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Shelf-life studies on b-carotene and total carotenoids in maize

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The present investigations were done to standardize the storage techniques for total carotenoids and B-carotene in maize as carotenoids are subject to destruction on storage. Thirteen public and private hybrids as well as composites taken for the study were stored using different storage techniques. Total carotenoids were estimated using standard procedure whereas b-carotene which is a precursor for vitamin-A was standardized by using Ultra-Performance Liquid Chromatography on an interval of 2 months and its degradation was modelled during storage. The results showed that lyophilized seed showed minimum destruction of carotenoids and highest nutritive value and metal bin was the next strategic option to be followed to check the carotenoids destruction. In contrast, mud bin was having highest level of destruction. Carotenoids content and hence vitamin-A activity decreased markedly with time. Rate of degradation of b-carotene was less in lyophilized seeds as compared to other storage techniques. The average shelf-life at room temperature was approximately six months for total carotenoids while much less for b-carotene.

Biography

Sapna has completed Msc. Biochemistry from Chaudhary Charan Singh Haryana Agricultural University, Hisar. She is doing in service Phd from Jamia Hamdard University, Delhi. She is working as a scientist, Biochemistry at ICAR-Indian Institute of Maize Research, Ludhiana, India, a premier institute for agriculture in the Ministry of Agriculture. She has published more than 10 papers in reputed journals and has been serving as an editorial board member of reputed journals. She has a wide experience of working in nutritional quality of maize with specialization in carotenoids.

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