

Study of the short term effects of Paclobutrazol on vegetative growth, nutritional status and relative water contents of , J.h. hale, and , Red Skin, peach trees.

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The control of tree size is one of the main problems in production. In the absence of dwarfing rootstocks for peach, techniques which reduce vegetative growth and enhance fruit quality and yield are important, in the orchard management system. With this aim, mature peach trees of the cultivars 'J.H.Hale' and 'Red Skin' on peach seedling, growing at the Moghan agro industrial orchard were used. The effect of soil applied paclobutrazol (0.5 and 1.5 g/tree) on experimental trees during the dormant periods in the 1375 - 1376 season were evaluated. Treatment effect on vegetative growth characteristics, nutritional status and relative water content of the trees were determined. Paclobutrazol significantly reduced vegetative growth in the first year, the total dry weight of pruning of treated trees was smaller than that of controls. The concentration of Ca was always greater in leaves from PBZ treated trees than in controls. While N and P concentration remained unaffected on all sampling dates, the K concentration decreased in leaves from PBZ treated trees. Relative water content was almost greater in leaves (CV. J. H Hale) from PBZ treatments than in controls. The high rate of paclobutrazol caused the greatest growth inhibition. On a commercial scale paclobutrazol treatment would be able to give substantial benefits to peach growers by saving in pruning costs.

1998 with introduction of nine variety of Asian pear from Belgium. The varieties were named KS₆, KS₇, KS₈, KS₉, KS₁₀, KS₁₁, KS₁₂, KS₁₃ and KS₁₄. These varieties were budded on pear and quince seedlings for further quarantine inspection and propagation. Research is continuing of propagation aspects including cuttings and budding on pear and quince rootstocks as well as micropropagation via shoot-tip-culture at TMU and for quarantine purposes in Seed and Plant Improvement Institute (SPII) quarantine glasshouses. Also, research will carrying out to study on rootstock effects with a good fitness to the soil and climatic conditions of the country with regards to improving resource utilization such as water and fertilizer. Study on the adaption of the Asian pear cultivars under four different geographic conditions of Iran as well as evaluation of vegetative and reproductive characteristics of the experimental trees on local rootstocks will be evaluated in phase₂ project.