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Czech J. Food Sci.

Hejlová A., Blahovec J.:

Sloughing in potatoes induced by tuber density and affected by variety

Czech J. Food Sci., 26 (2008): 48-57

Two cultivars (Nicola and Saturna) largely distinguishing from each other in cooking behaviour and one cultivar (Agria) grown in six different cultivation regimes were tested by the CPEM (cooked potato effective mass) method for the potato sloughing assessment. The sloughing process is characterised by two cooking and disintegration stages, from which two basic CPEM parameters are derived: cooking time as the starting point of disintegration and the rate of the disintegration. Both parameters are analysed as functions of the tuber density in linear models of both stages. Significant differences in CPEM parameters and in the linear models were observed between different varieties. The data from two-year measurements were in basic agreement with our previous concept of the limited contribution of starch in the first cooking stage and of its

more important role in the second disintegration stage of sloughing. The results indicated a close association between the mechanisms controlling sloughing and the tuber density in the cultivars Agria and Saturna. A different cooking behaviour was observed in the case of the typical salad cultivar Nicola with a considerably lower cooking time sensitivity to the tuber density.

Keywords:
potato; cooking; texture; effective mass; sloughing; disintegration; density

[fulltext]