

Guggul gum incorporated with basil essential oil improves quality and modulates cell wall-degrading enzymes of jamun fruit during storage

Ghulam Khaliq, Atrif Saleh, Ghulam Ali Bugti, Khalid Rehman Hakeem

Scientia Horticulturae 273: 109608. (2020)

Abstract

The effect of guggul gum (GG) 5, 10 and 15 % (w/v) enriched with basil oil (BO) 0.1% on physico-chemical and qualitative properties of jamun (*Syzygium cumini* L.) fruit were investigated during storage at 20 °C for 12 days. Jamun fruit treated with GG 10% + BO 0.1% or GG 15% + BO 0.1%, significantly reduced weight loss, decay incidence and total soluble solids compared to the control fruit. The same treatment delayed depolymerisation of pectin content, and inhibited the activity of polygalacturonase (PG) and cellulase (CEL) enzymes. BO added to GG 10% or GG 15% efficiently maintained higher firmness, titratable acidity, ascorbic acid, phenolics and total antioxidant activity of jamun fruit. Moreover, the experts have not observed any negative effects of GG and BO on the sensory quality of jamun fruit. The results disclose that GG and BO could be an innovative technology for retarding the physico-chemical changes and extending the shelf life of jamun fruit during storage.