



Implementation of some biopesticides in the integrated pest management of large pine weevil *Hylobius Abietis* L. (Coleoptera – Curculionidae)

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The large pine weevil *Hylobius abietis* is one of the main plantation pests and without forestry measures the losses are big, produced by the drying of the seedlings. The researches aimed at the replacement of some chemical insecticides, recommended by the existing technologies, with two bio-pesticides, within the pine weevil integrated management: spinosad and azadirachtin. The treatments were applied on leaves and treated barks on both faces 30/30 cm, laid with the inner side down and covered by dirt. Spinosad in a concentration of 0,066% protected the sapling against the large pine weevil's attack; during three weeks on the treated barks there were found 2-5 dead adults. The entomophagi, like carabids and ants were not affected, unlike in the case of Sinoratox 5G, which can destroy these species. The azadirachtin bio-product was applied both on barks and leaves as 5% and 10% water emulsion. Although, during the experiments, there were not found any dead adults, the product had an antifeedant effect, deterrent of feeding and a repellent action; the treated samplings presented small damages. Because the bio pesticide did not have a direct action on adult stages and there are many aspects unclear, the researches must be continued.