

Corona process preserves the bio active properties of biobased packaging films

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The Corana process is a technique based on non-thermal plasma. This low-energy technology is well known in industry for surface functionalisation and is gaining interest in the agro-food sector as a multi-tool for packaging: surface disinfection without harmful chemicals, support for printing processes, increase of adhesion of coatings. In this work, the corona process is studied along a bio-based film designed with bioactive properties using natural phenolic acids. The aim of this work is to understand if corona process is a suitable technology along bioactive food packaging. After plasma treatment of the still wet hydrogels, the functional properties relevant for food packaging (barrier properties against light and gases, antioxidant efficiency of the films, ...) were checked. No significant changes in the polymer matrix were found by applying the corona process onto the films. The bio-based packaging films were not degraded by the plasma. Similarly, the antioxidant properties were not affected when the gels were used as a coating for PLA. Therefore, the corona process can be used alongside bioactive bio-based packaging without affecting the functional properties of the system, allowing it to be used in a production line.

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