THE INFLUENCE OF HARVEST TIME ON JONATHAN AND GOLDEN DELICIOUS APPLE CULTIVARS STORAGE LIFE

Zagrai Luminița

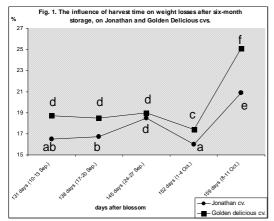
Fruit Research Station Bistrita, Drumul Dumitrei Nou, nr. 3, Bistrita, 420127, Romania; e-mail: lumizagrai@yahoo.com

Key words: apple, harvest time, storage life, soluble sugar, dry matter, acidity.

SUMMARY

The experiment was carried out during 2003-2005, at Fruit Research Station Bistrita. In Romania, the Jonathan and Golden delicious cultivars represent over 35% from the all cultivated cultivars (*Branişte et. al.*, 2004). Immature fruits have a low quality and are very susceptible to some physiological disorders, like bitter-pit and scald, and the over mature fruits are susceptible to other physiological disorders, like water core and internal browning, all of these affecting the quality of fruits (*Blanpied and Smock*, 1982; *Kader*, 2002).

The objective was to determine the influence of harvest time on storage life on Jonathan and Golden delicious apple cultivars. The fruits were harvested at five moments, at a rate of 7 days, beginning with 10-13 September. The apple fruits were stored into chambers from the basement of building, where the temperature was between 3-9°C and the relative air humidity, 50-80%. After six-month storage, on both cultivars, the lowest weight losses were for the variant harvested in the period 1-4 October (16% on Jonathan cv. and 17.4% on Golden Delicous cv.), and the higher weight losses for the treatment harvested in the period 8-11 October (20.9% on Jonathan cv. and 25.1% on Golden Delicious cv.), for Bistrita area (Fig.



1). The main losses were due to evapo-transpiration (12.7-15.9% on Jonathan cv. and 16.6-21.5% on Golden delicious cv.). The losses due to the qualitative depreciation (storage disorders) were between 2.9-5.8% on Jonathan cv. and 0.5-3.6% on Golden delicious cv. Both, dry matter and soluble sugar, had an increasing trend lengthways harvest period, due to the water losses, while the acidity had a decreasing trend. After six-month storage, the dry matter of fruits was not significantly changed. The sugar/acidity ratio was increasing lengthways harvest period and after six-month storage, too. The

highest sugar/acidity ratio was found on fruits harvested in the period 8-11 October, at harvest and after storage time, too.

BIBLIOGRAPHY

Blanpied, G.D. and R.M. Smock, 1982, *Storage of fresh market apples*. Cornell Univ. Agr. Ext. Inform. Bul. 191, 19 p.

Braniște, N., C. Mazilu, Valentina Amzăr, L. Şerboiu, G. Unchiașu, G. Petre, Albertina Şerboiu, I. Platon, Raveca Balaci, Doina Vlădianu, 2004, *Cultura mărului*. Editura CERES.

Kader, A., 2002, *Postharvest Technology of Horticultural Crops*. University of California. Agriculture and Natural Resources. Publication 3311. ISBN 1-879906-51-1. California, USA.