XANTHAN GUM BASED EDIBLE COATING COMBINED WITH OLEIC ACID OR PEPPERMINT ESSENTIAL OIL IN THE PRESERVATION OF STRAWBERRIES (*FRAGARIA ANANASSA*)

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Strawberries are highly perishable fruits, being susceptible to mechanical injury, fungal decay, desiccation and loss of firmness. Edible coatings provide an alternative to help control these postharvest alterations in strawberries. Thus, the objective of this study was to investigate the effectiveness of xanthan gum based coatings, combined with oleic acid or peppermint essential oil, in the preservation of strawberries cv. Festival. Strawberries were selected, washed, sanitized and their calyx removed before coating. Fruits were randomly assigned to one of six xanthan based coating treatments containing glycerol, Tween 80, calcium chloride, oleic acid or peppermint essential oil and a control without coating. Fruits were allowed to dry for 15 hours at 4°C, packed in polyethylene terephthalate trays and stored at 4°C for 12 days. The following quality characteristics were evaluated: weight loss, firmness, color, pH, titratable acidity, total soluble solids, anthocyanin concentration and incidence of decay. All coatings tested were efficient in maintaining fruit quality. The best treatment was xanthan gum and glycerol, since the addition of oleic acid, peppermint essential oil and calcium chloride did not significantly affect the results. Fruits coated with xanthan gum and glycerol had a weight loss of 10.38% after 12 days, while fruits without coating lost 20.99% of their weight in the same period. Xanthan gum coating maintained firmness, color, pH, titratable acidity, soluble solids and anthocyanin concentration and did not stimulate fungal growth. Data revealed that xanthan gum based coating is effective in extending shelf life of refrigerated strawberries cv. Festival. 

**Keywords:** strawberry, xanthan gum, shelf life.