

**Edible coating based on *Caesalpinea pulcherrima* seed endospermic galactomannan for increasing strawberry (*Fragaria anasassa*) shelf life**

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The use of galactomannan coatings is an alternative to increase the shelf life of some food products. These hemicelluloses, corresponding to as much as 40-50% of the seed weight, are used by the seed as energy reserve and defense against water stress. Their structures are characterized by a mannan backbone with 6-O-D-galactose substitution, with confers a high viscosity and gel forming capacity. When a galactomannan aqueous solution, containing glycerol as plasticizer is coated on the surface of the food, a flexible film is formed. These coatings show the ability of modifying the atmosphere, reducing the gas exchange, and in the case of fruits, the respiration rate, thus retarding their senescence. In this study, *Caesalpinea pulcherrima* endospermic galactomannan coatings were applied to strawberry (*Fragaria anasassa*) and the optimization of the shelf life evaluated by the physical appearance, modification of the transpiration rate and loss of weight. The fruits were treated with different galactomannan-glycerol concentration, at room temperature, during 44 h and the results obtained compared to the non treated fruits. The best results were obtained when the fruits were coated with a 0.6 % galactomannan – 1.0 % glycerol blend. The fruits retained the red color and the lost of mass was 29% smaller than in the control (GC  $5.360 \pm 0.3165$ , N=16, and G1  $3.818 \pm 0.3947$ , N=16), with a  $P < 0,05$ . No significant difference was detected in the pH. The coated fruits showed an increase of shelf life of 30%.

Key words: galactomannan, shelf life, strawberry.  
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