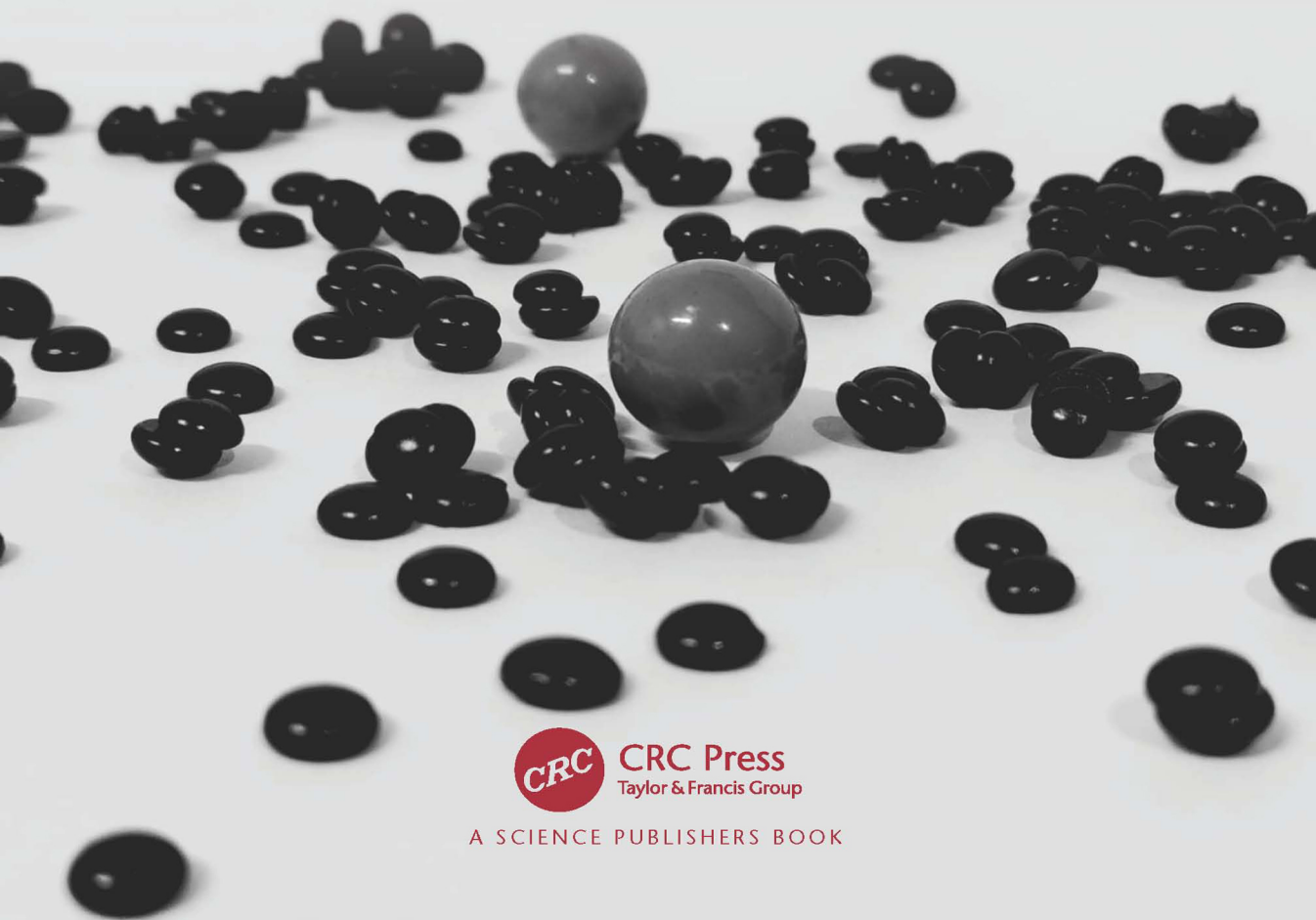


Biodegradable Polymers Concepts and Applications

Editors

Margarita del Rosario Salazar Sánchez,
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Chapter 13

Applications of Biodegradable Polymers in Food Industry

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1. Introduction

Many countries exporting fruits and vegetables, meat and dairy products are exposed to complex stabilization processes of these raw materials at post-harvest and post-production levels, and this, added to the increase in consumer demand for higher quality products and the need to reduce the consumption and disposal of disposable plastic containers, has generated great interest in the development of Edible Films (EF) and Coatings (EC) to satisfy both demands. For this reason, it is necessary to study and apply technologies to obtain antifungal, antibacterial and antioxidant benefits in fruit and vegetable products that present deterioration in their quality attributes as a consequence of their low structural resistance, high water activity, weight loss, susceptibility to attack by microorganisms and short half-life during post-harvest and post-production handling. The design and optimization of bioactive packaging is of vital importance since passive packaging only provides a barrier to the outside, and the increased bacterial activity is reflected on the surface of the food and in many cases, compounds implemented in the control of such biota do not have the efficient activity as a result of the heterogeneity of the constituents in such products. This variant is attractive for the food industry due to the increasing demand for minimally processed foods free of synthetic additives (Chang et al., 2010).

Microorganisms have the ability to generate resistance to products that have been implemented recurrently and therefore could produce a greater risk to the public health of the consumer, for this reason it is essential to make use of bioactive compounds. But their synergy with biopolymeric matrices has not been evaluated, their incidence in the mechanical properties of edible films is not known, if the activity of their compounds decreases due to interactions with hydrocolloids which generate the polymeric structure, or if on the contrary they work synergistically maintaining the

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