PERFORMANCE OF APPLE STORED FOR LIMITED TIME IN SIMPLE FACILITIES

Kaspars KAMPUSS, Ieva MILLERE
Latvia University of Agriculture, Faculty of Agriculture
Liela street 2, LV-3001, Jelgava, Latvia
Email: kaspars.kampuss@llu.lv

Abstract. *The experiment was done at Latvia University of Agriculture, Jelgava, in year 2014. An objective of the experiment was to test performance of apples during limited time storage in simple facilities in regimes not optimal for apple storage. To test this fruit from three apple cultivars: 'Sinap Orlovskii', 'Belorusskoe Malinovoe' and 'Lobo' on rootstocks MM106 and B9 were harvested in 3 harvesting times with 8-days difference. The maturity level at the harvesting time were detected by iodine-starch test, soluble solids content and flesh firmness test and Streif index calculated out of these measurements. Apple were stored in cellar without cooling and active ventilation, and with high air moisture. Average temperature during storage was 8°C, dropping from +13°C to +3°C following outside temperature. The lowest fruit mass loss (caused by evaporation, microbiological and physiological damage etc., not specified in this experiment) for 'Sinap Orlovskii' on both rootstocks B9 and MM106 (7.9 and 4.4%, consequently) were in the latest term with Streif indexes 0.23 and 0.12, consequently. The cultivar 'Belorusskoe Malinovoe' performed best when harvested in middle time with Streif indexes 0.36 and 0.17 for rootstocks B9 and MM106; and their mass loss were 3.9 and 4.6, consequently. In total, cultivar 'Belorusskoe Malinovoe' performed better than the other tested cultivars in all harvesting times. The cultivar 'Lobo' had high mass loss (21-49%) and we presume it was harvested in too high maturity stage already in the first harvesting time (Streif index 0.15-0.06). Pattern of soluble solids was quite similar – it slightly increased during storage for the best times (described previously) and decreased for too late harvested fruits. Fruit firmness was higher for fruits on rootstock B9 for all cultivars. It can be concluded that cultivars, which are not very susceptible to physiological disorders during storage, can be stored for limited time also in cheap storage facilities, if the proper harvesting time is used.*

Key words: *Apple, cultivars, rootstock, storage, mass loss.*