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Guar gum and ginseng extract coatings maintain the quality of sweet cherry

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5 ABSTRACT

6 The present study was carried out to maintain the quality of sweet cherry by
7 using the guar gum (GG) and ginseng extract (GSE) coatings during storage at 20 °C
8 and 70-75% RH for 8 days. Coatings with 0.15% (m/v) GG + 0.1% (m/v) calcium chloride +
9 0.1% (m/v) glycerol + 1% (m/v) GSE presented the best characteristics to uniformly coat
10 sweet cherry surface. Quality (weight loss, decay percentage, firmness), respiration rate,
11 nutrient components (total soluble solids, titratable acid, ascorbic acid, total phenols,
12 anthocyanins) and malondialdehyde evaluations were performed. Coatings with GG-GSE
13 controlled water loss and delayed loss of firmness and of titratable acid, ascorbic acid and
14 total phenols, compared with untreated fruit. Overall, coatings developed in this study extend
15 sweet cherries' shelf life for about 8 days, demonstrating for the first time that the
16 combination of guar gum and ginseng extract as edible coating materials has great potential in
17 expanding the shelf life of fruits.

18 **Keywords:** Guar gum; Ginseng extract; Coatings; Sweet cherry

19 **1. Introduction**

20 Sweet cherry is one of the most popular fruits among consumers because of its good

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