

A SIMPLIFIED METHOD OF *BACTROCERA OLEAE* (GMELIN) INFESTATION ANALYSIS

V. CALECA¹, V. FANCELLO²

¹Dept. SENFIMIZO, Sezione di Entomologia, Acarologia e Zoologia, Università di Palermo, Viale delle scienze, 90128 Palermo ITALY, caleca@unipa.it

²via Cristoforo Colombo 8, 91100 Trapani ITALY.

The traditional method of *Bactrocera oleae* (Gmelin) infestation analysis is the most precise one to assess the real risk of damaging the olive production, but unfortunately it comprises the use of a stereomicroscope and it is time consuming; for this reason it is not suitable at farm level. Many olive growers are not assisted by public services in analysing olive fruit fly infestation, or they are in particular growing conditions (irrigation, different cultivars, table olives, organic farming) and cannot use the suggestions of public services. Some of this growers analyse olives to the naked eye, also cutting them by a pocket knife to choose the moment for their intervention.

In this paper we show the results of a two years trial of a simplified method of *B. oleae* infestation analysis, by using a counting glass and a grafting knife.

In two table olives organic orchards (Nocellara del Belice cv.) in Castelvetro (Sicily) two samples of 100 untreated olives were collected in six sampling dates in 2005 and in 11 sampling dates in 2006; one sample was analysed following the traditional method (using a stereomicroscope and a scalpel), the other sample was analysed using a counting glass (magnification 5x) and a grafting knife.

In 2005 detected total, active and harmful infestation did not statistically differ (ANOVA repeated measurements) between traditional and simplified method. On the contrary in 2006 detected total, active and harmful infestation was statistically higher (ANOVA repeated measurements) using the traditional method, mostly due to the difficulty in detecting all fly larvae in the more infested two last samples by using the simplified method. In both years recorded sterile stings (punctures without eggs or larva) were more abundant using the simplified method rather than using the traditional one, showing the unsurprising difficulty in detecting eggs and first and second instar larvae when the simplified method is used. Nevertheless the strong statistical correlation between active infestation (eggs + larvae) and active infestation plus sterile stings in all the analysed samples allow us to consider this simplified method as a promising tool in the field.

Key words: olive fruit fly, sampling, counting glass, sterile stings