MINISTERUL EDUCAȚIEI NAȚIONALE
MINISTERUL CERCETĂRII ŞI INOVĂRII

UNIVERSITATEA DE ŞTIINȚE AGRICOLE ŞI MEDICINĂ VETERINARĂ „ION IONESCU DE LA BRAD” DIN IAŞI

FACULTATEA DE HORTICULTURĂ

CONGRESUL ŞTIINȚIFIC CU PARTICIPARE INTERNAȚIONALĂ

PROGRAM

SECȚIUNEA
HORTICULTURĂ ŞI INGINERIA MEDIULUI
“HORTICULTURA – ŞTIINȚĂ, CALITATE, DIVERSITATE ŞI ARMONIE”

19-20 OCTOMBRIE 2017
IAŞI

MINISTRY OF NATIONAL EDUCATION
MINISTRY OF RESEARCH AND INNOVATION

UNIVERSITY OF AGRICULTURAL SCIENCES AND VETERINARY MEDICINE "ION IONESCU DE LA BRAD" FROM IAŞI

FACULTY OF HORTICULTURE

INTERNATIONAL SCIENTIFIC CONGRESS

PROGRAMME

SECTION
HORTICULTURE AND ENVIRONMENT ENGINEERING
"HORTICULTURE - SCIENCE, QUALITY, DIVERSITY AND HARMONY"

19-20 OCTOBER 2017
IAŞI, ROMANIA

SPONSORI

Ministerul Cercetării şi Inovării - cofinanțator

Societatea Română a Horticultorilor

Stațiunea Didactică şi Experimentală „V. Adamachi” Iaşi

Stațiunea de Cercetare-Dezvoltare pentru Pomicultură Iaşi

Stațiunea de Cercetare-Dezvoltare pentru Viticultură şi Vinificație Iaşi

S.C. IAS LAND SRL Iaşi

PROGRAMUL CONGRESULUI

- **JOI, 19 OCTOMBRIE 2017**

08^{30} - 10^{00} - Primirea şi înregistrarea participanților - Aula Magna "Haralamb Vasiliu"

10^{00} - 10^{30} - Deschiderea festivă a congresului - Aula Magna "Haralamb Vasiliu"

10^{30} – 12^{30} - Lucrări în plen - Aula Magna "Haralamb Vasiliu":

- **Frisch Matthias** (Justus Liebig University, Giessen, Germania) - *Is gene expression based prediction of maize hybrid performance superior to DNA marker based prediction*?
- **Sellitto Michele Vincenzo[1], Caruso Gianluca[2], Stoleru Vasile[3], Palumbo Giuseppe[4]** ([1]Microspore Ltd, Larino, Termoli, Italia; [2]Department of Agricultural Sciences, University of Naples Federico II, Italia; [3]University of Agricultural Sciences and Veterinary Medicine of Iaşi, Romania, [4]Molise University, Italia) – *Microorganisms, challenge about future agriculture - New Tools For Crop Improvement*
- **Szenci Ottó** (University of Veterinary Medicine Budapesta, Ungaria) - *Importance of monitoring calving to decrease stillbirth rate in Holstein-Friesian dairy farms*
- **Ulgen Ayca** (Bio-Rad Laboratories, Dubai) - *Illumina & Bio-Rad Single-Cell Sequencing Solution*

12^{30} – 13^{45} - Masa de prânz (laborator Viticultură, etajul II)

13^{45} – 14^{30} - Deschiderea simpozionului Facultății de Horticultură (amfiteatrul A6, etajul II)

14^{30} - 18^{00} - Prezentarea lucrărilor pe secțiuni

19^{30} - Masă festivă în onoarea invitaților (restaurantul „LA CASTEL")

- **VINERI, 20 OCTOMBRIE 2017**

8^{30} – 12^{30} - Prezentarea lucrărilor pe secțiuni

10^{00} – 12^{30} Workshop: *Utilizarea microorganismelor în agricultura sustenabilă, Centru de cercetări pentru agricultura sustenabilă* – Facultatea de Horticultură (laborator Legumicultură, etaj II)

12^{30} - 14^{00} - Pauză de masă

14^{00} - 15^{00} - Vizită în laboratoarele de cercetare ale facultății

14^{00} - 16^{00} - Expoziție de aranjamente florale (foaier Aula Magna "Haralamb Vasiliu")

15^{00} - 16^{00} - Demonstrație de artă florală (Andreea Stör şi FloristiqArt în colaborare cu Facultatea de Horticultură) - Aula Magna "Haralamb Vasiliu"

16^{00} - 17^{00} - Concluzii. Închiderea lucrărilor congresului

CONGRESS PROGRAMME

- **THURSDAY, OCTOBER 19TH, 2017**

08^{30} – 10^{00} - Registration of participants and guests - Aula Magna "Haralamb Vasiliu"

