

# International Conference and Exhibition on **Biopolymers & Bioplastics**

August 10-12, 2015 San Francisco, USA

## Application of biobased plastics as food packaging material

**Nanou Peelman**  
Ghent University, Belgium

The barrier properties (gas and moisture) of biobased food packaging materials are still an important issue regarding their introduction onto the market. In order to avoid unnecessary (expensive) testing, food companies make the decision to switch to a new (biobased) film mainly based on the oxygen (OTR) and water vapor transmission rate (WVTR) of their current conventional film, which is performing fine. For food products with a need for high barrier packaging material, this mostly means that biobased materials are not an option (or only at very high cost). But are these high barriers necessary to maintain the quality of the product? Storage tests with biobased packaging materials (mainly cellulose- and PLA-based), performed at Ghent University, showed that several biobased materials had sufficient gas and moisture barrier to guarantee the shelf-life of short, medium and long shelf-life food products, even when materials with lower barrier properties were used. The investigated food products were tomatoes, steak, French fries, ham sausage, filet de saxe (a raw cured pork meat product) grated cheese, tortilla chips, rice cakes, dry biscuits and potato flakes. They were all packed under air or modified atmosphere packaging (MAP) in pouches or in trays with a top film and stored at refrigerated or room temperature. The microbial and chemical degradation of the food products was followed up both in the biobased and in the conventional packages. Furthermore, sensory characteristics of the different food products were evaluated and case studies at different food companies were performed.

### Biography

Nanou Peelman holds a Master's Degree in Bio-engineering (Food Science and Nutrition) from Ghent University (Belgium) and is currently working as a PhD researcher at Ghent University. In the framework of her PhD research, she has worked on a 2-year collective research project titled 'Application of bioplastics as food packaging'. Currently she is working on the VIS research traject 'Sustainable and functional food packaging', in which she investigates the temperature resistance of renewable materials. Both projects were requested by Pack4Food, a consortium of Flemish research institutes and more than 60 companies operating in the different sectors involved in food packaging.

[nanou.peelman@ugent.be](mailto:nanou.peelman@ugent.be)

### Notes: