

**Faculty of Agriculture
Goce Delcev University - Stip**



**1st INTERNATIONAL MEETING
AGRISCIENCE & PRACTICE (ASP 2018)**

BOOK OF ABSTRACTS

**10th - 11th May 2018
Stip, Republic of Macedonia**

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**1st INTERNATIONAL MEETING AGRISCIENCE & PRACTICE
ASP 2018**

Organized by

**FACULTY OF AGRICULTURE
GOCE DELCEV UNIVERSITY - STIP, REPUBLIC OF MACEDONIA
10-11 May 2018, Stip, Republic of Macedonia**

In the past ten years the educational, research and applicative activities of the Faculty of Agriculture – Stip, Goce Delcev University – Stip, contributed to the development of agriculture sector in the country and broader region.

The Faculty of Agriculture organizes the 1st International Meeting Agriscience & Practice (ASP 2018), giving an opportunity to the participants for presentation and discussion of original scientific and practical results in different fields of agriculture.

The 1st International Meeting Agriscience & Practice (ASP 2018) is organized with intention to bring together all agricultural stakeholders for sharing their knowledge, experience and obstacles. One of the main aims is to link research and field work in agricultural sector in the country and broader, giving it an international dimension.

The main goal of the Meeting is to connect and promote scientific achievements and practical knowledge presented in different thematic areas.

We are pleased to welcome you at the Faculty of Agriculture and we wish you active participation in the Meeting.

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BOOK OF ABSTRACTS
SECTION: PLANT BIOTECHNOLOGY

CURRENT APPLICATION OF ANTHR CULTURE AS A TOOL FOR IMPROVEMENT OF HORTICULTURAL CROPS Marija Pockovska¹, Fidanka Trajkova^{1*}, Liljana Koleva Gudeva¹

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Abstract

Anther culture is one of the plant biotechnology tools utilized for creation of haploid and spontaneous dihaploid plants from different horticultural crops. Androgenesis can be defined as a set of biological processes leading to an individual that genetically originated exclusively from anther microspores that represent the mail genotype. The main objective of *in vitro* anther culture is to obtain dihaploid homozygous lines with high practical value for breeders, but research in this area also have theoretical importance for fundamental biological sciences. After spontaneous, or induced genome doubling, dihaploids that are completely homozygous can be utilized differently in fundamental and practical research programmes. From the standpoint of plant breeding, androgenesis has a power to reduce the typical 7–9 inbreeding generations necessary to stabilize a hybrid genotype to only one. It is the key advantage of dihaploid technology in the context of plant breeding. Since pepper, tomato and eggplant are one of the most important Solanaceae crops worldwide, the improvement of their diversity is possible by engagement of the methods of classical breeding, but also by plant biotechnology which can advance the breeding process. During the past years, *in vitro* anther culture research of numerous horticultural crops is extended although its successful application depends on different factors. Hence, *in vitro* anther culture is one of the biotechnological tools which is often exploited in different solanaceous and other horticultural species pre-breeding programmes.

Key words: anther culture, androgenesis, solanaceous crops, haploids, dihaploids, breeding