

**Title** Degradation pattern of bioactive compounds in carrots during storage  
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### **Abstract**

Carrots are a rich source of antioxidants like polyacetylenes, carotenoids and phenolic acids which are most likely responsible for a range of health promoting properties of carrots. Studies were conducted to assess changes in the antioxidant contents (carotenoids, polyacetylenes and phenolic acids) in two carrot cultivars i.e. Oranza and T -29 during 8 week storage. Carrots were stored at 4°C analyzed for polyacetylenes, (falcarindiol, falcarindiol-3-acetate and falcarinol), carotenoids (lutein, lycopene,  $\alpha$ -carotene and p-carotene), phenolic acids (chlorogenic acid, caffeic acid and total phenolic acids) using high performance liquid chromatography at regular intervals after every 15 days. Significant reductions were recorded in bioactive compounds i.e. polyacetylenes, carotenoids and phenolic acids contents was seen ( $R^2 > 0.8$  for all compounds) during storage. However, average rates of reduction for polyacetylenes, carotenes and phenolic acids were 1.24-fold, 1.15-fold and 1.05-fold, respectively as compared to fresh samples. Among the two varieties under study, maximum reductions in these antioxidants was significantly on the higher side in 'T-29' during the first 15 days of storage; while it was between 15 to 30 days of storage in case of 'Oranza'. Overall results indicated that 'T-29' had fewer amounts of poly acetylenes, carotenes and phenolic acids with quick deterioration in nutritional quality of 'T-29' than 'Oranza' during storage.