# Rootstock Age, After Fatty Alcohol Treatment, Affects Yield and Fruit Quality of Grafted Seedless Watermelon

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Abstract: Fatty alcohol treatment is a useful technology that prevents rootstock regrowth in Bottle Gourd (*Lagenaria siceraria*) and Interspecific Hybrid Squash (*Cucurbita maxima x C. moschata)* rootstocks. During a three-week period after treatment, rootstock carbohydrates have been shown to increase. This increase could provide energy to improve graft healing and rootstock re-rooting. This positive effect on transplant quality could lead to an eventual improvement in overall fruit quality and yields. An open-field trial was conducted to characterize the effect on yield and fruit quality. Bottle Gourd (cv. 'Macis') and Interspecific Hybrid Squash (cv. 'Carnivor') rootstock seed were sown in subsequent weekly plantings to achieve rootstock ages of 1, 7, 14, and 21 days after fatty alcohol application. All rootstocks were grafted using Tri-X 313 scion. The age of the scion was the same for all rootstock types, and the grafting was done on the same day using the one-cotyledon grafting method. Grafted plants were also planted in a field at the Clemson University Coastal Research Station in Charleston, SC. Yield and fruit quality data, including number and weight of fruit produced per plot, number of harvests per plot, fruit pH, percent soluble solids, and flesh firmness was also collected. Significant effects in both yield and fruit quality were observed depending on the age of the rootstock after treatment.