

Ground pearls (*margarodids*)

Pink ground pearl

Eumargarodes laingi

White ground pearl

Promargarodes australis

Distribution

Pink ground pearls occur mainly on red volcanic soils and some sandy soils around Bundaberg. White ground pearls occur on all soil types in all mill areas. Two other less common species in cane are brown ground pearls (*Promargarodes williamsi*) and yellow ground pearls (*Promargarodes* sp. nr *sinensis*).

Damage

Nymphs of all species form cysts (round cases) in the soil and attack roots through long feeding tubes. Pink ground pearls cause poor growth patches which expand as the insects spread. At first cane is stunted and leaves yellow. Eventually the stool dies. Poor patches often extend along rows, as the pest is spread by cultivation. Yield losses of about 75% are common.

White ground pearls can cause similar effects but may also result in little or no yield loss even when numbers are high. Up to 10,000 cysts of white ground pearls have been collected from the soil under and around one stool in a very heavy infestation. Normally the numbers of both white and pink ground pearls are not this high.

Description

Adult female ground pearls look like mealybugs, but do not have a white powdery covering and have stout hooked front legs. Pink and white ground pearls are named from the colour of the adult female. No adult males are known. The young of ground pearls are enclosed for most of their lives in a round cyst. The cyst of the pink ground pearl is creamy to brown. Its skin is tough and not shiny. The cyst turns pink in colour just before the adult is ready to emerge. The cyst of the white ground pearl is harder and shiny white to yellow, and crumbles like mica when rubbed.

Biology

Adults emerge mostly during October-January with a few in

September and February. Many ground pearl females are often found on the soil surface in the late morning. After a few days, the female forms a small hole in the soil, and lays up to several hundred eggs within a mass of fine white filaments. She then dies. Eggs hatch in 2-4 weeks, producing tiny white mobile young with legs and antennae. In 2-3 weeks, the nymph settles beside a root. It forms a cyst around itself and loses its legs and antennae.

It feeds through a fine tube which may be several times as long as the nymph itself, and which can be withdrawn inside the cyst when not feeding. Pink ground pearls have a 1-year life cycle. The white ground pearl takes 2, 3 or 4 years to become adult. Nymphs of white ground pearl can survive many months without food.

Management

Some cane varieties are more tolerant to pink ground pearls than others. Infested blocks should be ploughed out early and fallowed for 12 months. Ploughing or rotary hoeing several times during the fallow will reduce pest numbers. However care needs to be taken not to cause soil loss through erosion. It is very important that machinery working in areas infested with pink ground pearls be cleaned thoroughly before moving to other fields. This is especially important in spring-summer when adults, eggs and young can be easily transported in moist soil stuck to implements and vehicles.



Photos: Adult white ground pearl (above) and pink ground pearl (below).

