

Rugose Spiralling Whitefly

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Abstract:

Rugose spiraling whitefly was first described by Martin in 2004. The scientific name of rugose spiraling whitefly is *Aleurodicus disperses*. The biology of Rugose spiraling whitefly is all about its adults are about three times larger (approx. 2.5 mm) than the commonly found whiteflies and are lethargic by nature. Whitefly has 5 developmental stages. The symptom of damage is Nymphs and adults suck the sap from leaves, Honey dew - development of sooty mould fungus and Yellowing of leaves. Field sanitation, Removal of host plants and Installation of yellow sticky traps are the management of Rugose spiraling whitefly.

Keywords: Biology, Management, Symptom of damage

Introduction

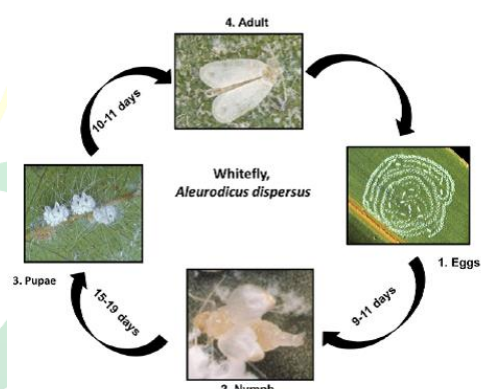
Rugose spiraling whitefly was first described by Martin in 2004 from samples collected in Belize on coconut palm leaves (Martin 2004). The scientific name of rugose spiraling whitefly is *Aleurodicus dispersus*. The pest's biology is still under study because this species was discovered relatively recently. Scientists at the University of Florida have conducted biological studies which show the life cycle is approximately 30 days at 27°C.. It is an introduced pest, endemic to Central America, and was reported for



the first time in Florida from Miami-Dade County in 2009. Since then it has become an escalating problem for homeowners, landscapers, businesses, and governmental officials throughout the southern coastal counties of Florida. The presence of honeydew results in the growth of fungi called sooty mold, which then turns everything in the vicinity covered with honeydew black with mold.

Rugose Spiralling Whitefly Biology

- ❖ **Adults:** Rugose spiraling whitefly adults are about three times larger (approx. 2.5 mm) than the commonly found whiteflies and are lethargic by nature. Although taxonomic identification is required for species confirmation, rugose spiraling whitefly adults can be distinguished by their large size and the presence of a pair of irregular light brown bands across the wings. Males have long pincer-like structures at the end of their abdomen
- ❖ **Eggs:** Females lay eggs on the underside of leaves in a concentric circular or spiral pattern and cover it with white waxy matter. Eggs are elliptical and creamy white to dark yellow in color. Adult females sometimes lay their eggs on non-plant surfaces such as cars, windows and walls.
- ❖ **Immature stages:** Rugose spiraling whitefly has 5 developmental stages. The first instar, known as the crawler stage (because it is the only mobile immature stage) hatches out of the egg, and looks for a place to begin feeding with its needle-like mouth parts used to suck plant sap. Crawlers molt into immature stages that are immobile, oval and flat initially but become more convex with the progression of its life cycle. Nymphs are about 1.1 - 1.5 mm long but may vary in size depending on instars. The nymphs are light to golden yellow in color, and will produce a dense, cottony wax as well as long, thin waxy filaments



Symptoms of Damages

- ❖ Nymphs and adults suck the sap from leaves
- ❖ Honey dew - development of sooty mould fungus
- ❖ Yellowing of leaves.
- ❖ Dropping of affected leaves.
- ❖ Rugose spiraling whitefly excretes a sticky, glistening liquid substance (honeydew), which provides an excellent substrate for growth of sooty molds, which turn the shiny



liquid into a black-colored viscous liquid. Honeydew also attracts ants and wasps that protect the whiteflies from their natural enemies

- ❖ Egg spirals of rugose spiraling whitefly on the underside of leaves
- ❖ presence of heavy white, waxy material
- ❖ leaf damage and early leaf drop (not evident on all types of plants)

Rugose Spiralling Whitefly Infestation in Cheranmaha devi block At Tirunelveli District



Infestation found in coconut at Cheranmahadevi

Management Measures to Control rugose Spiralling Whitefly

- ❖ Effective monitoring is extremely important in order to keep populations under a damaging level. At the initial stage of infestation, pressure washing with water can be effective in reducing pest populations; however, it must be repeated at regular intervals, removing many of the eggs and immature stages from the hosts
- ❖ Field sanitation
- ❖ Removal of host plants
- ❖ Installation of yellow sticky traps
- ❖ During heavy infestation - application of imidacloprid 200SL at 0.01% or triazophos 40EC at 0.06 %.
- ❖ Spray neem oil 3% or NSKE 5%
- ❖ Release of predators viz., Coccinellid predator, *Cryptolaemus montrouzieri*
- ❖ Release of parasitoids viz., *Encarsiahaitiensis* and *E.guadeloupae*
- ❖ Release of *Chrysoperla* egg @ a rate of 25 per plant.



Demonstration on the Release of *Chrysoperla* by using egg card at Pathamadai to the farmer Mr. Rajan Aalvar in his guava field]

Conclusion

Rugose spiraling whitefly was first described by Martin in 2004 from samples collected in Belize on coconut palm leaves. The symptom of damage is Nymphs and adults suck the sap from leaves, Honey dew - development of sooty mould fungus and Yellowing of leaves. Field sanitation, Removal of host plants and Installation of yellow sticky traps are the management of Rugose spiralling whitefly.

Reference

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