

# COMPARATIVE STUDIES OF BAIT STATION TO REEMPLACE THE FRUIT FLIES CHEMICAL CONTROL AND THEIR INTEGRATION INTO FRUIT FLY SIT MANAGEMENT PROGRAMMES



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ARGENTINA

In this work, we report the results of comparative field studies on chemical control, deployment strategy and efficacy of the bait station methods in the control of the Medfly. The tests were conducted from February to April 2012, in San Pedro, Buenos Aires province (Argentina) with the objective of adding new tools in the integrated pest management (IPM) of fruit flies.

## MATERIALS AND METHODS

The field test was conducted in four hectare 18 year old Okitsu mandarin orchard, with trees spaced 4 meters apart in rows 4 meters apart (625 plants/hectare), located in San Pedro and property of a local grower. The test was carried out between fruit colour change and harvest.

The following three treatments were tested (each in a one hectare plot within the 4 hectare orchard):

A. Bait station: 70 Plus Trap (Süsbin)/hectare uniformly distributed. B. Ground bait sprays (chemical control locally in use) using Spinosad formulated bait (Flipper) containing 0.02% Spinosad, applied once a week. C. Untreated control (no control).

Medfly population densities in each plot was assessed every week by placing five Multilure traps (Better World) baited with a three component food-based synthetic lure containing ammonium acetate, putrescine and trimethylamine (BioLure, Suterra LLC) and Vapona to kill and retain attracted flies.

Traps were sampled for 24 h and the number of flies captured was recorded.

Fruit was sampled once a week in order to assess the infestation levels. One hundred fruits were collected and dissected for every treatment (1100 per treatment) and the larvae found were put in Petri dishes until adult emergence.



## RESULTS AND DISCUSSION

### Damage level per treatment

The ANOVA table and LSD test gave no statically significant difference between the means damage from one level of treatment to another at the 95% confidence level.

Treatment	N° larvae total	Level damage (%)
Ground Bait Spray (Spinosad)	63	2.82 (31/1100)
Bait Station (Plus Trap: Süsbin))	107	3.91 (43/1100)
Untreated Control	785	41.8 (460/1100)

## CONCLUSIONS

Bait Station Treatment using Plus Trap exhibited control and protection of the orchard, as can be seen from the values of infested fruit and catches adults in Multilure traps.

We consider that the treatment protected the mandarin orchard during the entire time of fruit susceptibility.

By the way, in this year the population condition of Medfly was surprisingly bigger than the population history in this area. One of the reasons can be that this mandarin orchard was located where the others orchards (oranges, peaches) had been harvested, being the mandarin the only available host.