INFLUENCE OF TEMPERATURE AND TIME OF STORAGE ON AMOUNT OF VITAMIN C IN STRAWBERRIES

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Abstract

Nutritional quality of strawberries comes mostly due to the large amount of containing vitamin C. There is a need of proper strawberry storage to preserve the high amount of vitamin C.

Vitamin C was determined by the Tillmans method in strawberries stored at: room temperature, temperature of 4 ^{0}C (cooling) and at temperature of -18 ^{0}C (freezing). The storage was up to 11 days. Results were processed with *t*- test and after statistical processing we calculated the Pearson's correlation coefficient.

In all three storage conditions there is a reduction of vitamin C amount. The amount of vitamin C in fresh strawberries is 60.85 mg/100 g and after 5 days it is only 7.57 mg/100 g for the strawberries stored at room temperature, 43.30 mg/100 g for the strawberries stored under cooling conditions and 44.54 mg/100 g for the frozen strawberries. After 11 days, there is almost no vitamin C (0.55 mg/100 g) in the strawberries stored at room temperature, the amount of vitamin C in the frozen strawberries was 28.21 mg/100 g, and in the cooling strawberries there was the highest amount of vitamin C that achieved 37.92 mg/100 g. For strawberries stored at room temperature and for freezing strawberries there is the highest value for Pearson's correlation coefficient and r = 0.93871402. This coefficient it is lower for cooled strawberries and freezing strawberries, r = 0.887226935.

Vitamin C reduces differently in strawberries stored in different conditions. Until the fifth day, the tendency of vitamin C reduction is the smallest for the frozen strawberries, and after the fifth day it is the smallest for the cooling strawberries.

Key words: *Strawberries, Vitamin C, Storage, Cooling, Freezing.*