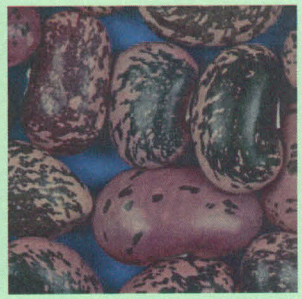
SUSTAINABLE UTILISATION OF PLANT GENETIC RESOURCES FOR AGRICULTURE AND FOOD

BOOK OF ABSTRACTS

International scientific conference
18 – 20 October 2016
Piešťany
Slovak Republic







NATIONAL AGRICULTURAL AND FOOD CENTRE
RESEARCH INSTITUTE OF PLANT PRODUCTION

National Agricultural and Foond Centre - Research Institute of Plant Production

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QUALITY OF SEEDS OF TOMATO ACCESSIONS COLLECTED IN THE FRAMEWORK OF NATIONAL PROGRAMME OF GENETIC RESOURCES CONSERVATION IN POLAND

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Testing of seed quality in genebanks is one of the most time and labour consuming operations. However, it is key operation for proper management of seed collections. Evaluation of germinability and vigour of seeds on the basis of germination *sensu stricto* is relatively fast and easy. Additionally, it is possible to conduct this test manually or by automated image analysis.

Germination of seeds over 900 tomato accessions collected in the framework of National Programme of Genetic Resources Conservation in Poland and stored under conditions of medium-term storage (tightly closed glass jars in a chilling room at a temperature 0°C) was investigated. Dynamics of germination *sensu stricto* was determined by radicle emergence counts. Seeds of 803 accessions (88.8%) germinated in 100%, seeds of 44 accessions (4.9%) had germination still acceptable, it means between 85% and 100%, while seeds of 57 accessions (6.3%) had germinability ranging from 0% to 84%. The mean germination time (MGT) of seeds, with 100% germination varied from 1.62 to 6.96 days. That shows big differences in seed vigour of accessions with the highest germinability. For accessions, which seeds had lowered germination percentage, both, final germination and MGT were dependent on seed age. However, effect of harvest year and origin of seeds was also observed.

Key words: tomato, germplasm, seed, germination, storage

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