

Title Biochemical, microbiological and physiological changes in Jamun (*Syzygium cumini* L.) kept for long term storage under modified atmosphere packaging

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Abstract

Jamun or Indian blackberry (*Syzygium cumini* L.) is a minor and highly perishable fruit enriched with flavonoids, essential oils, anthocyanins phenolic compounds and other antioxidants. The quantitative and qualitative losses in this seasonal fruit are tremendous and can be reduced by appropriate packaging and storage techniques which have not been applied hitherto. This study was undertaken to extend the shelf-life as well as to assess the biochemical, microbiological and physiological changes in jamun fruit under perforated and non-perforated modified atmosphere (MA) conditions. Fruits were stored under differential MA in macro-perforated (1 and 2 perforations, 0.3 mm dia. each) and non-perforated polypropylene (PP) film packages (Thickness: 35 μm , bag area: 0.036 m^2) at 5 °C and 75% relative humidity (RH) for 23 days. Sachets containing white silica gel beads were placed inside all the packages to check water accumulation, if any. Different physiological, biochemical and microbiological characteristics which generally affect the post-harvest life of the produce were monitored during the storage period. Results of the study suggested most of the subjectively and objectively determined qualitative parameters to be retained satisfactorily under macro-perforated packaging treatments. Further, the microbiological analysis, surmised that the fruits could be stored for long term using packages with 1 macro-perforation.

<http://www.springerlink.com/content/w24180210v536w05/fulltext.pdf>