LOSSES OF ASCORBIC ACID DURING STORAGE OF FRESH TUBERS, FRYING, PACKAGING AND STORAGE OF POTATO CRISPS FROM FOUR KENYAN POTATO CULTIVARS

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ABSTRACT

The ascorbic acid (AA, vitamin C) levels of tubers was determined in four Kenyan potato cultivars (Dutch Robyjn, Tigoni, 393385.39 and 391691.96) grown under standard cultural conditions, and the effect of storage on fresh tubers was evaluated. Tubers were processed into crisps and the effect of frying temperature, package type, storage temperature and time were also determined. Effects of frying temperature, package type, storage temperature and time on processed crisps were determined. There was significant ($P \leq 0.05$) variation due to cultivar and storage condition was found to affect the levels of ascorbic acid in fresh tubers. There was significant ($P \leq 0.05$) reduction on the level of ascorbic acid (45 % on the average) in all the cultivars when tubers were fried into crisps. Packaging type and storage temperature significantly ($P \leq 0.05$) influenced the amount of ascorbic acid retained by crisps within the storage period. It is therefore important for processors to choose lower frying temperature and proper packaging for maximum vitamin C retention. Storage of potato crisps at temperatures beyond 30^{o}C results in lower levels of ascorbic acid retention.

Key words:

Ascorbic acid, potato, polyethylene, aluminium foil, corn oil, transparent