Meeting of the

Working Group Seed Science and Certification (GPZ/GPW)
Arbeitsgemeinschaft Saatgut- und Sortenwesen (GPZ/GPW)

&

Section IV Seeds (VDLUFA)
Fachgruppe IV Saatgut (VDLUFA)

Topic of the Scientific Seed Symposium:

"Testing Methods and Research on Seed Quality"
"Prüfungsmethoden und Forschungsansätze zur Saatgutqualität"

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Book of Abstracts

Ulrike Lohwasser & Andreas Börner (eds.)

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Germination of seeds of three vegetable species stored in the genetic collections of the Research Institute of Horticulture (InHort - Skierniewice)

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Germination of the seeds of three vegetable species: lettuce, cucumber and onion stored under conditions of medium-term storage (tightly closed glass jars in a chilling room at a temperature 0°C) was evaluated. Piercing of testa by the radicle was taken as a criterion of germination (germination *sensu stricto*).

The seeds stored from 4 to 37 years (collected in years 1979-2013) shown very big variation in their germination capacity, which varied from 0 to 100% for all species. However, they significantly differed in the mean and median germination capacity, which was respectively: 92.21% and 100% for cucumber, 72.24% and 90% for lettuce and for onion 65,18% and 70%. The seeds of all tested species had also different mean germination time (in days) which was 1.74 for cucumber, 2.73 for lettuce and 3.48 for onion.

The differences in the mean germination time (MGT) of seeds, with high germination capacity (>90%) suggests big variation in seed vigour. For accessions, which seeds had lowered germination percentage, both final germination and MGT were dependent on seed age and harvest years.

Seed quality testing in genebanks is one of the most time and labour consuming operations. However, it is a key process 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.

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