

Potassium nutrition and postharvest moisture loss in carrots (*Daucus carota* L.)

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SUMMARY

The effect of potassium (K) nutrition on the shelf life of carrots (*Daucus carota* L., cv. Paramount) was studied using a hydroponic system involving rockwool slabs as an inert support. Carrots were grown for 192 d under greenhouse conditions and with 0, 0.1, 1.0, 10 and 15 mM K supplied in the nutrient medium. Increase in K concentration in the nutrient medium up to 1 mM decreased postharvest moisture loss. Carrot root weight and tissue K concentration increased, and water potential, osmotic potential and relative solute leakage decreased with increasing K concentration up to 1 mM. Concentrations greater than 1 mM had little or no additional effect on postharvest moisture loss, root water and osmotic potentials and relative solute leakage. Root weight did not increase above 10 mM K. The best subset model obtained by backward stepping and the optimum Mallow's coefficient showed that carrot root weight and relative solute leakage accounted for most of the variation in moisture loss. Root weight correlated negatively and relative solute leakage positively to moisture loss.