

3<sup>rd</sup> International Conference on

# Food & Beverage Packaging

July 16-18, 2018 | Rome, Italy

## Quality of gluten-free cookies wrapped with gluten-free edible films during storage

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Celiac disease is a chronic small intestine disease which occur by autoimmune mechanism and is induced by prolamin proteins that wheat, barley and rye have. The most effective known treatment for celiac disease to date is a gluten-free diet. In gluten-free bakery products, low amount of ingredients that can hold water, lack of gluten in the formulation and use of starch-rich ingredients cause inferior product quality and shelf-life. Edible films and coatings are getting increasing interest and are one of the important topics of food packaging. These biodegradable films can improve quality, shelf-life and safety of products by protecting foods from physical, chemical and biological deteriorations. In this scope, gluten-free films were produced by dry process with a laboratory scale twin-screw microcompounder. In the film formulation, corn starch, gelatin, glycerol and co-plasticizers, Tri-Buthyl Citrate (TBC), Tri-Iso-Decyl Citrate (TIDC) were used. In the shelf-life study, color, water content, texture profile analysis, peroxide value and Differential Scanning Calorimetry (DSC) analysis were done at wrapped gluten-free cookies after 1 hour, 28 days, 56 days and 84 days of storage. Wrapping of gluten-free cookies with gluten-free edible films provided more crisp, less staled cookies compared to unwrapped cookies. Use of edible films improved quality of gluten-free cookies by decreasing weight loss and retarding oxidation during storage.

### Biography

Semin Ozge Ozkoc has completed her PhD from Middle East Technical University. She worked at Biological and Environmental Engineering Department of Cornell University as a guest Researcher during her PhD as a part of NSF-TUBITAK joint project. She worked in a European Union project (EUROFIR, FP 6 project) as a PhD student and as a Reasearcher. She has published more than 15 papers in international and national reputable journals. She has written two book chapters with her colleagues in reputable international publishers.

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