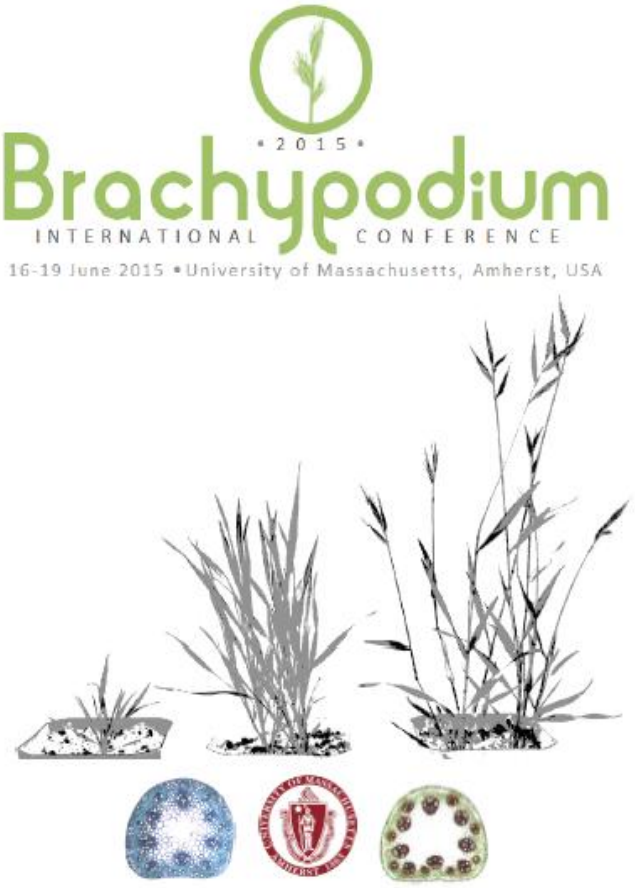

P48

Comparative study of proline and soluble protein in *Brachypodium distachyon* L.

Nargul Omirbekova, Aizhan Zhussupova, Zhazira Zhunusbayeva, Balzhan Askanbayeva

Al-Farabi Kazakh National University, Almaty, Kazakhstan
nariko21@mail.ru

Abstract

Brachypodium distachyon L. (Bd) as model object is studied in Kazakhstan for the first time with the purpose of its further use in breeding and genetic purposes. Bd has small, in comparison with the major food and fodder cereals, genome size that makes it a convenient object for the molecular and genetic analysis, as well as agricultural genetics, including study of the structure of a cellular wall, seeds development and answers to adverse effects of environmental factors. 14 day old seedlings of Bd and two wheat varieties Kazakhstanskaya-19 and Kazakhstanskaya early ripe (drought-resistant, struck by a brown rust up to 40%) served as research material. Bd (Bd-21 line) seeds were kindly provided by the RIKEN BioResource Center in Japan. The Bailey method was used in order to estimate the content of soluble protein in Bd and wheat leaves (mg / ml) at a wavelength of 330 nm. Optical density was measured on Ultrospec 1100 pro "Amersham BioSciences" spectrophotometer at the wavelength of 522 nm. Calibration curve in the range of 0.01 - 0.2 mm of pure Ajinomoto proline was made for estimation of proline content. Comparative study of the quantitative content of soluble protein in leaves of seedlings of Bd and wheat showed that its content in Bd leaves (0.464±0.03 mg/ml) statistically exceeds its content in soft wheat by 40-42%. According to experimental results content of proline in Bd is almost twice lower, than in studied varieties of soft wheat.

Author Index

Antonio Manzaneda
Universidad de Jaén
Jaén
Spain
amavila@ujaen.es

Skylar Mitchell
Danforth Plant Science Center
Saint Louis, MO
USA
smitchell@danforthcenter.org

Todd Mockler
Danforth Plant Science Center
Saint Louis, MO
USA
TMockler@danforthcenter.org

Jenny Olins
University of Massachusetts
Amherst, MA
USA
jrolins@umass.edu

Huiru Peng
China Agricultural University
Beijing
China
penghuiru@cau.edu.cn

Michael Raissig
Stanford University
Stanford, CA
USA
raissig@stanford.edu

Ruben Sancho
Universidad de Zaragoza
Zaragoza
Spain

Long Mao
Chinese Academy of Agricultural Sciences
Beijing
China
maolong@caas.cn

G Robert Mmari
University of Massachusetts
Amherst, MA
USA
gmmari@umass.edu

Kiran Mysore
The Samuel Roberts Noble Foundation
Ardmore, OK
USA
ksmysore@noble.org

Nargul Omirbekova
Al-Farabi Kazakh National University
Almaty
Kazakhstan
nariko21@mail.ru

Jonathan Powell
CSIRO/University of Queensland
Brisbane
Australia
Jonathan.Powell@csiro.au

Pedro Rey
Universidad de Jaén
Jaén
Spain
prey@ujaen.es

Karen Sanguinet
Washington State University
Pullman, WA
USA

Luisa María Martínez Martínez
Universidad de Jaén
Jaén
Spain
lmmartin@ujaen.es

Keiichi Mochida
RIKEN Center for Sustainable Resource Science
Yokohama
Japan
keiichi.mochida@riken.jp

Paul O'Connor
University of Massachusetts
Amherst, MA
USA
proconnor@umass.edu

Nicola Pecchioni
Cereal Research Centre
Foggia
Italy
nicola.pecchioni@entecra.it

Jill Preston
University of Vermont
Burlington, VT
USA
Jill.Preston@uvm.edu

Sandra Romero-Gamboa
University of Massachusetts
Amherst, MA
USA
sromerog@cns.umass.edu

Tadamasa Sasaki
RIKEN Center for Sustainable Resource Science
Yokohama