

P.38 - A technique of sanitation to help controlling fruit flies in Reunion Island: the augmentorium

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In Reunion Island, tephritid fruit flies are the main pests of horticultural crops, causing severe yield losses to Cucurbitaceae and Solanaceae. Today the critical issue is to move from the curative and agrochemical protection towards a preventive and agroecological one. The latter relies on an ecologically balanced and sustainable functioning of agroecosystems. This study is focused on an original technique of sanitation to help control tephritid fruit flies in Reunion Island using a tent-like structure called augmentorium. It aims to sequester the adult flies emerging from infested fruit while allowing the escape of parasitoids. This technique has already been implemented in Hawaii (Klungness *et al.*, 2005). In Reunion Island, laboratory studies have been conducted to test the efficacy of such a system on different species of fruit flies (*Ceratitis capitata*, *Bactrocera cucurbitae*, *Bactrocera zonata*) and parasitoids (*Fopius arisanus*, *Psytalia fletcheri*). Moreover, aspects such as the perception of this technique by farmers or logistical conditions for a rational use of augmentoria have been investigated. A "Reunion prototype" has been built with local components. Its efficacy proved to be good in the lab with high rates of sequestration for adult flies and of escape for parasitoids. Moreover, the farmers who were shown the augmentorium looked enthusiastic to test it in their fields and proposed some improvements of the prototype. To be effective, this technique should be used at a large scale both in terms of time (several months or years) and space (exploitation, landscape) with concerted practices by the farmers. Even if the augmentorium is only one of multiple components of the agroecological protection against fruit flies, it may play a central role in terms of Conservative Biological Control of these pests.