THE EFFECT OF DWARF ROOT-STOCKS ON THE VEGTATIVE GROWTH AND NUTRIENTS ABSORBTION IN TWO IRANIAN COMMERCIAL APPLE CULTIVARS,GOLAB KOHANZ AND SHAFEEABADI

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In this experiment the effects of six vegetative rootstocks,M9,B9,M26,M27,MM106 and MM111 on the growth indices and nutrients composition of the leaves of two Iranian commercial apple cultivars,Golab Kohanz and shafeaabadi were studied in a two years course.The rootstocks had significant effects on all growth indices.The trees grafted on MM111 and MM106 had the highest rate of trunk diameter, current year's height growth and canopy of the tree.The trees grafted on M27 and B9 rootstocks showed the least rate of vegetative growth.The growth rate of the trees grafted on M26 and M9rootstocks was in between of the other two groups.Generally the rootstocks did not have similar effects on two cultivars and there was counter effects between rootstock and scion.Despite of the effect of rootstocks on the cultivars there were also effects in connection with the rate of absorbtion of N.and Fe.Shafeeabadi trees had higher rate of N.in their leaves,while the leaves of Golab Kohanz had higher rate of Fe.The rootstocks had significant effects on the leaves N.K.,Mn.and Mg.contents.There was not significant effect of rootstock on P.,Zn.and Fe. absorbtion.The trees on M9 and MM106 rootstoks showed the highest rate of N absortion, while there was the least effect on the rate of N. in the leaves of the trees grafted on M27 rootstocks.The highest rate of K.was observed in the leaves of trees grafted on M9 and MM106 rootstocks.The trees grafted on M27 and 26 rootstocks had the highest rate of M9.and Mn. contents respectively.Generally among the measured elements,the rootstocks had the highest effect on the Mn concentration and the rate of Mn.had high rate of changes in different rootstocks.

In monitoring population growth rate of other potential pests, we provided support for their parasitoids and predators by excluding insecticides, protecting green coverage under trees, and also the use of winter oil spray, if necessery in growth-time.

With reference to the research on IPM in apple orchards, during 1990-1999, and for developpment of IPM in plateau, the faunestic studies in different regions were carried out on the following species of entomophagous (Parasitaids and Predators).

- Trichogramma embryophagum Hartig. (Hym. Trichogrammatidae)
- Tetrastichus amaethystinus Ratz. (Hym. Eulophidae)
- Lasiopticus pyrastri L., Epistrophe balteata, ... (Dip, Syrphidae)
- Chrysoperla carnea Steph., Chrysopa septempunctata,... (Neur. Chrysopidae)
- Orius horvathi (Reuter), O. bulgaconus,... (Het. Anthocoridae)
- Harmonia conglobata, Coccinella spp. Stothorus punctillum Weise (Col. Coccinellidae)
- Aleothrips intermedius Bagnall. (Thys. Aleothripidae)

This useful species, extensively distributed in apple orchards, in their suitable ecological niche to efficient in controling successively: Codling moth, leaf mining moth, Aphis, and European red mite,....