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Czech J. Food Sci.

**Z. Ciesarová, K.
Kukurová, A.**

**Bednářiková, L.
Marková, S. Baxa:
Improvement of Cereal
Product Safety by
Enzymatic Way of
Acrylamide Mitigation**

Czech J. Food Sci., 27 (2009): S96-S98

Acrylamide as a probably carcinogenic compound is known to be formed in many high thermally treated products with a natural occurrence of amino acid asparagine and reducing sugars as well. Cereal products, especially gingerbreads are extensively affected by acrylamide formation up to 1000 µg/kg and more. This study compares pros and cons of enzyme treatment and a substitution of ammonium raising agent for sodium salt addition in manufactured gingerbreads with respect to their final sensory quality. More than 97% reduction of acrylamide content was achieved by the asparaginase application before baking with no observed detrimental effect on sensory quality of final products. On the other hand, sodium raising agents

efficiently decreased acrylamide content, but with no acceptable impact on colour, texture, softness, delicacy and an expected appearance of gingerbread. For that reason, the application of L-asparaginase enzyme seems to be a perspective way to mitigate acrylamide.

Keywords:

acrylamide; gingerbread; L-asparaginase; raising agent

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