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Res. Agr. Eng.

Bártová V., Bárta J.:
Effect of heat
treatment on re-

solubility of potato proteins isolated from industrial potato fruit juice

Res. Agr. Eng., 54 (2008): 170-175

The contribution deals with thermal stability and re-solubility of potato tuber proteins isolated by ethanol precipitation from industrial potato fruit juice. The protein isolate was exposed to the temperatures ranging from 25° C to 70° C. Patatin, the tuber protein with a high nutritious value, was detected by SDS-PAGE in the region of 39– 43 kDa. Patatin was evaluated as thermal sensitive – temperatures above 30° C caused its strong insolubility. Potato protease inhibitors were detected in the region from 4.3 to 24 kDa. Thermal stability of potato protease inhibitors (region from 25 to 14 kDa) was higher, although the temperatures above 45° C caused denaturation and insolubility of most of the protease inhibitors. Extremely thermo-stable was potato carboxypeptidase inhibitor with molecular weight of 4.3 kDa that remained soluble

even after having been exposed to the highest temperatures.

Keywords:

potato proteins thermo-stability; potato fruit water; patatin; protease inhibitors

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