

## Mass trapping of the olive fly *Bactrocera oleae*

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This report summarizes the results, obtained over three consecutive years, of further study of the olive fly and the search for a new approach to controlling the fly without the use of pesticides, and using only traps designed for mass trapping.

The first year's research was to find a trap that can catch the adults of the olive fly population and prevent egg laying in the fruits, thus preventing fruit damage. For this we screened 6 new traps. We succeeded in finding 2 traps that were good enough for controlling the olive fly. This experiment was conducted with the Manzanillo variety which is highly susceptible to the olive fly. It was established in a 1 hectare orchard, 5 years old with 360 trees per hectare.

In fig no. 1 we can see the average no. of flies per trap at the different dates, beginning in early June to catch the adults of the first generation, and ending at the beginning of September, the harvest time of the Manzanillo variety for pickling. We can see the Fructect™ trap was the best in catching the adults of the olive fly, this trap contains a pheromone, and food attractant.

We can also see that the sticky trap, which was the standard trap for monitoring the appearance of the population, is not sufficient. We see also that the addition of the pheromone for the sticky trap improved it, and it catches more flies.

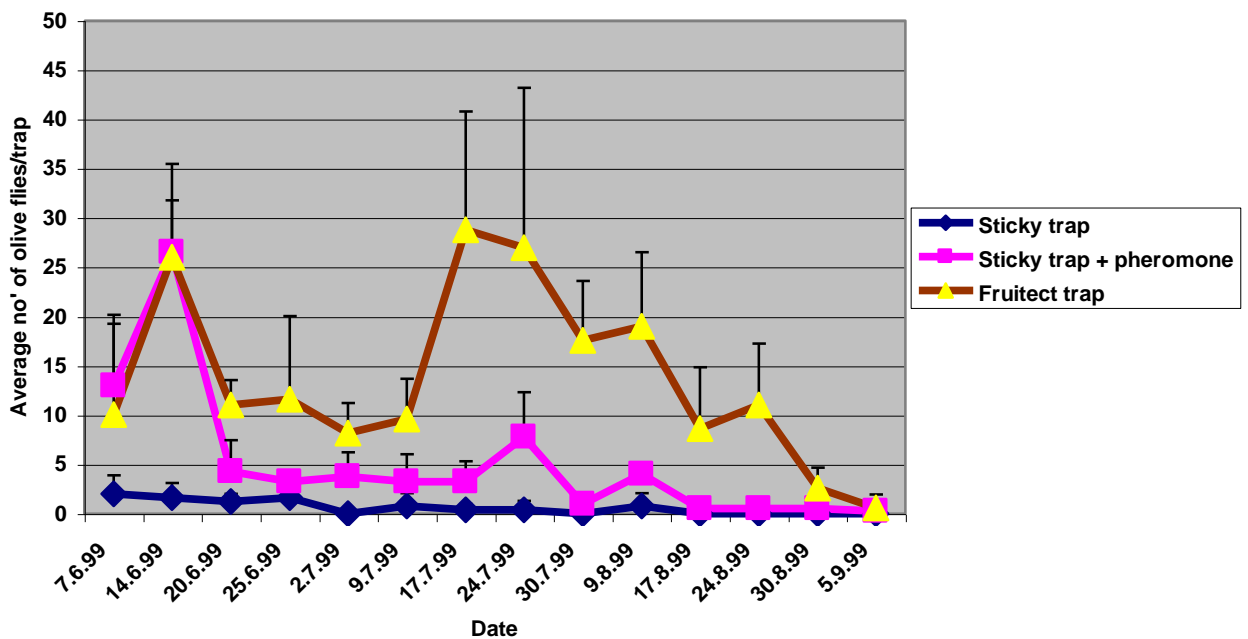


Fig no' 1: the average no. of flies/ trap

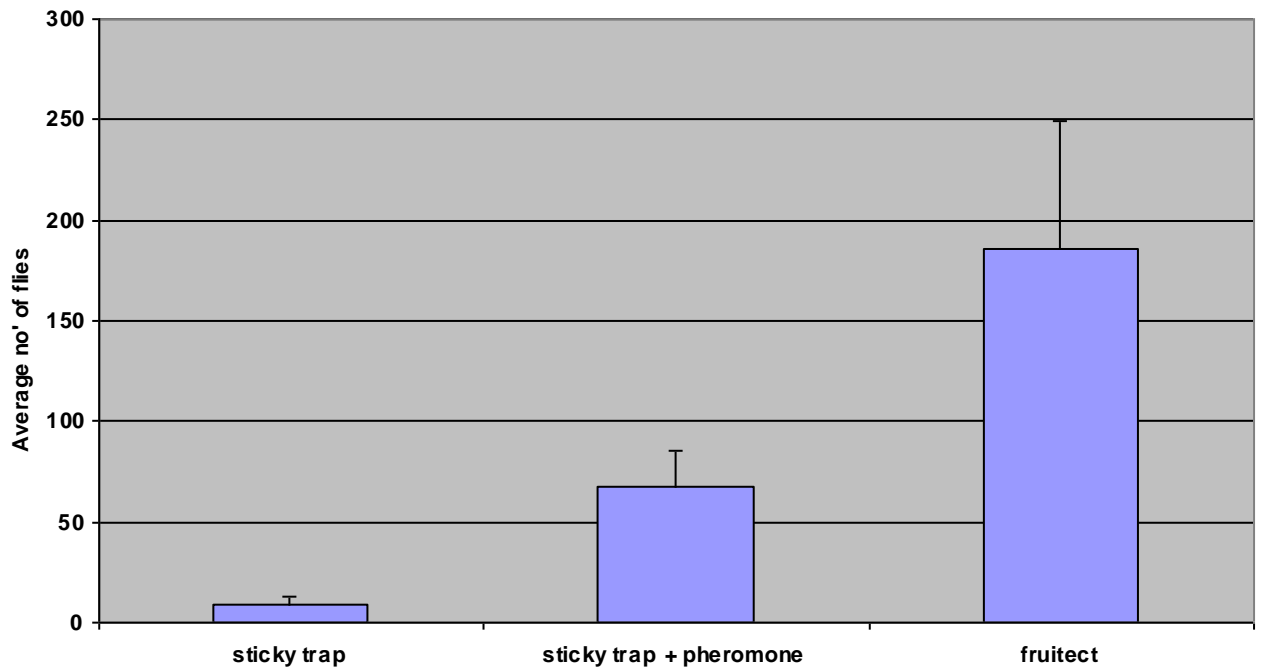


Fig 2: average no. of flies for the total period

During the fruit growing till harvest we checked for fruit infection, and there was no infection.

In the second year we tried to learn more so we had to establish the experiment in 5 hectares of olives from the Nabali Mohassan variety, a susceptible variety for the olive fly. It was done also in a coastal area where there is a big problem from flies and more generations of the fly a year.

The distance between the rows is 7 meters, and 7 meters between the trees inside the row. The no. of trees/ hectare is 200 trees and the Frutect™ traps were 1 trap to every second tree (100 traps / hectare).

The experiment began in June and ended in November as the fruits were harvested. Another plot of 0.5 hectares of the same variety was used as a control. The results are summarized in fig. No, 3 and 4. In fig no. 3 we can see that in the year 2000 there were 2 generations of the olive fly, the first one was at the beginning of June, and the second at the end of October.

