

## ABSTRACT

### THE EFFECTS OF ROOTSTOCKS ON VINE GROWTH AND NUTRIENT LEVELS ON FOUR TABLE GRAPE CULTIVARS

The study was conducted to evaluate the effects of several rootstocks on vine growth and nutrient status of two table grape cultivars and two USDA selections over two growing seasons. Vine growth, as determined by pruning weights was significantly affected by grafting on rootstocks. Vines grafted on Salt Creek were more vigorous than all rootstocks or own-rooted vines in both seasons. Rootstocks had a significant effect on macronutrients concentration in grape petioles. Vines grafted on Salt Creek had significantly higher petiole  $\text{NO}_3\text{-N}$  concentrations. There was a significant interaction between rootstock and cultivars/selections in the concentration of K in petioles. The variety Black Emerald and selection B31-164 when grafted to Harmony showed significantly higher petiole concentrations of K. Rootstocks also significantly affected micronutrient concentrations in the vines. Boron levels were consistently higher when the cultivar/selections were grafted to Freedom and Salt Creek, while Na concentration was decreased on all rootstocks.

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