INFLUENCE OF NATURAL VEGETATION ON SOIL ARTHROPODS ON OLIVE TREE IN THE NORTH OF PORTUGAL

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Several works reported that the habitat can be an important factor in retaining predators in a system and can affect predators efficiency and enhancing biological control. The aim of this work was to study the effect of soil cover with natural vegetation in comparison to the traditional tillage on soil arthropods of the olive grove. The work was carried out between April to October 2003 in one olive grove located near Mirandela (North east of Portugal). The orchard has about 4.0 ha of surface, and two plots with different management were constituted, one was tilled every time that was necessary to control the weeds and in the other the natural vegetation grew freely. In each plot, monthly, 28 pitfall traps were installed during 24 hours once a moth. The traps consisted of a 200 ml plastic glass with a 7 cm opening, filled half way with water with detergent, and were placed inside of the influence of the canopy in the south orientation. The arthropods recovered were identified to the order (Coleoptera, Diptera, Neuroptera, Hemiptera, Homoptera, Dermaptera, Thysanoptera, other Hymenoptera, Lepidoptera and Collembola) and to the family level (*Formicidae* and *Aphididae*). The cumulative number of total arthropods, 99.6±38.95/trap in the tillage and 144.1±71.93/trap in the natural vegetation plot, were significantly different between sites. Coleoptera and Diptera were significantly more abundant in the tilled plot. Acarina, Collembola, *Aphididae*, other Hymenoptera, Aranea and Homoptera were significant more abundant in the natural vegetation site. *Formicidae*, Hemiptera, Dermaptera, Thysanoptera and Lepidoptera didn't differ significantly between treatments.

olive tree, natural vegetation, soil fauna, diversity