

Evaluation of variation the ethylene levels at different growth stages and comparison some qualitative and quantitative characteristics of Red Delicious fruit on M9, M26 rootstocks

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This study was conducted during two years (1994,1995) with Red Delicious apple trees on M9, M26 rootstocks, for determining the variation of ethylene levels, and consequently fruit abscission, as well as the rootstocks effects on these factors, and fruit size, shape, and their qualitative characters at the ripening stage.

Uniform trees was slected based on completely randomized block design with three replication at full bloom stage.

From 14 days after full bloom (the time at which fruit weight was reached to 2 gr) the ethylene production rate, abscission percentage, fruit weight, size (length, diameter), shape (L/D ratio) was ,measured until harvest stage.

The result of this study indicated that the ethylene production have the highest rate in 14 days after full bloom, and then decrease dramatically. Ethylene level, start to increase at 133 days after full bloom. Fruit abscission have also as like as this pattern. This factors were not affected by the rootstocks but the fruit weight and shape were significantly different between two roorstocks. The fruits of M9 rootstock had more weight and more L/D ratio.

The results of this study also indicated that the qualitative characteristics of fruit on these rootstocks at harvest time have only a little difference, but their difference was not significant at 5% level.