

The effect of edible probiotic coating on quality of fresh fruits and vegetables: fresh strawberries as a case study

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Abstract

Probiotics are beneficial microorganisms and play a health-promoting role in the human body. It is necessary to maintain the viability and have the metabolic activity during the food processing, the whole way to the customer's table and also within the digestive tract. Covering these microorganisms is an important strategy, but the issue of their release at the right time and place has not yet been fully discovered. In the case of using edible films or food coatings, there is no problem of releasing, because the film or coating is consumed with the food. On the other hand, these coatings help increasing the shelf life of delicate foods such as fresh fruits (strawberry) and vegetables. In this review study, first we discuss the strawberry issue and common methods of increasing its shelf life, and then we deal with the issue of using edible films and food coatings as a two-way strategy to increase the shelf life of fresh fruits and vegetables and also probiotic coatings. In the following, the effect of direct addition of probiotics on the quality of fruits and vegetables is studied, and then the effect of probiotics films and edible coatings on fruits and vegetables are reviewed for the first time. Some of these coatings are also known as prebiotics and can be considered from different dimensions. At the end, some questions about using of probiotic in edible coatings are listed to be considered in further researches.