

Effect of Preservatives on Post Harvest Life of Mandarin Orange

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Abstract

Mandarin occupies first rank among the citrus fruits in term of area and production in Nepal. However the large volume of the losses starts right from harvesting and loss increases many folds during the postharvest steps. This research was conducted at Institute of Agriculture and Animal Science, Paklihawa Rupandehi between 3rd December to 31th December 2018 with the objective of assessing the effect of different postharvest treatments on quality and shelf life of mandarin. There were all together eight treatment and three replication each. Effect of botanical preservatives; eucalyptus, mentha, lemongrass and palmarosa and chemical preservatives; bavistin 0.1%, ethanol 50% and wax was analyzed along with control. Physical parameters like weight loss, decay and firmness and chemical parameters like Total Soluble Solid, Titrable Acidity, Vitamin C, and pH were analyzed. The result revealed that different preservatives influenced both physical and chemical parameters varyingly. Minimum weight loss was recorded in wax that is followed by eucalyptus. For retaining TSS, Vit. C and pH, any of the four botanical preservative i.e. eucalyptus, palmarosa, lemongrass, mentha oil was found effective. Maximum TA was recorded on eucalyptus and wax shares minimum value after 25 days of treatment. Wax followed by mentha oil helps in maintaining firmness. No decay was observed in eucalyptus, palmarosa, lemongrass and bavistin 0.1%. Also botanicals preservatives are devoid of any potential health risk to the humans.

Keywords: Citrus, botanical preservatives, postharvest loss, shelf life.