10^{00} – 10^{30} - Opening ceremony - Aula Magna "Haralamb Vasiliu"

10^{30} – 12^{30} – Plenary Session - Aula Magna "Haralamb Vasiliu":

- **Matthias FRISCH** (Justus Liebig University, Giessen, Germany) - *Is gene expression based prediction of maize hybrid performance superior to DNA marker based prediction*?
- **Sellitto Michele Vincenzo[1], Caruso Gianluca[2], Stoleru Vasile[3], Palumbo Giuseppe[4]** ([1]Microspore Ltd, Larino, Termoli, Italy; [2]Department of Agricultural Sciences, University of Naples Federico II, Italy; [3]University of Agricultural Sciences and Veterinary Medicine of Iaşi, Romania, [4]Molise University, Italy) – *Microorganisms, challenge about future agriculture - New Tools For Crop Improvement*
- **Ottó SZENCI** (University of Veterinary Medicine Budapesta, Hungary) - *Importance of monitoring calving to decrease stillbirth rate in Holstein-Friesian dairy farms*
- **Ayca ULGEN** (Bio-Rad Laboratories, Dubai) - *Illumina & Bio-Rad Single-Cell Sequencing Solution*"

12^{30} – 13^{45}- Lunch (Viticulture laboratory, 2nd floor)

13^{45} – 14^{30} - Opening ceremony - Symposium of Faculty of Horticulture (A6 lecture room, 2nd floor)

14^{30} – 18^{00} - Paper sessions

19^{30} - Gala Dinner ("LA CASTEL" restaurant)

- **FRIDAY, OCTOBER 20TH, 2017**

8^{30} – 12^{30} – Paper sessions

10^{00} – 12^{30} Workshop: *Utilization of microorganisms in sustainable agriculture, Research center for sustainable agriculture* – Faculty of Horticulture (Vegetable growing laboratory, 2nd floor)

12^{30} – 14^{00} - Lunch break

14^{00} – 15^{00} - Visit to the faculty research laboratories

14^{00} - 16^{00} – Exhibtion of floral arangements (Aula Magna "Haralamb Vasiliu" lobby)

15^{00} - 16^{00} – Demonstration of floral art (Andreea Stör and FloristiqArt in collaboration with Facultatya of Horticulture) - Aula Magna "Haralamb Vasiliu"

16^{00} – 17^{00} - Conclusions. Closing ceremony of the Congress

1st SECTION

FUNDAMENTAL RESEARCH IN AGRICULTURE AND HORTICULTURE

BIOCHEMISTRY, CHEMISTRY, PHYSICS, BIOPHYSICS, MATHEMATICS, COMPUTER SCIENCE, BOTANY, VEGETAL PHYSIOLOGY, GENETICS, PLANT BREEDING

Ornamental Arboriculture Laboratory, second floor

Chairmen:
Prof. dr. Marcel Vasile **DANCI**
Prof. dr. Carmen Doina **JITĂREANU**
Prof. dr**.** Lucia Carmen **TRINCĂ**

Secretariat:
Asist. dr. Ana **CAZACU**
Asist. dr. Emilian **BULGARIU**

Timp de prezentare: **5-7 minute**

ORAL PRESENTATIONS

Trincă Lucia[1], Trofin Alina[1], Ariton Mirela Adina[2], Yokus Beran[3], Călin Marius[1], Chiruță Ciprian[1] ([1]University of Agricultural Sciences and Veterinary Medicine of Iaşi, Romania; [2]Development and Research Station for Cattle Dancu Iaşi, Romania; [3] Dicle University, Dicle, Turkey)

EFFECT OF LACTIC ACID FROM FERMENTED WHEAT BRAN ON LIPIDS METABOLISM OF RATS FED A CHOLESTEROL ENRICHED DIET
EFECTUL ACIDULUI LACTIC OBȚINUT DIN TĂRÂȚE DE GRÂU FERMENTATĂ ASUPRA METABOLISMULUI LIPIDIC LA ŞOBOLANII WISTAR SUPUŞI UNEI DIETE HIPERCOLESTEROLICE

