

P-24-T1**MICROPROPAGATION OF DIFFERENT AROMATIC PLANTS****Koleva Gudeva L., Iljovska Tushev J., Trajkova F.***Faculty of Agriculture, Goce Delcev University – Stip, Goce Delcev Str., No. 89, 2000 Stip, Republic of Macedonia***Keywords:** *In vitro*, micropropagation, phytohormones, aromatic plants.

Aromatic plants have been used for centuries as species, natural flavor, raw material for essential-oil industry and other purposes. Micropropagation has advantage over conventional propagation because of high multiplication rate, but it depends on the performance of the starting material, media composition, phytohormones and environmental factors.

In this study, aromatic plants as peppermint (*Menta piperita* L.) and *Menta sp.*, rosemary (*Rosmarinus sp.*), rocket (*Eruca sativa* Mill.), coriander (*Coriandrum sativum* L.) and oregano (*Origanum vulgare* L.) were tested in different media in *in vitro* conditions. Commercially available seeds were used as starting material for the species rosemary, rocket, coriander and oregano. Apical and axillary buds were used as starting material for micropropagation of the peppermint and *Menta sp.*

The starting materials of the studied aromatic plants species were micropropagated either on MS media or on the modified MS media with the phytohormones application using different concentrations. Specific results in proliferation, callus and shoots formation were obtained in dependence on type of initial explants and growth media.

Presenting author: jasmina.iljovska@gmail.com**P-25-T1****ASSESSMENT OF FRUIT MORPHOLOGICAL CHARACTERISTICS FROM ANDROGENIC PEPPER LINES DERIVED FROM SWEET PEPPER (*CAPISCUM ANNUUM* L. CV. FEHEROZON)****Trajkova F., Koleva Gudeva L.***Faculty of Agriculture, Goce Delcev University – Stip, Goce Delcev Str., No. 89, 2000 Stip, Republic of Macedonia***Keywords:** Pepper, androgenic lines, fruit morphology.

This research was carried out for characterization and evaluation of the agronomic potentials of pepper androgenic lines F5, F6 and F7 obtained from the pepper variety Feherozon. For this purpose, the most significant morphological and productivity fruit traits were investigated and compared to the parental genotypes used for their induction in *in vitro* conditions via the method of androgenesis. The analysis of fruit traits validates that the androgenic lines, as compared to their parental genotypes, differ in various fruit morphological traits. This research determines the significance and feasibility of obtaining pepper androgenic lines, as new genetic resources for improvement of the autochthonous agrobiodiversity and opens possibilities for their further utilization for molecular, genetic and breeding research works.

Presenting author: fidanka.trajkova@ugd.edu.mk**P-26-T1****BIOLOGICAL CHARACTERISTICS OF DIFFERENT ANDROGENIC PEPPER LINES (*CAPISCUM ANNUUM* L.)****Trajkova F., Koleva Gudeva L.***Faculty of Agriculture, Goce Delcev University – Stip, Goce Delcev Str., No. 89, 2000 Stip, Republic of Macedonia***Keywords:** Pepper, androgenic lines, germination, flowering, vegetation period, earliness.

The biology of pepper growth and development is strongly dependent on complex influence of environmental abiotic factors as light, temperature, air humidity and soil moisture. The occurrence and the duration of different pepper phenophases are specific to a variety and depend on the development in specific agroecological conditions. In this study the vegetation period as earliness indicator of seven androgenic pepper lines derived from three different sweet pepper varieties was compared in four-year-experiment under greenhouse conditions. The studied androgenic pepper lines KK1 and KK2

were derived via androgenesis from the sweet pepper variety Kurtovska kapija, P3 and P4 from the variety Piran and F5, F6 and F7 derived from the variety Feherozon. The length of the vegetation period of the seven androgenic lines was compared to the vegetation period of their parental genotypes, respectively. Based on estimated length of vegetation period the androgenic lines were divided into early ripening and late ripening ones.

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P-27-T1

CHANGES IN ISOENZYME PROFILE OF ANTIOXIDANT ENZYMES IN MESOPHILIC AND ANTARCTIC ISOLATE OF *CHLORELLA VULGARIS* AFTER OXIDATIVE STRESS. ALGICIDE AND BACTERICIDE EFFECT OF THE PREPARATION SANOSIL

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Keywords: Antioxidant enzymes, green alga, sanosil.

Algistatic, algicide and bactericide effect of the preparation Sanosil was established. The changes in isoenzyme profiles of superoxide dismutase (SOD), catalase (CA) and peroxidase (PO) in Antarctic and mesophilic isolates of *Chlorella vulgaris* as a result of oxidative stress were investigated. They were provoked by the strong oxidant Sanosil which accumulate H₂O₂ in the nutrient medium. The rise of Sanosil concentration was corresponded with the increase of activity and isoenzyme number in both *Chlorella vulgaris* strains. The PO activity was relatively stable when the Sanosil concentration was low (0,03%). The treatment with high Sanosil concentration (0,8%) lead to a great decrease in isoenzymes activity. In the mesophilic isolate highest algicide concentration provoked PO activity restoration. The SOD activity decreased after treatment with higher Sanosil concentration in both *Chlorella vulgaris* isolates and the effect was stronger in average and fast mobile isoenzymes. The isoenzymes profile in the mesophilic isolate after treatment with 0,8% Sanosil was similar to the Antarctic isolate after treatment with 0,5% Sanosil.

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P-28-T1

DIALLEL ANALYSIS FOR FIBER QUALITY PROPERTIES OF COTTON (*GOSSYPIMUM HIRSUTUM* L.)

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Keywords: Combining ability, fineness, length, *Gossypium hirsutum* L., strength.

The growing demand for fiber quality in world cotton markets increases the importance of fiber quality traits in cotton breeding programs. In this study, 6 cotton (*Gossypium hirsutum* L.) genotypes (VD-4, PAUM-15, Cukurova 1518, VD-18, Stoneville 468 and Nazilli 84S) were selected as parents and crossed in all possible combinations according to the half-diallel mating design. Parents and 15 F₁ crosses were planted in a randomized complete block design with three replications at the experimental field of Cukurova University, Cotton Research and Application Center Adana/Turkey during the years 2008 - 2009.

Genotypes (parents and 15 F₁ crosses) were used to estimate general combining ability (GCA) and specific combining ability (SCA) for fiber length (FL), strength (FS), fineness (FF) and spinning consistency index (SCI). Analysis of variance revealed significant differences among the genotypes for all the inspected traits. Combining ability results indicated that GCA was significant for FL and SCI at P ≤ 0.01 while for FS and FF - at P ≤ 0.05. But SCA were insignificant for the all inspected traits. Components of variance showed that the GCA variance was higher than the SCA variance for the all inspected traits. These results demonstrated the predominance of additive gene effects for all the observed traits. The parental genotypes VD-18 for FL, PAUM-15 for FS, Nazilli 84S for FF and VD-4 for SCI appeared to be best general combiners. The crosses Cukurova 1518 x Nazilli 84S for FL, VD-4 x Cukurova 1518 for FS, Cukurova 1518 x Nazilli 84S for FF and VD-18 x Stoneville 468 for SCI were