

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



**2nd INTERNATIONAL MEETING
AGRISCIENCE & PRACTICE
(ASP 2019)**

BOOK OF ABSTRACTS

**12th April 2019
Stip, Republic of North Macedonia**

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**2nd INTERNATIONAL MEETING AGRISCIENCE & PRACTICE
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**FACULTY OF AGRICULTURE
GOCE DELCEV UNIVERSITY - STIP, REPUBLIC OF NORTH MACEDONIA
12 April 2019, Stip, Republic of North Macedonia**

In the past twelve years the educational, research and applicative activities of the Faculty of Agriculture – Stip, Goce Delcev University – Stip, contributed to the development of agricultural sector in the country and abroad.

The Faculty of Agriculture organizes the 2nd International Meeting Agriscience & Practice (ASP 2019), giving an opportunity to the participants for presentation and discussion of original scientific and practical results in different fields of agriculture.

The 2nd International Meeting Agriscience & Practice (ASP 2019) 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 abroad, 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.

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SPECTROPHOTOMETRIC DETERMINATION OF THE CONTENT OF PHOTOSYNTHETIC PIGMENTS IN SOME DECORATIVE SPECIES GROWN IN *IN VITRO* AND *IN VIVO* CONDITIONS Ivana Velesanova^{1*}, Fidanka Trajkova¹, Liljana Koleva Gudeva¹

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Abstract

The photosynthetic activity of species ageratum *Ageratum* sp., decorative cabbage *Brassica oleracea* cv. Kyoto red given and carnation *Dianthus* sp. was determined by examining of the content of chlorophyll a, chlorophyll b, chlorophyll a+b and carotenoids. The content of photosynthetic pigments from in vivo conditions was determined in the sprouting and flowering phenophase. The pigments from in vitro conditions were examined in shoot culture, obtained from meristemtic explants, after 30 and 60 days of initial explants placement on MS medium. Extraction of photosynthetic pigments was performed with 96% C₂H₅OH. Absorbance was determined on UV/VIS spectrophotometer JANWAY 6305 for chlorophyll at 665 nm, chlorophyll b at 649 nm and carotenoids at a wavelength of 470 nm. The content of photosynthetic pigments is lower in in vitro conditions. Generally, in in vivo conditions, the value of photosynthetic pigments is higher at the sprouting phenophase. The average content of chlorophyll a showed that carnations from in vitro conditions had higher value as compared to carnations from in vivo conditions, as an exception from the rule. The flowering of carnation in in vitro conditions was a proof that the photosynthetic activities began earlier in this culture, even in in vitro conditions. The content of chlorophyll b in carnation in in vitro conditions was almost the same as in in vivo conditions. The content of carotenoids in ageratum in in vivo conditions was much higher as compared to the in vitro conditions.

Key words: chlorophyll a, chlorophyll b, chlorophyll a+b, carotenoids, shoot culture