

Post-harvest quality attributes in carrot produced with organic compost in semi-arid region

A. Figueiredo Neto¹, F.A.C. Almeida² and R.M. Carneiro³

¹Federal University of São Francisco Valley, Research Postharvest Center, Post office 56.328265, Petrolina, Brazil

²Department of Agricultural Engineering, Federal University of Campina Grande, Post office 58.000300, Brazil

³EMBRAPA (Agricultural Research Company), Post office 56.265000, Brazil

The work was developed to evaluate the effect of organic compound in carrots cultivation of the "Brasilia" cultivar and its influence on the post-harvest phase of this vegetable. Experiments were conducted in a communal kitchen garden, cultivated in traditional irrigated farming system, located in the city of Petrolina, semi-arid region, Brazil. The formulation of the organic compound was made of 40% tanned goat manure and 60% waste vegetable residues. The roots were harvested 92 days after sowing, and were soon taken to the postharvest laboratory for analysis. The two treatments for the cultivation of carrot were evaluated as of harvest to check the influence of the compound on the harvested product through moisture analysis, soluble solids (SS), total titratable acidity (TTA), SS/TTA ratio, total phenolics, total carotenoid, antioxidant activity and firmness. The average values of total carotenoids were more significant for carrots treated organically, showing better nutritional characteristics. Several factors related to the cultivation of vegetable, like climate and soil conditions, influence the profile of phenolic compounds of vegetables and consequently its antioxidant action. The significant levels of bioactive compounds for carrots produced with organic compound were significant in the face of those produced with no compound. The increase in concentration of soluble solids and the increase of the SS/TTA ratio in the organic treatment indicate an improvement in the organoleptic characteristics. Statistical analysis showed a significant difference between the main physical and chemical characteristics of the carrot at 5% between treatments in the various analyzes carried out, indicating that the use of organic compound in the cultivation of carrot is a promising tool in maintaining quality and nutritional content for post-harvest stage.

Keywords vegetable; post-harvest; nutritional quality

References

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