Study of chemical fruit thinners (NAA and Sevin) on the qualitative and quantitative characteristics of apple cv. " Shafieabadi"

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In this study the effect of chemical fruit thinners (NAA with the concentrations of 10 or 15 ppm and Carbaryl with 750 or 1000 ppm on the quantitative and qualitative characteristics of apple cv. "Shafieabadi" were investigated during a two- year period.Many factors were measured and analized statistically.

NAA and carbaryl were applied to all trees at 14 and 20 days after full bloom.

The results indicated that chemical fruit thinners application can increase fruit drop and mean of weight, therefore, upgrading the fruits from low quality to high grade quality.The application of 15 ppm NAA in "Shafieabadi" c.v. produced the heaviest fruits.Considering the number of fruit/cm^2 trunk cross sectional area, all treatments somewhat controlled the irregular cropping in addition to increasing the mean of fruit weight,while irregular cropping was obvious in control trees; since the number of fruit/cm^2 trunk cross sectional area in each year in the two-year period showed a very high difference. As to fruit specific gravity and flesh firmness,no significant difference was observed between the control and the treated trees, though the latter were bigger in size. Therefore, it seems that there should be no difference in storage quality between treated and control trees. Regarding to the fruit yield, yield/tree was measured during the treatment year and one year after treatment. Then, the cumulative yield and the difference in fruit yield in the two years were calculated. The result indicates that while the cumulative yield of control trees is rather high, the difference in fruit yield in the two years is also considerable.In "Shafieabadi" c.v. the application of 1000 ppm Sevin didn't affected the cumulative yield significantly, and less fruit yield difference was observed compared to control trees.

As to qualitative characteristics, some treatments were better than the control treatment, and some other treatments had no difference with the control treatment.