The goal of the present work was the evaluation of the effect of lactic acid from fermented wheat bran supplement in an experiment on rats fed on three different diets: standard diet to the M lot (control), atherogenic diet to the L_1 lot and, lactic acid from naturraly fermented wheat bran-supplemented atherogenic diet to the L_2 lot. Biochemical investigations of the seric cholesterol (Ch), HDL-cholesterol (HDL-Ch), free fatty acids (FFA), triacilglycerols (TG), phospholipids (PhL) and total lipids (TL) showed significantly increased values in subjects of the L_1 lot as compared to those of the L_2 lot and to those of the control. Thus, subjects of the L_1 lot showed significantly higher ($p<0,001$) seric levels of T-Ch, FFA, PhL, TG, and TL compared to the control (39.8%, 48.3 %, 9.6%, 57.3% and 62.6%) associated with a significantly lower of the antiatherogenic fraction, that is HDL-Ch (46,1 % lower as compared to the control). Subjects in the L_2 lot showed significantly higher ($p<0.001$) seric levels of Ch, FFA, PhL, TG and TL compared to the control (23.4%, 22.4 %, 5.9%, 39.8% and 42.9% respectively) associated with a somewhat smaller decrease (27.6 % lower as compared to M lot) of the antiatheromatous HDL-Ch fraction, though statistically significant ($p<0.01$).The experimental results proved that lactic acid from fermented wheat bran supplement minimised the lipid metabolism unbalance during the atheromatous process in rats by hypolipidemic, hypocholesterolemic and hypotriacylglycerolemic effects.

Dincă Lucian, Vasile Diana, Voiculescu Ion (National Institute for Research and Development in Forestry "Marin Drăcea", Braşov, Romania)

THE CHARACTERISTICS OF *HIERACIUM* GENRE PLANTS PRESENT IN *ALEXANDRU BELDIE* HERBARIUM IN I.N.C.D.S. BUCHAREST
CARACTERISTICI ALE SPECIILOR DE PLANTE DIN GENUL *HIERACIUM* EXISTENTE ÎN HERBARUL *ALEXANDRU BELDIE* AL I.N.C.D.S. BUCUREŞTI

The Alexandru Beldie Herbarium from I.N.C.D.S. Bucharest comprises approximately 60.000 plates of some herbaceous plants, trees and shrubs. Amongst them, the present article analyses the 273 plates dedicated to the plants from the Hieracium genre. After a short description of the genre, some of the 112 species present in this herbarium are described. The plants were gathered between 1858 and 1954, with a larger incidence in the periods 1890-1899 and 1940-1949. Their origin ranges from different areas of our country (Bucegi, Ciucaş, Retezat, Turda, Buftea, Pojarata) as well as from above (Pyrenees, Tirol, Silesia) and were gathered by Romanian specialists (Beldie, Morariu, Georgescu, Cretzoiu) and foreign ones (Stefanoff, Baenitz, Richter, Weisenbeck, Sagorski, Weisenbach, Wolff).

Rotaru Vladimir (Institute of Genetics, Plant Phyisiology and Protection of Academy of Sciences, Chişinău, Republic of Moldova)

INFLUENCE OF PHOSPHORUS FERTILIZATION AND *BRADYRHIZOBIUM JAPONICUM* INOCULATION OF SOYBEAN ON ACTIVITIES OF ACID PHOSPHATASES IN ROOTS AND RHIZOSPHERE SOIL UNDER PHOSPHORUS AND WATER LIMITED CONDITIONS

INFLUENȚA FERTILIZĂRII CU FOSFOR ŞI INOCULĂRII CU *BRADYRHIZOBIUM JAPONICUM* ASUPRA ACTIVITĂȚII FOSFATAZEI ACIDE ÎN RĂDĂCINI ŞI SOLUL RIZOSFERIC LA SOIA ÎN CONDIȚII LIMITATE DE FOSFOR ŞI UMIDITATE

A pot experiment was conducted to examine the impact of Bradyrhizobium japonicum rhizobacteria along with P fertilizer on the activity of acid phosphatases (APase) in roots and rhizosphere soil of soybean under phosphorus and water limited conditions. Non-inoculated and inoculated soybean plants (cv Horboveanca) were supplied with three levels of P: 0 mg P/kg soil, (P0, insufficiency P), 20 mg P/kg (P20, medium) and 100 mg P/kg (P100, sufficient). At the flowering stage a set of plants was subjected to moderate drought stress for 12 days. Experimental results have shown that the root enzyme activity was much higher in the treatment without fertilization compared to those fertilized with phosphorus irrespective of soil moisture level. Inoculated plants with B. japonicum exhibited greater acid phosphatases activity in roots than non-inoculated plants. The same trend was observed in soil acid phosphatase activity under well-watered and water deficit conditions.

