Effects of different crop load levels on vegetative growth and fruit quality of apple trees

Emine EKINCI¹, Mehmet ATILLA AŞKIN²

¹University of Suleyman Demirel, Faculty of Agriculture, 32260 Isparta, Turkey, (e-mail: ekinciemine@sdu.edu.tr)
²University of Suleyman Demirel, Faculty of Agriculture, Department of Horticulture, 32260 Isparta, Turkey

Abstract

Apple cv. 'Red Chief' grafted on M26 and MM106 rootstock has been studied to determine effects of different crop load levels on some fruit quality characteristics, yield, and vegetative growth in Isparta in 2008. Treatments were crop load levels of 3, 5, and 7 fruit·cm⁻² TCSA (trunk cross-sectional area), and control treatment which is hand thinning after June fruit drop. The effect of crop load levels on vegetative growth was found to be insignificant. Crop yield per unit area increased with increase in crop load levels. The highest total yield in marketable fruit quality class was determined at crop load level of 7 fruit·cm⁻² TCSA. Fruit size was negatively correlated with crop load levels. The effects of crop load levels on fruit colour, water soluble dry matter, titrable acidity, and mineral content were found to be statistically insignificant. Fruit firmness of control treatment was higher than that of the other treatments. The effects of rootstocks on fruit size, water soluble dry matter and titrable acidity were not found to be statistically significant. It was determined that M26 rootstocks yielded better fruit size, better background fruit colour and higher concentration of K, Ca, Fe, B and Cu as compared to MM106 rootstock.

Key words: crop load, rootstock, M26, MM106

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