

# Abstract

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The present work aims to contribute to develop methods for controlling the Mediterranean fruit fly, *Ceratitis capitata* (Diptera: Tephritidae) in citrus orchards and post-harvest.

A new product called Spinosad, which can be used for treatment one day before harvest, tested in citrus orchard showed similar results than the regular chemical conventionally used Deltamethrine. No side or secondary negative effects on mites was observed for the two chemicals.

Studying the susceptibility for Mediterranean fruit fly, fruits of argane, tomato and citrus were exposed during 24 hours to 200 mature insects. Therefore, fruits of argane are the most susceptible, with an average of 809 stings / kg. The averages are of the order of 66 and 41 stings / kg for fruits of tomato (Daniella) and those of citrus ( Nour), respectively.

The necessary duration for the development of *C. capitata* from the egg stage to the adult one is in the order of 20 days on infested ripe tomato fruits and of 18 days on fruits of argane incubated at 25°C and of 17 days and 16 days at 27 °C, respectively.

Tests on mass rearing of *Ceratitis capitata* on five different diets showed that one compound of wheat bran showed the highest yield which was in the order of 45.9 % (276 adults / 600 eggs).

Cold treatment on citrus fruits (Ortanique cultivar) infested by the Mediterranean fruit fly showed that the total mortality of larva was reached after 16 days of exposure at 1,5 °C.

**Keywords:** *Ceratitis capitata*, Mediterranean fruit fly, citrus fruits, tomato, argane, Spinosad, mass rearing.