

Title Effect of 1-MCP treatment on the quality of some apple varieties in RA and CA
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Abstract

The effect of 1-MCP (Smart FreshTM) treatment on the quality of some apple varieties grown in the south part of Russia was investigated. Renet Simirenko, Stark, Korei, Granny Smith, Golden Delicious, Red Delicious, Idared and Prikubanskoe were harvested at optimum maturity determined by the major indexes (starch, firmness, soluble solids, acidity) and after treatment (1 ppm of 1-MCP) stored in regular and controlled atmosphere at recommended regimes. After 6 months of storage in RA the treated fruit in comparison with control had 2,0-3,2 kg higher firmness, 15-22% higher titratable acidity, less water loss and better overall consumer quality. Granni Smith, Red Delishes, Korei and Renet Simirenki were not effected by superficial scald unlike the control. Renet Simirenko and Ganny Smith had higher skin chlorophyll content, Idared and Prikubanskoe less anthocyanins. Some treated varieties had 10-30% higher vitamin C and P content. The effect of 1-MCP treatment was more pronounced in CA storage. All treated varieties retain better quality during the shelf-life period of 15 days at 20°C.