

Title Effects of cold storage and ripening on antioxidant components in tomatoes
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Abstract

The contents of ascorbic acid, total pigments, lycopene and β -carotene during tomato refrigerated ripening and storage were studied in two consecutive years. The experiment was carried out with the hybrids Joker F₁, Townsville F₁ and Nikolina F₁. The fruits were harvested in red and light green stage. The ripe fruits were stored at 1°C in the course of six weeks. The fruits in light green stage were in a state of additional ripening at 12°C and they were stored under the same conditions as ripe ones. The tomatoes in red-ripe stage during the harvesting had the highest content of antioxidant components. A decrease of ascorbic acid quantity during the storage of ripe fruits was established. As a result of additional ripening during which a synthesis of ascorbic acid becomes and followed by storage at 1°C, its content was near this of fruits in red-ripe stage at the moment of harvesting. The content of pigment substances indicated a changeability which is associated with the decrease of lycopene content and the increase of β -carotene one. During the additional ripening under refrigerated conditions the synthesis of β -carotene was faster than the synthesis of lycopene in respect to tomatoes that had been ripened in the open air.