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Application of bioplastics for food packaging

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Food packaging is becoming increasingly important in the food industry, where trends such as convenience and portioning are gaining more attention. However, increased use of synthetic packaging films, due to these trends, has a significant environmental impact in terms of CO₂ emissions and use of non renewable fossil resources. This has led to an increased interest from the food, packaging and distribution industry in the development of plastics derived from renewable resources (bioplastics). Also, recently, research has been done in order to improve the functionality of bioplastics through laminating, coating and blending various bioplastics (multilayered bioplastics).

The goal of this project is to investigate the applicability of these multilayered bioplastics for various food packaging. The focus is on determining the shelf life of different groups of food, ranging from short (e.g. fresh tomatoes) to long stable shelf life (e.g. biscuits), packaged in various types of flexible bioplastics packaging for MAP applications. Prior to the storage tests (WP2), which will be assessed by use of microbiological and chemical parameters, these packages will be tested on permeability, sealability and mechanical resistance (WP1). Printability and migration tests (WP3) and case studies in food companies (WP4) will be provided later on.