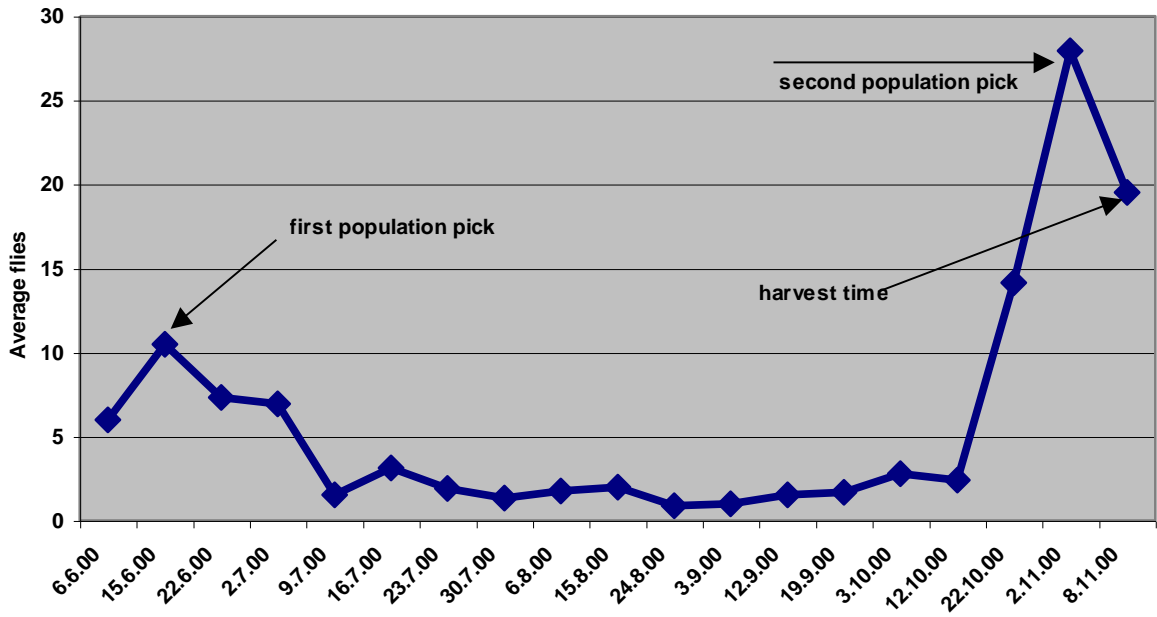


Fig no. 3: average flies / trap

In fig. No. 4 we can see the results of the infected fruits in the treated and control plots in 2 periods. At 9.7.00 the percentage of the infected fruits in the control was about 20% and it increased and reached 47% at harvest time 9.11.00. The results in the treated plot were better, and the percentage of the infected fruits was less than 1% on both dates.

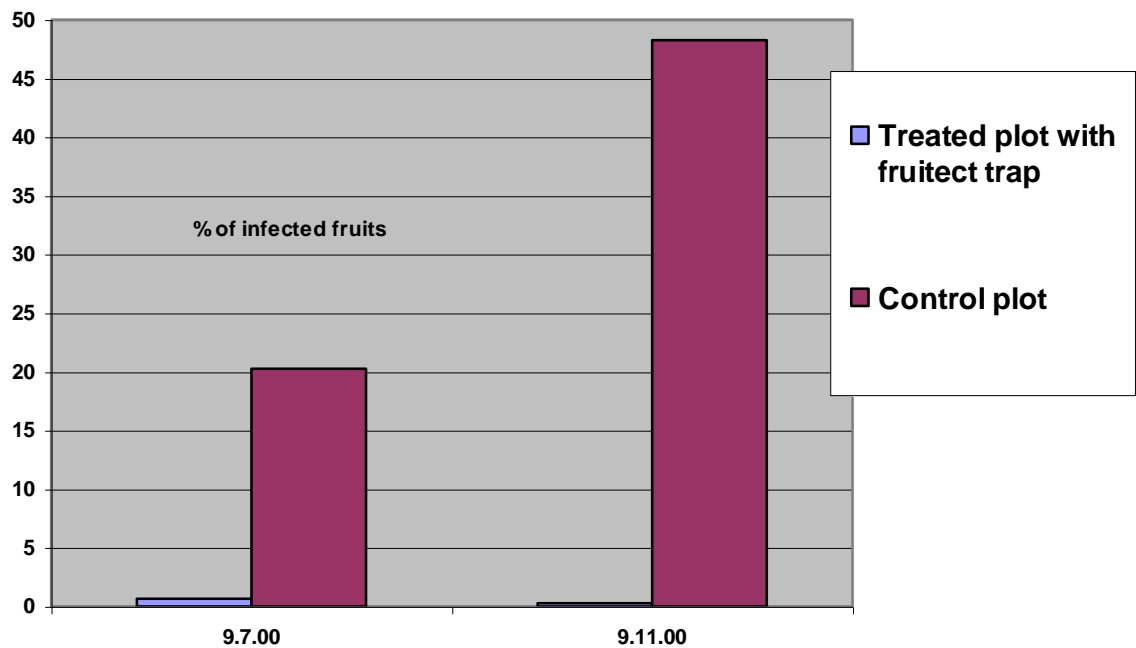


Fig no. 4: percentage of infected fruits.

In the third year we compared between the Fructect™ trap and the EcoTrap by Vioryl on a large scale plot. It was done in 5 separate hectares for each trap. The variety was Souri, a less susceptible variety for the olive fly. This variety is not susceptible to the June generation, so we began the experiment in August close to the second generation. The results are summarized in figs no. 5 and 6.

From the results we can see that the Fructect™ trap was very useful in preventing the attack and the damage of the olive fly. In both cases the best results were obtained with the pheromone and it is sufficient in half of the traps, 50 traps / hectare ( fig 6.). The infected fruits are less than 5%, while in the same trap without pheromones the result was not enough, the infected fruits were around 30%. The infected fruits in the control were about 50%, with the Vioryl trap about 38%

