



Planococcus citri (Risso)

Citrus Mealybug

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Updated by: J.M. Diez April 2007

HOSTS

The citrus mealybug is a minor pest on annona, arabica and robusta coffee (young trees are occasionally killed), cotton, and various vines. Other crops attacked are banana, carambola (starfruit), cocoa, flowering ginger, macadamia, mango, and plants belonging to the Citrus genus.

DISTRIBUTION

The citrus mealybug is one of the most common mealybugs. This pest has a pan tropical distribution that sometimes extends into subtropical regions. It is present in nearly all coffee growing countries.

DAMAGE

This insect has two forms, a root form that attacks the roots of its host and an [aerial form](#) that attacks the foliage and fruit. Leaves of plants attacked by the root form wilt and turn yellow as if affected by drought. Roots are sometimes encrusted with greenish-white fungal tissue (*Polyporus* sp.) and stunted. Citrus mealybugs are visible beneath the fungus when it is peeled away. When the root form is associated with fungal tissue, it is capable of killing the plant. The aerial form of this insect is found on leaves, twigs, and at the base of fruits.

This mealybug is a vector of Swollen Shoot Disease of cocoa.

BIOLOGY

Based on laboratory studies on coffee leaves, male citrus mealybugs live (hatching to adult death) for approximately 27 days, and the females live for approximately 115 days.

Life cycle duration (egg to egg-laying adult) ranges from 20 to 44 days (Betrem, 1936). Citrus mealybug populations are generally composed of equal numbers of males and females.

EGGS

Eggs are laid in groups covered by ovisac wax threads. Eggs hatch in 2-10 days.

NYMPHS

Male citrus mealybugs have 4 nymphal stages called instars. Each nymphal stage is separated by a molt. Based on laboratory studies on coffee leaves, the first nymphal stage lasts for 7-14 days, averaging 9.9 days; the second, 6-16 days, averaging 8.7 days; the third, 2-3 days, averaging 2.5 days; and the fourth, 1-6 days, averaging 3 days (Coffee Board Research Department, 1984). Approximately four days into the second instar, a black tinge develops around the insect body. Two days later, the nymph start spinning a cocoon around itself. This cocoon is continuously spun increasing in density until the winged adult mealybug is ready to emerge two molts later.

Female mealybugs have only three nymphal stages. Based on laboratory studies on coffee leaves, the first nymphal stage lasts for 7-17 days, averaging 11.5 days; the second, 5-13 days, averaging 8.2 days; and the third, 5-14 days, averaging 8.4 days (Coffee Board Research Department, 1984).

ADULTS

Male mealybugs live for 2-4 days after the final nymphal molt. Females live for an average of 87.6 days as [adults](#) and may start laying eggs 15 to 26 days into her adult life (Coffee Board Research Department, 1984). Females lay from 200 to 400 eggs, averaging 300 eggs in a lifetime (Betrem, 1936).

BEHAVIOR

This mealybug is capable of active movement throughout its life.

Although this mealybug is not a great honeydew producer, several ant species will tend to them. The most common tending ant species is *Anoplolepis longipes*, the longlegged ant. Damage is generally increased in severity when the citrus mealybug is associated with ants.

MANAGEMENT

Biological Control

There are numerous parasitic wasps that attack the citrus mealybug and several predatory beetles. A listing of natural enemies is provided by LePelley (1968). Pathogenic fungi also attack this pest.

CHEMICAL CONTROL

Infested plants with green or yellow leaves may be saved with careful treatment. Plants with brown leaves should be uprooted and replaced.

Malathion, diazinon, and dimethoate may be effective in controlling this pest, especially if white oil is mixed with the parathion and malathion preparations.

There is no listing for malathion, diazinon and dimethoate are not labelled as of April 2007.

REFERENCES

Betrem, J.G. 1936. Gegenevs omtrent de biologie van de dompolanlius en de lamtoroluis. Arch. Koffiecult. Ned. Indie. 10: 43-84, Soerabaja.

Coffee Board Research Department. 1984. II. Mealybug. pp. 66-68. In Thirty-Sixth Annual Detailed Technical Report 1982-1983. Noresh Traders, Printing Division, Chikmagalur, India. 198 pages.

DeLotto, G. 1964. Observations on African Mealybugs (Hemiptera: Coccoidea). Bull. Br. Mus. nat. Hist. Ent. 14(8): 341-397.

Hill, D.S. 1983. *Planococcus citri* (Rossi). pp. 217. In Agricultural Insect Pests of the Tropics and Their Control, 2nd Edition. Cambridge University Press. 746 pages.

James, H.C. 1937. Sex Ratios and the Status of the Male in Pseudococcinae (Hem. Coccidae). Bull. ent. Res. 28: 429-461.

LePelley, R.H. 1968. *Planococcus citri*. pp. 324-330. In Pests of Coffee. Longmans, Green & Co., Ltd., London & Harlow. 590 pages.

JAN/1992.

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Eggs are deposited as white cottony masses called ovisacs

Lyle Buss, University of Florida.



Adult mealybug male.

Lyle Buss, University of Florida



Nymphs can also be found on fruit.

Lyle Buss, University of Florida.



Adult mealybug female.

Lyle Buss, University of Florida

Photos from <http://edis.ifas.ufl.edu/in947>

Citrus Mealybug *Planococcus citri* (Risso) (Insecta: Hemiptera: Pseudococcidae)¹

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