

# Mass trapping of *Ceratitis capitata* using the new attractant BIODELEAR

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## INTRODUCTION

Mass trapping can be a powerful tool for the control of the Mediterranean fruit fly, *Ceratitis capitata* (Diptera: Tephritidae), and other fruit flies of high economic importance. Here we present results of using the new female specific attractant BIODELEAR for the mass trapping of *C. capitata* in citrus orchards in the Campos area of Chios in Greece. The results form part of a five-year LIFE programme aimed at developing an integrated strategy for the management of this serious pest.

## MATERIALS AND METHODS

The study was conducted in 2015 and included the following treatments in 3-4 plots of 0.5 ha per treatment:

- Mass trapping using per plot 50 plastic McPhail traps baited with BIODELEAR.
- Mass trapping using the commercially available attractant BioLure® (Suterra).
- Conventional control plots treated with insecticides.
- Organic plots receiving no treatments.

The efficacy of mass trapping was evaluated by comparing in the above treatments: (a) the level of *C. capitata* population, (b) fruit infestation rates and (c) ground biodiversity of arthropods using pitfall traps.

## RESULTS

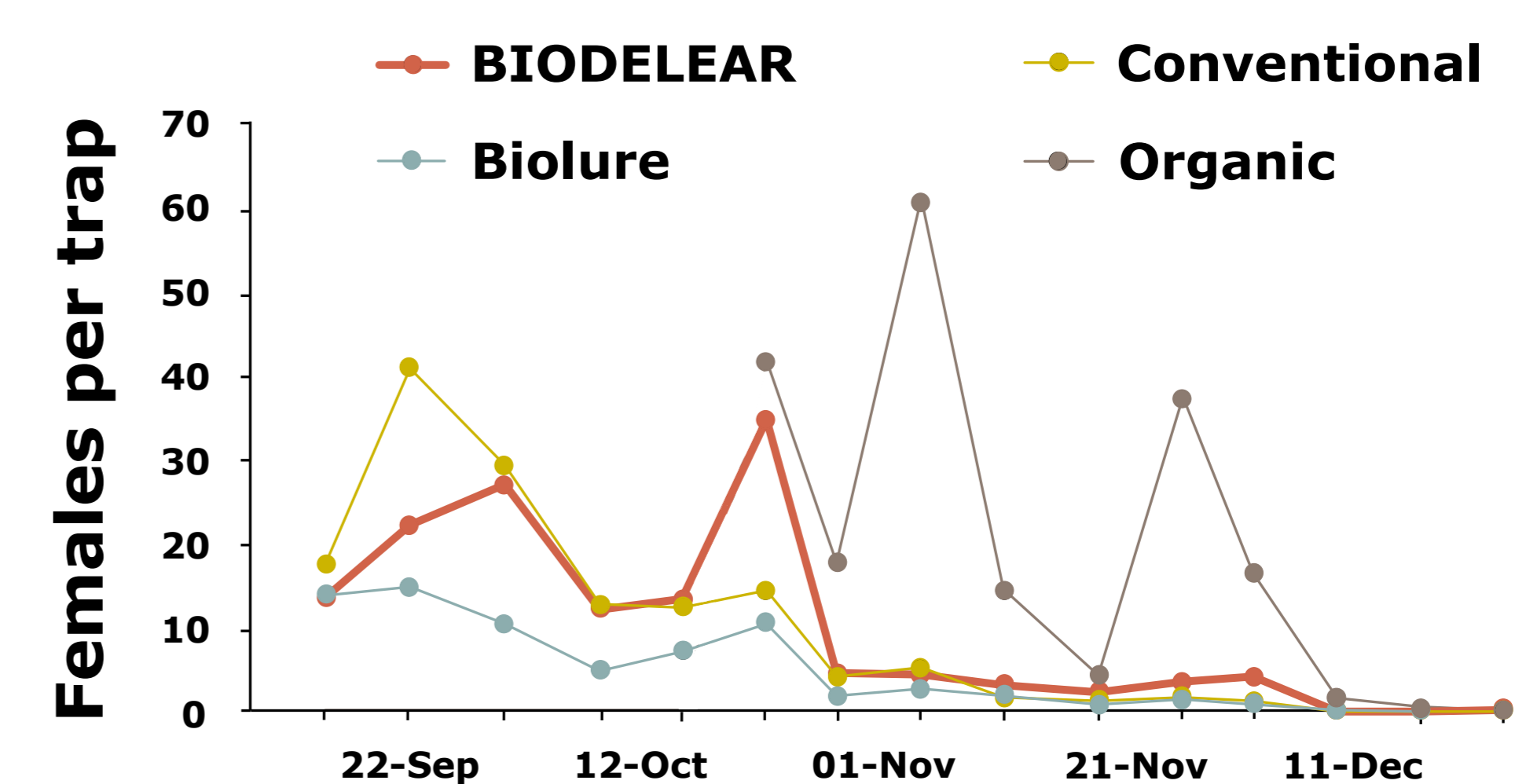
- (a) The results showed that mass trapping with BIODELEAR resulted in a substantial reduction of the population of *C. capitata* compared to the organic control treatment. Although BioLure initially appeared to be better, later in the season the two attractants converged in efficacy.
- (b) A similar pattern was observed in the results concerning the infestation of sweet oranges and mandarin oranges. In both the BIODELEAR and BioLure treatments these fruits were significantly less infested compared to the organic control treatment.
- (c) Finally, in both the BIODELEAR and the BioLure treatments the diversity of ground arthropods was similar as in the organic control and significantly higher relative to the conventional insecticide treatment.

