



STUDY OF ACRYLAMIDE PRECURSOR'S LEVEL IN POTATO TUBERS CORRELATED WITH ACRYLAMIDE LEVEL IN CRISPS

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ABSTRACT

Potato crisps are a popular snack due to their unique sensory properties and their nutritional value. Wide variations of acrylamide concentration in finished products are caused by different levels of precursors (asparagine and sugars) of acrylamide in the potato's tubers and the conditions of thermal process. The aim of this study was to assess the content of precursors of acrylamide from potatoes tubers, prediction of the amount of acrylamide based on precursors quantity and correlation of predicted values with the acrylamide level from crisps. The principle of the method used to measure reducing sugars and asparagine from potato tubers were based on an enzymatic reaction which is detectable by photometric measurement while the acrylamide level in potato crisps was determined using HPLC system. The relationship between concentration of precursors and acrylamide formation is very important and the prediction of acrylamide level can provide to crisps manufacturer warnings on potatoes batches in which is expected to arise high level of acrylamide concentration, thus allowing to make adjustments in process to mitigate acrylamide formation in potato crisps.
