TITLE: CONTROL OF FUNGI DETERIORATION IN STRAWBERRIES USING RAW VEGETABLE EXTRACTS, AGAINST *Botrytis cinerea*

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ABSTRACT:

Strawberry is a bright red fruit, succulent and fragrant, obtained from the strawberry plant, being very popular in the world for its sweet flavor and nutritional values. However, are susceptible to degradation by the fungus *Botrytis cinerea* because they have high metabolic activities, moisture content, sugars and acids. This fungus is the main necrotrophic pathogen that damages plant tissues, as it produces phytotoxins and enzymes that degrade the cell wall. *B. cinerea* is genetically variable in resistance to chemicals used for control. Thus, natural compounds can be used as alternative measures to control the fungus, such as plant extracts from barbatimão (*Stryphnodendron adstringens* Beth), sibipiruna (*Poincianella pluviosa)*, guaraná (*Paullinia cupana)* and catuaba (*Trichilia catigua*) plants, as they have antimicrobial activity. The objective of this research was to evaluate the conservation of strawberries with raw vegetable extracts against fungal deterioration. The minimal inhibitory concentration analysis of the crude plant extracts against the fungus *Botrytis cinerea* was done and among the extracts, sibipiruna had the lowest minimum inhibitory concentration (0,0156g.mL^{-1}). Fruits were analyzed on days 0, 3, 6 and 9 for weight loss, soluble solids, titratable acidity and pH variation, obtaining a comparative result between the control and strawberries with the extracts. For the mass loss analysis, a significant difference was verified between the samples treated with extracts and the control sample and the greatest mass loss occurred for the catuaba extract (7.54%) at time 6 and the lowest was for the sibipiruna extract (0.63%) at 3 days. At all times and all extracts there were significant differences over the 9 days, where the samples showed increasing mass loss.The values obtained from the analysis of soluble solids showed that only the control and barbatimão extract had no significant changes. For catuaba and sibipiruna extracts at times zero and 6 days the values were between 6.47°Brix and 9.90°Brix. For the pH, between days 0, 6 and 9 there was no significant difference between the samples, and in all of them the pH values were below 4.0. Regarding titratable acidity, barbatimão had the highest value at time 0 and the lowest value at 9 days, being 1,12g.100g^{-1} and 0,51.100g^{-1}. It can be concluded that the extracts can favor the conservation of strawberries, maintaining its physicochemical characteristics.

Keywords: plant extracts; fungi; food preservation; antifungals

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