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FOREWORD

Addressing the intertwined challenge of meeting rising food demand and conserving ecosystems in a changing climate will not be easy. Agriculture is thus at a crossroads; it has to find ways to feed the world while being environmentally, socially and economically sustainable. Conventional intensive and industrial agriculture (including crop production and animal husbandry) allowed increasing food production but at a high environmental cost. In this context, sustainable agriculture and forestry practices aim to reduce environmental harm while conserving natural capital and preserving biodiversity. Organic agriculture promotes a holistic approach to plant and animal production. Sustainable agriculture is also crucial for fostering vibrant rural economies.

The International Scientific Agriculture Symposium AGROSYM has become an annual platform for international scientific discussion on agriculture, forestry, food, rural development and environment. AGROSYM represents, indeed, a good opportunity to exchange ideas, to develop academic and professional networks, and to foster dialogue between the academia, public institutions, the private sector and civil society organizations on the recent global and regional trends affecting the agro-food sector.

AGROSYM themes cover all branches of agriculture and are divided into seven sessions: 1) Plant production, 2) Plant protection and food safety, 3) Organic agriculture, 4) Environmental protection and natural resources management, 5) Animal husbandry, 6) Rural development and agro-economy, and 7) Forestry and agroforestry.

In your hands is the Book of Abstracts of AGROSYM 2016, which I hope you will find useful in your work and endeavors. This year's edition of Agrosym received 1103 contributions from 77 countries. The present Book includes abstracts of all accepted contributions; around 240 contributions have been accepted for oral and all other for poster presentations. Positively reviewed full papers of the submitted contributions will be included in the Proceedings of the symposium and published on the official website (http://www.agrosym.rs.ba/index.php/en/). A selection of papers will be published in International Journal "AgroFor" and International journal "Agriculture and Forestry".

I hope that the multidisciplinary contributions reported in this Book of Abstracts will contribute to the dissemination of knowledge and good practices to all actors of the agro-food chain (*e.g.* farmers, extension agents, researchers, policy makers) as well as the general public in Bosnia and Herzegovina, Balkans, Europe and worldwide. I hope also that AGROSYM 2016 will enable better collaboration of scientists, researchers and professionals from Balkan countries and abroad to address jointly pressing challenges.

AGROSYM 2016 has been made possible through the commitment and contributions of a wide range of partners and sponsors. Many thanks to authors, reviewers and all colleagues for their valuable help and unconditional devotion. Special thanks go also to all co-organizers, partners and sponsors for their kind collaboration and support.

East Sarajevo, 3 October 2016
Dušan Kovačević, PhD, Faculty of Agriculture, University of Belgrade
President of the Scientific Committee, AGROSYM 2016



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POLYPLOIDYBREEDING IN TEA (*Camellia sinensis* (L.) O. Kuntze)

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Abstract

Plant breeding plays an important role in terms of improvement of desired agricultural properties or regaining some traits of plants. In development of new cultivars are used in different breeding techniques. One of the methods used in plant breeding is a polyploidy breeding. Most of the plants in nature have become polyploidy spontaneously in the process of evolution. Breeders have placed great importance to polyploidy breeding due to the fact that polyploid plants showed some superior properties compared to the diploids. In polyploid plants, due to the increase in the number of genes, genetic variations have been increased and emerged new combinations. These combinations are called triploid, tetraploid,pentaploid etc.

Tea (*Camellia sinensis* (L.) O. Kuntze) from medicinal and aromatic plants is one of the most important crops in the world, which generally produced to be evaluated as a drink. It contains catechins and caffeine which are valuable components pharmacologically. These components show variation depending on genetic and environmental conditions. It is possible to develop, by polyploidy breeding, new cultivars of *Camellia* rich in these components. In this review, that polyploidy breeding of tea and developed polyploid cultivars

Keywords: *Polyploidy, tea, Camellia sinensis, cultivar*