Water spray by jet propulsion mode wherever feasible will help in dislodging whitefly colonies.

As competition among the different species of whiteflies is reported to brings down the overall population, no pesticide approach must be followed which will help in conserving abundant natural enemies and bio-scavengers in the system.

In severe cases, neem oil @0.5% spray on lower surface of palm leaflets can be followed to lower the pest population.

Installation of yellow sticky traps on palm trunks and along field borders will greatly help.

Besides, the palms should be maintained at good health with application of nutrients, organic recycling of residual biomass & irrigation wherever possible.

Destruction of heavily infested older leaves would also help in bringing down the pest population.

As the susceptible cultivars such as Andaman Yellow Dwarf and Andaman Orange Dwarf palms are sporadically cultivated mostly in and around the households, the management would be easier.

All species of these invasive whiteflies could be suppressed by this combined approach. The yield of palms is expected to come down for at least one or two years in the absence of proper management practices.

Generally, any yield loss up to 10% on a non-fatal pest infesting coconut is considered insignificant because the intervention cost would not be compensated for yield recoupment.

Hence, conservation biological control is considered as the successful strategy in the bio-suppression of invasive coconut whiteflies in the Island region.

The spread of this pest to other remote islands could be checked by domestic quarantine restrictions. By creation of awareness among the Islander communities about the possible damage by the pest and the management strategies to be adopted, the pest damage can be mitigated.

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MANAGEMENT OF INVASIVE WHITEFLIES ON COCONUT PALMS

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Occurrence of whiteflies have become widespread in the recent years in most coconut growing areas of the country. Report of rugose spiralling whitefly (*Aleurodicus rugioperculatus* Martin) was reported from major coconut growing states of Tamil Nadu and Kerala during 2016. The serious incidence has now reached the remote Islands of Andaman and Nicobar Islands, affecting the coconut populations in South Andaman.

The spiralling whitefly, a sucking pest feeds from under surface of coconut leaflets and produce remarkably high quantity of honey dew, over which black coloured sooty mould deposits are grown on upper surface of leaflets. As the incidence of this pest is mainly restricted on older leaves, the economic crop loss has been postulated to be meagre as the damage is manifested in terms of slight reduction in photosynthesis. It is mostly reported as mild to moderate category since 2016 and is considered as a non-lethal pest triggered by favourable weather factors and non-adoption of palm health management strategies. However, the damage is more severe in case of dwarf cultivars.

In Andaman, the infestation was mainly recorded in coconut particularly dwarf palms and on ornamental palm (*Areca lutescens*). The different species seen are rugose spiralling whitefly, *Aleurodicus rugioperculatus*, (about 2.2 mm with brown mottlings on wing), spiralling whitefly, *Aleurodicus dispersus* (2.0 mm with no mottlings on wings), nesting whitefly, *Paraleyrodes minei* (1.1 mm triangular with no mottlings, adult resides on bird nest like colony, several of these colonies were seen infected by entomopathegenic fungus (*Aschersonia* sp.). The infested palms and all surrounding plants are heavily seen covered with sooty mould fungi, affecting the photosynthetic ability of the plants.

Eco-friendly management practices are suggested to cope up with this pest as the Islands are free from use of chemical pesticides.

The immature stages and adult whiteflies in coconut seedlings in nursery need to be destructed before it is taken for distribution or sales.

Domestic quarantine protocols to be observed and movement of whitefly infested coconut seedlings and other ornamental plants should be avoided.

Installation of yellow sticky trap along borders of coconut nursery may help in entrapping the sooty mould deposit which would facilitate good growth of seedlings.