Abstract

An investigation was conducted on the effect of several variables on the quality of 'Van' sweet cherries: storage regime (normal cold storage (NCS) and different kinds of controlled atmospheres (CA)-(CA_t = 2.5% O_2; 10% CO_2; CA_2 = 2.5% O_2; 15% CO_2; CA_3 = 2.5% CO_2), 4 rootstocks (*Prunus avium,* Cab 11E, Maxma 14 and Giscla 5) and two harvest dates. Fruit samples were harvested on June 12 and 16, 2003. One sample per rootstock was harvested, and a sub-sample analyzed at the laboratory, while the other sub-samples were stored during 42 days, both in NCS and CA. At the end of the storage period, all preserved sub-samples were also analysed for fruit quality, using objective and subjective and subjective methodologies. Storage regime, rootstock and harvest date significantly influenced all the studied parameters of quality; fruit weight, firmness, titratable acidity, soluble solids content, skin (L*C*H*) and stem (L_s*a_s*) colour. Fruit size, titratable acidity, L* (Lightness), C* (chroma) were higher on fruits from invigorating rootstocks. Fruits from trees on *Prunus avium* had better aspect and fiavour after storage. Tasting panels considered fruits stored in controlled atmosphere, CA_2 to have a better quality.