Tuberization and phenotypic tuber characteristics of wild and cultivated *Solanum* genotypes

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Summary

The aim of this study was to test tuberization of wild and cultivated *Solanum* species and evaluate characteristics of tubers according to EVIGEZ (Plant Genetic Resources Documentation in the Czech Republic) descriptors in agro-ecological conditions of the Czech Republic. The two-year research included 28 *Solanum* genotypes, five cultivated species and 23 wild species. Genetic material was provided from potato in vitro gene bank, part of potato research institute, in Havlickeuv Brod. In the end of 2010, in vitro preserved genotypes were brought and assessed in Department of Genetics and Breeding (DGB). The genotypes from test tubes were propagated in the jars 0.1l with standard MS medium (Sigma). Ten plants of each genotype were transferred to the perlite substrate in boxes for adaptation in environmental conditions, than cultivated ex vitro in greenhouse. At the end of May seedlings were planted in experimental field. Field experiment was completely randomized with two replications. Harvest was done manually in the beginning of October. Phenotypic evaluation was done according to EVIGEZ descriptor list for following eleven characteristics: shape, flatness, regularity shape, size, regulatory size, type, eye depth, skin type, skin colour, colour distribution and flesh colour. All tested genotypes created tubers, but tubers differed in size and number. Large phenotype diversity between tubers for particular traits was noticed, and according to similarities were done groups for each characteristic. Numbers of groups depending in characteristics varied from three for tuber colour distribution to seven for tuber shape, other characteristics were grouped between these ranges.

Key words: *Solanum*, genotypes, tuberization, characterization, EVIGEZ