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STUDY OF THE CONTENT OF GLUTEN IN "GLUTEN FREE" FLOUR AND FLOUR PRODUCTS BY USING THE INGEZIM GLUTEN ELISA ASSAY

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Up to now, the sole effective treatment for people having celiac disease (a gastrointestinal disorder caused by the intolerance on gluten proteins) is the total elimination of gluten from diet. To assure and check the quality of the gluten-free food, the kit INGEZIM GLUTEN has been developed as an analytical method for the quantitative determination of gluten in food samples.

The assay is based on the "R5" Monoclonal Antibody, which is specific for proteins from wheat, rye and barley. The Limit of Detection of the assay of 3 ppm (mg/kg) is quite lower than the limits established by the CODEX ALIMENTARIUS. Also it has been endorsed as Type I Method by the "Codex Committee on Methods of Analysis and Sampling".

Therefore, the quantities of gluten have been analysed with the mentioned ELISA method in gluten free flour (n=12) and flour products (n=24), which have the mark of the crossed out spike or the statement "gluten free".

The results have shown that in the numerous tested products there is a certain quantity of gluten present. This is specially the case in gluten free flours, where the determined content of gluten ranges from 22 mg/kg up to even 197 mg/kg. Within gluten free flour products the highest quantities of gluten have been determined in gluten free bread with the range from 21 mg/kg up to 143 mg/kg. Although those quantities are within the legislative categories up to 200 mg/kg (ppm), they can also make people having celiac disease worried.

However, since the people having celiac disease believe that the quantity of gluten present in the gluten free food is 0, based on the research done it is recommended to mark the quantity of gluten present on the declaration. In that way the people having celiac disease might themselves summarize their daily intake depending on their sensitivity level on gluten and their health status. In that respect the marking of the gluten content on the declaration of the products, what is currently not required by the law, could be regulated by the new Regulation on gluten-free food.

Keywords: celiac disease, gluten, R5 Monoclonal Antibody, gluten-free food