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Abstract

DEVELOPMENT OF PLA FILMS LOADED WITH GRAPE VINE CANE EXTRACT FOR FOOD PACKAGING APPLICATION

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A novel active film material based on poly(lactic acid) (PLA) loaded with antioxidant grape vine cane extract was successfully developed by compression-molding technique. PLA is a biodegradable and renewable polymer, which represents a valuable alternative to plastic packaging films, often associated with environmental problems. The physico-chemical properties of the composite films were investigated and the release of wine extract was confirmed by migration studies in 50% v/v ethanol/water food simulant. In addition, in vitro antifungal activity against *Botrytis cinerea* was investigated. Among all tested concentrations, 15% of extract was the most suitable in terms of mechanical, water vapor barrier and antifungal stability of the PLA film. The obtained results suggest that the material could potentially be used for extending the shelf-life of food products with high fat content.

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