

by using older nymphs during mass production of the parasitoids in a biological control programme for *B. brassicae*.

## THE ROLE OF *ANAGYRUS LOECKI* (HYMENOPTERA: ENCYRTIDAE) IN SUPPRESSING *PARACOCCLUS MARGINATUS* (HEMIPTERA: PSEUDOCOCCIDAE) IN COMMERCIAL PAPAYA FARMS IN HAWAII

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The papaya mealybug (PM), *Paracoccus marginatus* Williams and Granada de Willink (Hemiptera: Pseudococcidae), was first detected in Hawaii in 2004. This polyphagous species attacks many tropical crops and ornamentals. Current methods of control of PM in commercial papaya farms in Hawaii rely on the use of pesticides. The objectives of this study are to determine the density of PM in different papaya farms and to determine the effectiveness of the adventive parasitoid *Anagyrus loeckii* Noyes (Hymenoptera: Encyrtidae) in controlling PM in commercial papaya fields using emergence data. This paper will also compare parasitism rates of PM in commercial organic and non-organic papaya farms as well as present notes on the role of the adventive hyperparasitoid *Aprostocetus minutus* Howarth (Hymenoptera: Eulophidae) on the performance of *A. loeckii*.

## EXPLORING USE OF IRRADIATED HOSTS FOR REARING FRUIT FLY PARASITIDS: A NOVEL APPROACH FOR INVASIVE TEPHRITID MANAGEMENT

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Fruit production in Australia is threatened by invasion of exotic fruit flies (Diptera: Tephritidae) as well as by a native species that has a limited distribution which is maintained by ongoing quarantine: the Queensland fruit fly ('Qfly'), *Bactrocera tryoni* (Froggatt). Biological control would be a welcome technology to respond to fruit fly incursions and help prevent spread of Qfly within Australia. This paper presents results from a study exploring the scope for mass rearing parasitoid wasps on gamma irradiated, sterile host material. The practical advantage of such a rearing system is that flies and wasps would not need to be separated, thus reducing cost of production. Host larvae of different stadia were irradiated at 0, 4.7, 9.1, 15.9,