

Plant Science

August 07-09, 2017 | Rome, Italy

Characterization of *Avena* germplasm collection in National Centre for Plant Genetic Resources, Radzików, Poland

Jerzy H. Czembor, Anna Smolarska, Joanna Noceń, Urszula Piechota and Aleksandra Pietrusińska
National Research Institute IHAR-PIB, Poland

Common oat (*Avena sativa* L.) is one of the most important cereal in the world and 7th most important economically. It is used for animal feed, human food, and industry purposes. In collection of *Avena* species in National Centre for Plant Genetic Resources in Radzików are more than 2.521 accessions and there is the biggest in world collection of perennial and winter-hardy *A. macrostachya*. This species is rich source of genetic diversity for breeders and scientists. The use of this very interesting material depends on correct assignment of accessions to species. Supplemented molecular passport data are necessary for these accessions. Minor differences between taxa make very difficult morphological classification of specific plant material. DNA barcoding technique is helping to overcome these difficulties. This taxonomic method uses a short standardized (present in most of the taxa of interest) DNA markers to identify belonging to a particular species. Next Generation Sequencer Illumina provide new capabilities for DNA barcoding of *Avena* genus and . This research was carried out within the framework of Programme "Creating the scientific basis of the biological progress and conservation of plant genetic resources as a source of innovation to support sustainable agriculture and food security of the country" 2015-2020, financed by the Polish Ministry of Agriculture and Rural Development, proj.: 3-1-02-0-08.



www.bankgenow.edu.pl/en/

Biography

Jerzy Henryk Czembor has completed his PhD in 1995, Montana State University, Bozeman, USA; 2012 – professor of agriculture. 2008-2016 Head of Laboratory of Applied Genetics, 2011 – 2016 Head of Department of Plant Breeding and Genetics; 2016 - Head of National Centre of Plant Genetic Resource (Polish GeneBank). Coordinator and partner in several national and international projects. Member of several domestic and international scientific associations. Author of more than 200 scientific papers and communications. Interested in: agricultural sciences, plant pathology, plant genetic resources management, biodiversity, molecular biology, marker-assisted selection (MAS), plant physiology, genetics, plant breeding, integrated pest management (IPM).

j.h.czembor@ihar.edu.pl