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## Potato sloughing and instrumental methods for its assessment

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Potato texture involves many attributes which characterize the potato tuber quality and its suitability for various kinds of processing. The phenomenon of “sloughing”, the flaking and disintegration of the outer layers of boiled potato tubers is considered as one of the principal characteristics of potato texture. Potatoes are classified into different cooking types which are included into the potato texture profile. This simple classification is based on the disintegration ability of cooked tubers with a scale given by two opposite descriptors: Salad and sloughed. The CPEM (Cooked Potato Effective Mass) method for potato sloughing assessment was developed as a modification of common CPW (Cooked Potato Weight) tests. The method is based on the continuous determination of the decrease in effective mass of the potato sample during boiling. 100 g of potato flakes, the size of 10×10×1.5 mm are cut off from the inner parenchyma and subsequently boiled and stirred in a sieve under a special time regime, which enables balance data registration. The obtained effective mass data are plotted against time into the cooking curve. The method provides qualitatively new cooking parameters: Cooking Time (CT) as the starting point of disintegration and consequently the disintegration rate, both of which characterize the sloughing degree. The developed method provides a tool to characterize the degree of sloughing for a wide scale of cultivars-from much sloughed ones (CT<6 min) to non-sloughed ones (CT>14 min). Moreover, it enables a precise sloughing analysis in dependence on tuber density.

### Biography

Anna Hejlova majored in Numerical Methods and Algorithms at the Faculty of Mathematics and Physics at Charles University, Prague, in 1986. She worked at the Institute of Computer Science at the Academy of Sciences of the Czech Republic. Now she works as a Senior Lecturer at Czech University of Life Sciences Prague, Department of Mathematics. She completed her PhD in the field of Agricultural Engineering and Technology in 2007. Recently her professional activity has been connected with the study of mechanical properties of materials of biological origin, the results of which have been published in more than 10 papers.

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