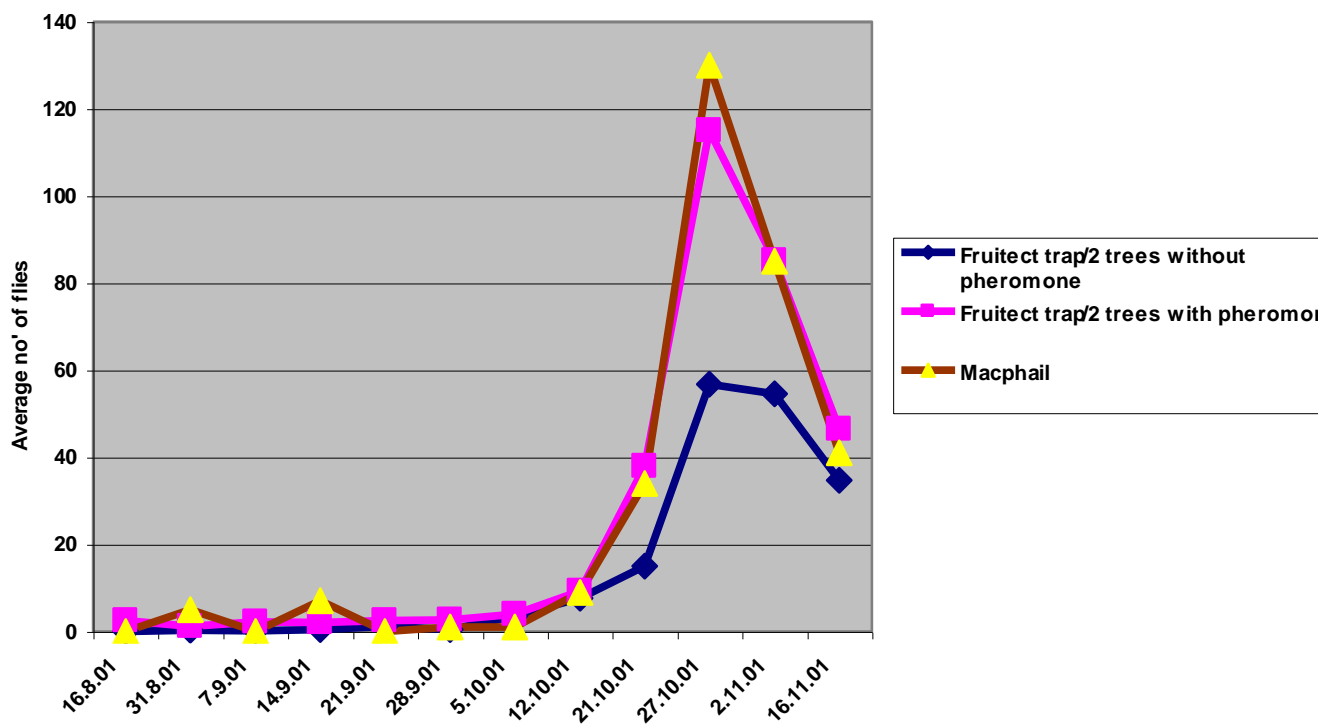


Fig no. 5: average flies / trap

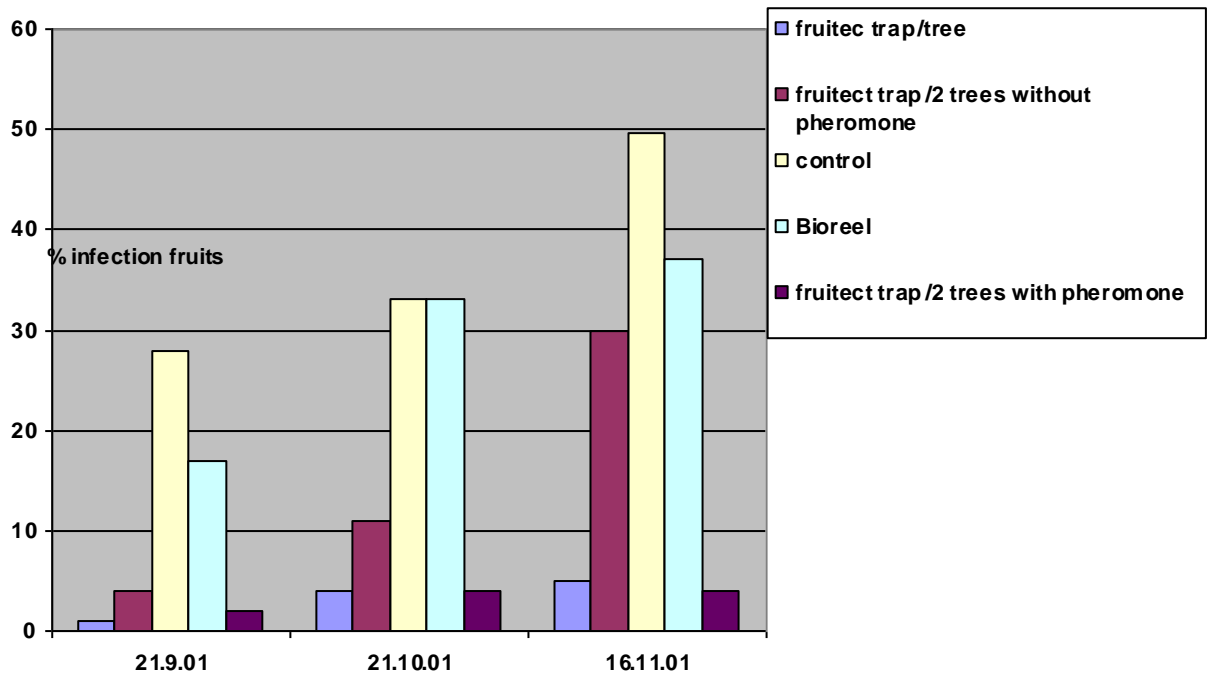


Fig no. 6: percentage of infected fruits in the different treatments