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Use of Irradiation, for the Development of Active Edible Coatings, Beads and Packaging to Assure Food Safety and to Prolong the Preservation.

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There is a need to develop active packaging and active edible coating by using natural ingredients. To reduce the pollution problems caused by synthetic and non-biodegradable packaging films, biodegradable packaging materials are encouraged to be developed especially in case of antimicrobial packaging. Also, the consumer demand to replace synthetic antimicrobial by natural compounds is rising. However, natural antimicrobials are not stable and should be encapsulated or immobilized in polymers to preserve their bioactivity and to assure a control release of the active compounds during time. Edible polymers should possess the appropriate barrier and chemical properties and should retain its properties during commercial marketing of foods. Proteins and polysaccharides have been used to develop edible coatings, beads and biodegradable films. However, these polymers are soluble in water and their functional properties should be improved. This presentation will focus on the use of crosslinking and functionalization of polymers by gamma irradiation for the development of active edible coating, beads and packaging and the use of gamma irradiation in combination with these active polymers to assure food safety.

Country/Organization invited to participate

Canada

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