Rugose Spiralling Whitefly (*Aleurodicus rugioperculatus*): Distribution, Host Range, and Nature of Damage

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Introduction

The Rugose Spiralling Whitefly (RSW), *Aleurodicus rugioperculatus* (Hemiptera: Aleyrodidae), is an invasive species thought to have originated in Central America, with its early occurrence reported from Belize, Mexico, Guatemala and Florida. In India, the pest was first detected on coconut palms at Coimbatore, Tamil Nadu, in September 2016 (Sundararaj and Selvaraj, 2017) and has since spread to several states including Tamil Nadu, Karnataka, Kerala, Andhra Pradesh, Goa, Odisha and Assam.

Host range

RSW is highly polyphagous and infests a diverse range of host plants such as coconut, banana, mango, sapota, guava, cashew, maize, ramphal, oil palm, Indian almond, water apple and jackfruit, along with many ornamental species like bottle palm, Indian shot, false bird of paradise and butterfly palm. Recent studies indicate that the pest has expanded its host range to plants belonging to 24 families, affecting plantation crops, fruits, vegetables, spices, medicinal plants, ornamentals, avenue trees and field crops. Among these, coconut, banana and guava are the most preferred hosts, recording the highest densities of spirals, eggs, nymphs, pupae and adults per leaf (Sri et al., 2022).

Fig. 1. RSW on coconut leaf

Symptoms

Both nymphs and adults damage plants by sucking sap from the underside of leaves, leading to overall weakening. The nymphs are light to golden yellow and secrete copious cottony wax along with long, slender wax filaments that increase in density as they mature (Stocks and Hodges, 2012). Adults excrete large amounts of honeydew, which encourages sooty mould growth, causing blackening of leaf surfaces and adversely affecting understory vegetation. The presence of characteristic concentric waxy spirals on leaves, petioles and tender nuts is a typical sign of infestation. Heavy accumulation of waxy flocculent material also creates considerable nuisance to people in severely affected areas.

Fig. 2. Black sooty mould on banana leaf

Management

Effective management of RSW relies on integrated approaches. Regular surveillance is crucial to keep pest populations below damaging levels. In the early stages, forceful spraying of water can help remove eggs and immature stages when repeated at intervals. Field sanitation through removal of infested plant parts and destruction of alternate host plants reduces pest carryover. Yellow sticky traps aid in monitoring and suppressing adult populations. Eco-friendly options include spraying neem oil at 3% or neem seed kernel extract at 5%. Biological control can be

strengthened by releasing natural enemies such as the coccinellid predator *Cryptolaemus*, the parasitoid *Encarsia guadeloupae*

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