



Oriental Fruit Fly invasion in the Cook Islands



Oriental fruit fly (OFF) was first noticed in Rarotonga on 9th of May 2013 when 22 male adult flies were intercepted at one of the male annihilation Methyl Eugenol (ME) lure traps installed on 27th April 2013 around Rarotonga. The suspected exotic fruit fly was collected and then referred to Dr. Maja Poeschko, Entomologist, Ministry of Agriculture (MOA) who viewed the flies under a stereo microscope and based on morphological characteristics identified the flies as the Oriental fruit fly species, *Bactrocera (dorsalis) dorsalis* (Hendel).

Subsequently, five males of the discovered fruit fly were sent to New Zealand Ministry of Primary Industry, Plant Health Entomology Laboratory (PHEL) on 20th May 2013 for further taxonomic analysis and confirmation. The NZ MPI PHEL referred the specimens to Dr. Richard Drew at Griffith University for morphological and molecular analysis. The results of taxonomic analysis from NZ MPI PHEL and Dr. Drew were relayed back to the Cook Islands government on 28th May 2013 confirming the exotic fruit fly to be indeed the Oriental Fruit Fly, *B. (dorsalis) dorsalis* (Hendel).

OFF is very destructive pest of fruit and vegetables with a host range of over 117 plant species. The pest is native to the Asian continent and prevalent in many Asian countries. Apart from its incursion into the Cook Islands, OFF is also present in Hawaii and French Polynesia. The pest was found in Guam in 1948 and Commonwealth of Northern Mariana Islands in 1936 but was subsequently eradicated from both these territories in 1965. The pest was eradicated from Nauru in 1999.

Immediately after intercepting OFF in Rarotonga, MOA intensified fruit fly trapping throughout the island group to determine the full extent of the pest occurrence and population

density. About 10 traps were sent to each of the other islands.

In Rarotonga traps were installed about every half a km around the coast. Results of weekly trap clearances confirmed OFF presence in four coastal locations. At these 'hotspots' a systems approach of intensified trapping was initiated. Sixteen traps were placed within 250 meter radius and another set within a 500 meter radius as buffer zone.

Trap catch cleared on 28th May 2013 from Aitutaki recorded a high population of OFF from traps placed a week earlier. As of 7th June, the results of trap surveillance clearances from all the islands of Cook Islands confirmed that OFF was only present in Rarotonga and Aitutaki.

Three methods of eradication for OFF have started for Rarotonga - crop hygiene and sanitation, male annihilation blocks and protein bait spraying. A similar eradication campaign for Aitutaki will soon start pending arrival of supplies.



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