On the Relationship Between the Infestation Level of Rhynchites cribripennis and Respective Yield-losses on Olives (Coleoptera: Attelabidae)

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Earlier reports point out that Rhynchites cribripennis Desbrochers 1868 may cause significant damage in olive production mainly due to fruit abortion at the early period of fruit development. However, its damage severity has not been extensively searched under different pest densities, and respective yield-losses have not been estimated. The present study focuses on the estimation of the damage production under several pest densities as associated with fruit numbers available. Studies were performed by the enclosure of 1, 2, 3 and 5 adults of the pest in cages with olive shoots at the early period of fruit development. Damage levels were increased with the pest density (18, 40, 53, 68 and 81% of fruits dropped in the cages with 0, 1, 2, 3 and 5 adults, respectively). The weight of olives that remained on the shoots at harvest (used as a surrogate of the yield) was significantly reduced at the highest pest density. The weight of the olives and the initial number of the olives at the start of the experiments were linearly associated. Based on these regressions the expected yield loss can be estimated at different fruit load and different pest densities. This evidence can be useful for more appropriate management decisions for this pest.

Keywords: Rhynchites cribripennis Desbrochers 1868 – injury level – olives – pest density – weevil – yield loss

1 Introduction

Olive crop is of major economic importance in the Mediterranean countries where more than 98% of the world olive crop is grown (data from FAO, 2009; http://faostat.fao.org). In several areas in the Mediterranean region the weevil Rhynchites cribripennis Desbrochers 1868 (Coleoptera: Attelabidae) has been considered as a potentially important pest in olive crops [Pelekasis 1962, Arambourg 1985, Monaco 1986]. Recently, this pest has reappeared and damages have been reported from Greece [Lykouressis et al 2004], Croatia [Bjeliš 2005], Montenegro [Hrnčić & Perovic 2007] and Bosnia-Herzegovina [Rotim 2010].