



ABSTRACTS

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KATHOLIEKE UNIVERSITEIT LEUVEN**

CONFERENCE

Title: EFFECT OF NITROGEN FERTILIZERS AND APPLE CULTIVARS ON APHIDS UNDER IPM TREATMENT CONDITIONS.

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Our investigation, a part of a four year's project was aimed to test both the aphid-susceptibility of some apple cultivars grafted on different rootstocks, and the effect of different levels of nitrogen fertilizers on the insect communities.

The experiments took place in the experimental apple orchard of the University of Horticulture, Budapest. At the beginning of the project the conventional management system (based on broad-spectrum insecticides) was changed to IPM.

The samples were taken at 14 days intervals, from the beginning of April 1995, through the end of September. The identification of aphid species, the number of colonies per tree and the age-classes were determined. The number of predators and parasitoids were recorded. Our observations were done on cultivars of Kovelit, Idared, Jonathan, Jonagold, Jonathan M41, Gloster and Mutsu with four repetitions. The rootstocks were: M26, MM-106 and M9.

The most abundant aphid species was the Green Apple Aphid (*Aphis pomi*), followed by the Rosy Apple Aphid (*Dysaphis plantaginea*). The Rosy Leaf-curling Aphid (*Dysaphis devecta*) was observed to have an isolated occurrence. On the basis of more than 220.000 aphids, we can conclude that the aphid-sensitivity of apple cultivars in descending order is : Gloster, Mutsu, Jonagold, Jonathan M41, Idared, Kovelit and Jonathan.

Fertilizer experiments were done on cultivars of Idared and Jonagold with solid ammonium nitrate 0,50 kg/ha and liquid urea 10 (o). The rootstock was : MM-106. The aim of the experiment was to find the N-level that would give maximum growth, without the increase of the aphid numbers.

In case of cv. Jonathan we found that the lowest aphid infestation was in the urea plot and the highest in the ammonium nitrate plots, with doses of 50 kg/ha. In the case of Idared and Jonagold the results were variable: the lowest aphid level was found on the 50 kg/ha plot reversed in 1996.

There were significant differences between the two apple cultivars :Idared and Jonagold. The density of the Green Apple Aphid was always higher than the density of Rosy Apple-Aphids.

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