## CONCLUSIONS

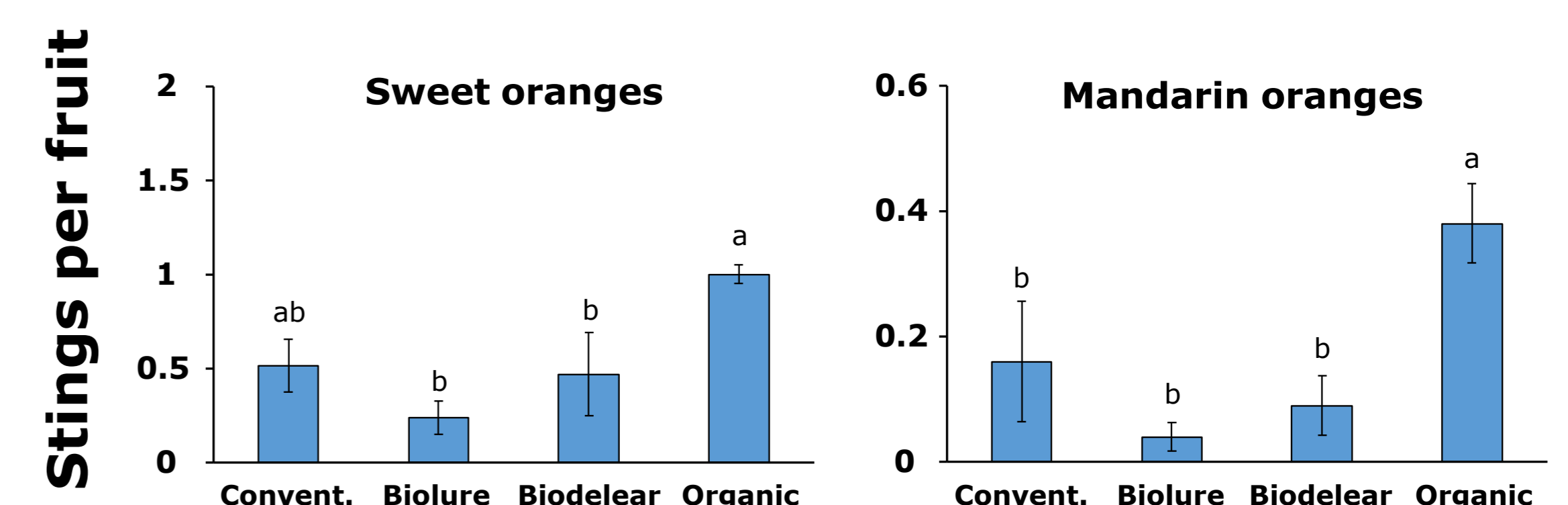
These first results of the LIFE programme strongly suggest that mass trapping with the new attractant BIODELEAR can effectively control the population of *C. capitata*, lower citrus fruit infestation and preserve biodiversity of arthropods. The results are particularly encouraging given the much lower cost and negligible toxicity of BIODELEAR compared to BioLure.



(a) Effect on population



(b) Effect on fruit infestation



(c) Effect on arthropod diversity

