

Bioactive properties and potential applications of Aloe vera gel edible coating on fresh and minimally processed fruits and vegetables: a review

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Abstract

Aloe vera gel provides numerous health benefits and is considered as one of the best coating materials, which is edible, safe, and biodegradable. It facilitates a barrier against moisture and gas exchange, conserves the firmness, color, and flavor of the fruits and vegetables. Besides, owing to the antimicrobial and antioxidative properties, Aloe vera coating provides reduced microbial proliferation and improved antioxidant activity of the stored produce. Hence, Aloe vera coating has been used as a noble edible coating for fresh produce. This review aims to highlight the application of Aloe vera gel coating alone or together with other functional compounds in order to extend postharvest shelf life and preservation quality of fresh and minimally processed fruits and vegetables. This study also summarizes relevant biological activities and compositional characteristics of the gel. Some challenges and future aspects of the application of Aloe vera coating have discussed as there is a growing interest in this unique edible coating. This information will help the food processors to identify the most effective Aloe vera coating concentration alone or in combination with other functional ingredients for a variety of fresh and minimally processed fruits and vegetables.