

EFFECT OF THE CREATION OF VEGETATION ISLANDS WITH FLOWERING PLANTS ON
BENEFICIAL INSECTS ASSOCIATED WITH THE OLIVE AGRO-ECOSYSTEM

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The value of natural enemies for suppression of olive pests is traditionally considered very important. The effective conservation of these beneficials involves manipulation of the environment, namely by introducing or maintaining non-host food plants, which provides nectar and pollen, thus enhancing their growth, development, survival and reproduction. To evaluate the effect of the creation/maintenance of vegetation islands with flowering plants on the population of beneficial insects associated with the olive agro-ecosystem, a study was carried out during 2003, in an olive grove, near Mirandela (northeast of Portugal). Trees were of medium size, about 80 years old, unsprayed, non-irrigated and mainly of the oil producing variety Cobrançosa. Three treatments were compared: uncovered soil, soil sown with buckwheat (*Fagopyrum esculentum* Moench) and soil covered by natural vegetation. Sown of buckwheat was done on 16th of April, with a rate of about 80kg/ha. Each treatment consisted of a plant strip with 4m x 77m, and five replicates were used per treatment. Beneficial insects were monitored over eleven consecutive weekly periods, from the beginning of the flowering period, by means of a yellow sticky trap per experimental plot. A total of 3 543 beneficial insects were captured, from which 1 057 (29.83%) in the uncovered soil plots, 1 135 (32.03 %) in the buckwheat plots and 1 351 (38.14%) in the natural vegetation plots. About 55.59% and 46.11% of the captures were obtained during the flowering period of the buckwheat and natural vegetation respectively. The χ^2 test showed highly significant differences ($p < 0.001$), between treatments, in the, total number of Hymenoptera parasitoids, Chrysopidae and Coccinellidae, captured.