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**S10: POSTHARVEST AND HORTICULTURAL
PRODUCTS QUALITY**

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**S10: POSTHARVEST AND HORTICULTURAL PRODUCTS
QUALITY; BUCHAREST, EHC2024, MAY 12-16**

POSTER PRESENTATIONS

S10-P-I-4

Changes in the physical and sensory traits of apple cultivars during long-term cold storage

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The effects of long-term cold storage on physical properties and sensory characteristics of three apple cultivars ('Golden Delicious Reinders[®]', 'Granny Smith' and 'Red Chief') at harvest time and after storage (0, 2, 4, 6 and 8 months) were assessed. Fruit weight, weight loss, firmness, titrable acidity (TA), total sugars (TS) and TS/TA ratio were evaluated. The highest fruit weight and loss of fruit weight were found in the cultivar 'Granny Smith'. Cultivars 'Granny Smith' and 'Red Chief' recorded higher and similar values of fruit firmness compared to cultivar 'Golden Delicious Reinders[®]'. Fruits of all tested cultivars at harvest had the highest values of weight and firmness, which continuously decreased, and after eight months of storage were the lowest. Significant differences in weight loss were recorded among storage periods, and fruits of all three cultivars stored for eight months recorded the highest weight loss. TS values were the highest and similar in the cultivar 'Red Chief' after four, six and eight months of storage. In contrast, the cultivar 'Granny Smith' during the harvest period contained the highest TA and the lowest TS/TA ratio. Cultivar 'Golden Delicious Reinders[®]' had the highest and similar value of TA and the lowest ratio TS/TA after six and eight months of storage. Through a comprehensive analysis, it can be concluded that cultivars 'Red Chief' and 'Golden Delicious Reinders[®]' are suitable for long-term cold storage, bearing in mind that there was no significant change in the physical properties and sensory characteristics of the fruits during storage.

Keywords: *Malus domestica*; long-term storage; weight loss, sugars, acids.