

Title Study concerning the influence of the electro-ionic technology on long term storage of apples
Authors M.E. Ionica, V. Nour, M. Botu
Citation ISHS Acta Horticulturae 737:47-51. 2007.
Keywords negative oxygen ions; preservation; shelf life; horticultural products; evapo-perspiration; fruit spare substances

Abstract

Electro-ionic technology is a non-polluting method for increasing the shelf life of horticultural products, which consists in maintaining the product in a negative ionized air stream. The electro-ionic technology was applied at the apples' long-term refrigerated storage, through their exposition to an ionized air stream by means of a reduced size generator, the aero-ions amount being of 1000-3000/cm³. The exposition length was of 15 and respectively 30 minutes. The results were studied comparatively with a control, respectively with a unionized sample stored in the same conditions. The influence of the apples' exposition length at the ionized oxygen action on the total dry matter, soluble dry matter, total sugar, acidity and ascorbic acid content variation during the 'Jonathan' apples storage was studied over a six month period. Both variants of the experiment showed a doubtless action of the ionized air on the fruits' metabolic processes during the long term storage. The apples treated through the electro-ionic technology can be stored for a long time, maintaining the taste, the flavor and the appearance. The presence of increased amounts of ionized oxygen in the storehouse air determined a diminution of the water loss through evapo-perspiration and, moreover, a better maintaining of the fruit spare substances.