

# Effect of dehydration during storage on viability of dormant grafted grape

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## Resumen

This study quantifies the effect of dehydration during storage of bare root grape vines delivered from the nursery and planted in winter. In that period, plants are at risk of dehydration, but it has not been well studied.. One-year-old dormant bench grafts of *Vitis vinifera* cv. 'Redglobe' on Freedom or Harmony rootstocks were exposed to a range of dehydration treatments to observe survival and growth of the vines after planting. Field-finished plants were harvested from nursery soil, and the roots of 25 plants were exposed to air for 0, 4, 8, 22, 32, 70, 96, 128, 192 or 262 h to simulate variable environmental conditions that plants suffer before planting. For each rootstock-time combination, the hydration status was determined gravimetrically on 5 plants and the remaining 20 were individually planted in containers for weekly evaluation of bud break and growth. Plant organs exhibited different dehydration kinetics. Roots and trunk (two-year-old wood) were the most appropriate organs to determine plant hydration status and later planting success, whereas one-year-old wood was highly variable. Hydration status of root and trunk during dormancy were significantly related to growth potential. Dormant plants grafted on Harmony tolerated dehydration better than plants grafted on Freedom.

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