

## **New food packaging material based on modified corn oil**

F. Barrino<sup>1,\*</sup>, C. Dispenza<sup>1</sup>, G. M. Lo Piccolo<sup>2</sup>, J. Sempere-Torregrosa<sup>3</sup>, H. De La Rosa-Ramírez<sup>3</sup> and M. D. Samper<sup>3</sup>

<sup>1</sup>*University of Palermo, Department of Engineerin, Viale delle Scienze, 90128 Palermo, Italy; federico.barrino@unipa.it*

<sup>2</sup>*IDENER, Early Ovington 24 – 8, La Rinconada, Seville, Spain.*

<sup>3</sup>*Universitat Politècnica de València (UPV), Instituto de Tecnología de Materiales (ITM), Plaza Ferrándiz y Carbonell 1, 03801 Alcoy, Alicante, Spain.*

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### **Abstract.**

Sea and environmental pollution due to microplastics are global problems that in recent years have attracted particular interest in the scientific community. The increase in the world population and the consequent consumerism of non-reusable materials are amplifying these problems. In this manuscript, we present novel bioplastics, which are completely biodegradable, for their potential use in food packaging, to replace fossil-fuel-derived plastic films and slow food degradation due to oxidative processes or microbial contamination [1]. The present work analyzes the influence of modified, epoxidized (ECO) and maleinized (MCO) corn oil as a plasticizing and/or compatibilizing agent in the PLA–PHB blend (75% PLA and 25% PHB wt.%) [2]. The low percentages were chosen in order to ensure the mixability and homogeneous distributions of the oil within the PLA.-PHB matrix during processing and in the final films, and to avoid cost increases for the final material compared with the proposed material. The innovative contribution of this manuscript is the use of active films capable of slowing down the deterioration of food in order to avoid the waste of disposable fruit and vegetables. In fact, fruit and vegetables are too often cut and most are thrown away because the consumer is unable to consume it all. For this reason, the materials obtained have the potential to wrap cut and uneaten fruit in order to be able to preserve it and maintain its integrity over time, thereby to preventing it from being thrown away and wasted.

### **References.**

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