



Call for Abstract

The Slovak University of Agriculture in Nitra, Faculty of Agrobiological Sciences in collaboration with the M.M. Gryshko National Botanical Garden of the National Academy of Sciences of Ukraine kindly invite you to submit an abstract for oral/poster presentation for the conference “*AGROBIODIVERSITY FOR IMPROVE THE NUTRITION, HEALTH AND QUALITY OF HUMAN AND BEES LIFE*”.

The Conferences topics / sessions are as followed:

1. *Evaluation, reproduction and sustainable use of introduced plants*
2. *Forgotten and underutilized species of plants*
3. *Recovery and use of local and old cultivars*
4. *Traditional technologies of agrosystems*
5. *Food quality and safety*
6. *Economic evaluation of genetic resources for food production*
7. *Socio-economic aspects of organic agriculture and agro-biodiversity*
8. *High-productivity plants for bees*
9. *Quality of bee products*
10. *Bee pollen and perga*

Instructions for preparation of abstracts

- ✓ Abstracts must be written in English.
- ✓ Abstracts should contain the aim, material and methods, main results and a brief conclusion. The authors are advised not to make them too short or general (3000–3500 characters, including spaces).
- ✓ 3–5 keywords should be included, separated by commas.
- ✓ The Acknowledgments to the people, grants, funds, etc. should be brief.

Instructions for poster presentation

- ✓ Poster dimensions: 70 (width) x 100 (height) cm.
- ✓ The board must be oriented in the upright position.
- ✓ Title, name, and department should be positioned at top-centre of the poster.
- ✓ Lettering for the title should be large (at least 70-point font). Use all capital letters for the title.
- ✓ Text should be readable from 2 meters away. Use a minimum font size of 18 points.
- ✓ Poster should include the name and logo of the conference.

Abstracts not corresponding to the recommended format or the topics of the conference will not be accepted.

A book of abstracts will be available at the opening of the Conference.

Abstracts should be sent by E-mail to managing editor at agrobiodiversity2016@gmail.com

Requirements for the abstract template you can see below.

VARIATION OF FRUITS MORPHOMETRIC PARAMETERS OF *DIOSPYROS LOTUS* L. GERMPLASM COLLECTION (Cambria, 12 pt, Capitals (special characters can be normal), Bold)

Olga Grygorieva¹, Yulia Vinogradova², Jana Šimková³ (Cambria, 12 pt, Bold)

¹M.M. Gryshko National Botanical Garden of the National Academy of Sciences of Ukraine
Kyiv, Ukraine; E-mail.: olgrygorieva@gmail.com

²N.V. Tsitsin Main Botanical Garden of Russian Academy of Sciences, Botanicheskaya, Moscow,
Russian Federation

³Institute of Biological Conservation and Biosafety, Slovak University of Agriculture in Nitra,
Slovakia (Cambria, 11 pt, Normal)

Collection, identification, classification, and evaluation of genetic resources have great importance in terms of using different genotypes. The aim of this study was to determine the variability of some morphometric characters of fruit and seeds within an introduced population of *Diospyros lotus* L. (date plum). The results obtained will help us to select the most promising samples for further breeding work.

The objects under studying are fruits and seeds of *Diospyros lotus* growing into Arboretum Mlynany from the seeds acquired in 1970 from Korea, China and Japan. There were 35 genotypes tested in an experimental study in 2016–2017. Pomological characteristics were made on a total of 30 fruits per genotypes. In the study only one plant (tree) used for per genotype. The following measurements were taken: fruit weight, in g, fruit length, in mm, fruit width, in mm and seed weight, in g, seed length, in mm, seed width, in mm, seed thickness, in mm, number of seeds in the fruit.

The differences in weight, shape, size, and color of fruits and seeds were noted. Outer integument may be light yellow, dark yellow or brown in the stage of fruit's formation. Mature fruits are blue-black or dark brown with white or a grey wax coating, which is especially noticeable when the fruit is dried. Fruits can be divided according to the color of the inner flesh into the forms with light and dark pulp. The morphometric parameters were following: fruit weight from 0.24 to 7.74 g, fruit length from 9.62 to 22.07 mm, fruit diameter from 9.80 to 23.64 mm, seed weight from 0.09 to 1.71 g, seed length from 6.89 to 16.18 mm, seed width from 3.40 to 9.94 mm, seed thickness from 1.93 to 5.08 mm and number of seeds in the fruit from 0 to 9. The shape indexes of fruits and seeds varied from 0.75 to 1.28 and from 1.32 to 2.40, respectively. The analysis of coefficient of variation showed the difference of variability of morphological signs between *Diospyros lotus* samples. Data showed that the most variability of important selection signs are the number of seeds in fruit from 16.98 to 82.35 %, seed weight from 9.11 to 57.61 % and fruit weight from 8.59 to 32.17 %. The results indicated very high correlations between fruit weight and fruit diameter ($r = 0.952$). High correlations observed between fruit height and seed height ($r = 0.870$), seed width and fruit diameter ($r = 0.782$) and fruit weight ($r = 0.764$). The presence of three groups of genotypes was revealed. The characteristics inheriting for each group were described in detail.

The results demonstrate the presence of a broad reaction norm within the introductory population of *Diospyros lotus*. Two individuals have the largest fruits (size and weight) and may be used in further breeding work as edible cultivars. Five individuals have the biggest seed number in the fruit and may be used in further selection work as the rootstock for *Diospyros kaki* L. (Cambria, 12 pt, Normal, Left-to-Right)

Keywords: *Diospyros lotus*, fruits, morphometric parameters. (Cambria, 11 pt, Normal, Left-to-Right)

Acknowledgments

This work was supported by the Operational Programme Research and Development of the European Regional Development Fund. (Cambria, 11 pt, Normal, Left-to-Right)