research in Samoa has shown that only a thiram/latex mixture painted onto the basal stem cankers gives acceptable control.

When using a pesticide, always wear protective clothing and follow the instructions on the product label, such as dosage, timing of application, and pre-harvest interval. Recommendations will vary with the crop and system of cultivation. Expert advice on the most appropriate pesticide to use should always be sought from local agricultural authorities.



Photo 1. Collar region of passion fruit stem showing swelling and rot caused by the ginger weevil, *Elytroteinus subtruncatus*, followed by wound-invading fungi.



Photo 2. Collar region of the stem cut open to show the grubs inside of the ginger weevil, *Elytroteinus subtruncatus*.

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