

THE FRAMEWORK PROGRAMME FOR RESEARCH AND INNOVATION

HORIZON 2020

PROJECT DELIVERABLE REPORT

**Deliverable 2.2 Report of the host status of fruitlets of apple,
peach and citrus species of Cc**



**Fruit Flies In-silico
Prevention & Management**

FF • IPM

Project Title:

**In-silico boosted, pest prevention and off-season focused IPM against
new and emerging fruit flies ('OFF-Season' FF-IPM)**

SFS-2018-2

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1 Summary

Early-spring host plants are of crucial importance for population dynamics of fruit flies early in season. The few host species with fruits ripening early in summer are considered as key-hosts for oviposition of *C. capitata* flies since it determines the development of the first of the season, spring generation. Physiologically-aborted fruitlets somewhat resemble ripening fruit, and as suggested by casual observations; (Lux, unpublished) may serve as a ‘bridging resource’, sustaining the population when other hosts for oviposition are scarce. We explored the host status of fruitlets of five key FF hosts of *Ceratitidis capitata* that are available during the early season (apples, apricots, peaches, pears, and *Citrus* sp.). Besides *C. capitata*, the suitability of *Citrus* sp. fruitlets for oviposition and development of *Bactrocera zonata* and *Bactrocera dorsalis* flies were also explored.

Our laboratory trials revealed that fruitlets of apples, peaches and *Citrus* spp cannot be considered as key hosts for the medfly oviposition and similarly, *Citrus* fruitlets were unsuitable as hosts for *Bactrocera dorsalis* and *B. zonata*. Preliminary data collected in Italy indicate that under controlled laboratory conditions and high oviposition pressure, fruitlets from apricots and pears can be oviposited by *C. capitata*, producing pupae and adults, implying that these fruitlets may be suitable as an overwintering “bridging resource” for the genesis of the subsequent spring generation.