Veliksar Sofia[1], Lemanova Natalia[1], Brațco Dumitru[2], Gladei M.[1], ([1]Institute of Genetics, Plant Phyisiology and Protection of Academy of Sciences, Chişinău, Republic of Moldova, [2]Ministry of Agriculture, regional and environmental development of the Republic of Moldova, Winemaking unit, Department of market policies in wine and viticulture)

THE INFLUENCE OF TRACE ELEMENTS AND PGPR ON GROWTH AND PHOTOSYNTHETIC ACTIVITY OF GRAPE SEEDLINGS

INFLUENȚA MICROELEMENTELOR ŞI PGPR ASUPRA CREŞTERII ŞI ACTIVITĂȚII FOTOSINTETICE A BUTAŞILOR VIȚEI-DE-VIE

The possibility of joint application of a suspension or metabolites of plant growth promoting rhizobacteria (PGPR) and a complex of trace elements Microcom-VA for improving the growth and development of grape seedlings was established. Analysis of the experimental data obtained in controlled and field conditions showed that foliar fertilization of plants by a half dose of Microcom-VA together with bacterial products (suspensions of two- three strains of PGPR) significantly improves the growth of shoots and roots of grape seedlings, content of photosynthetic pigments in leaves, intensity of photosynthesis. This is a consequence of improving the conditions of plant nutrition. The application of PGPR makes possible to improve the quantity and quality of planting material and to reduce the amount of fertilizers (half of recommended dose of trace elements complex) and chemical pressure on the environment.

Puşcalău Mărioara, Bosoi Ionica, Mihu Ghică (Research and Development Station for Viticulture and Oenology, Odobeşti, Romania)

EVALUATION OF THE AGROBIOLOGICAL AND TECHNOLOGICAL POTENTIAL OF THE ELITE HYBRID VARIETIES OBTAINED AT R.D.S.V.O. ODOBEŞTI, FOR APPROVAL AND IMPROVE ASSORTMENT NATIONAL IN THE CONTEXT OF SUSTAINABLE VITICULTURE

EVALUAREA POTENȚIALULUI AGROBIOLOGIC ŞI TEHNOLOGIC AL UNOR ELITE HIBRIDE OBȚINUTE LA S.C.D.V.V. ODOBEŞTI, ÎN VEDEREA OMOLOGĂRII ŞI ÎMBUNĂTĂȚIRII SORTIMENTULUI NAȚIONAL ÎN CONTEXTUL VITICULTURII DURABILE

Throughout time at R.D.S.V.O. Odobeşti were carried out numerous sexuate hybridizations with a view to obtaining new varieties with productive potential and a high quality with tolerance to diseases and pests, resistant to stressors, to capitalize better the specific climatic conditions of Vrancea vineyards. As a result of hybridization performed have been selected the valuable elite hybrids, which is a permanent source for selection and promotion of new vine varieties. In this context were studied elite hybrid varieties; 8-5-1; 6-1-1; and 10-6-1, compared to the control sample Fetească regală. As a result of the study it was found that the three elite hybrid have a good productive and quality potential, and show high biological resistance to major diseases the vines and can be approved in order to improve the assortment nationally in the context of practicing a sustainable viticulture.

Smerea Svetlana, Andronic Larisa, Schin Victoria (Institute of Genetics, Plant Phyisiology and Protection of Academy of Sciences, Chişinău, Republic of Moldova)

CALLUSOGENETIC AND MORPHOGENETIC CAPACITY OF SAFFLOWER EXPLANTS

CAPACITATEA DE CALUSOGENEZĂ ŞI MORFOGENEZĂ A EXPLANTELOR DE ŞOFRĂNEL

For in vitro culture were optimized the conditions of sterilization (concentration of sterilization solution and the duration of treatment), the composition of nutritive media for direct embryogenesis of seeds and callusogenesis. Two types of explants, fragments of leaves cotyledons and hypocotyls, were used for inducing in vitro callusogenesis. As callus-inducing medium served Murashige & Skoog mineral base (1962) with 4 variants of additions of growth regulators (6-Benzylaminopurine and 2,4-Dichlorophenoxyacetic acid). The higher frequency of callusogenesis was found for both types of explants on medium with 2,4-D 0.25mg/L + BAP 0.5 mg/L and

2,4-D 0.25mg/L + casein hydrolysates 500 mg/L. Based on the ANOVA test it was established that the positive response is determined significantly only by the culture medium (hormonal balance) at 99.9%.

Tomiță Daniela Ivona, Vasiliu Mihaela Păpuşa, Covalciuc Ecaterina, Deleu Grigorii, Stadoleanu Carmen („Apollonia" University, Faculty of Dental Medicine, Iaşi, România)

THE ROLE OF FRUIT AND VEGETABLE CONSUMPTION IN MAINTAINING NORMAL ORAL PH
ROLUL CONSUMULUI DE FRUCTE ŞI LEGUME ÎN MENȚINEREA PH-ULUI ORAL NORMAL

Salivar pH, an important indicator of a person's health, is measured in the morning, immediately after awakening, because throughout the day it may vary depending on the foods consumed. Normal values should be between 6.2 and 6.4. Fruits and green vegetables have an alkaline effect once they get into the stomach because the chemical reaction between the acidic acid in the stomach and the acidic pH of the fruits and vegetables is basic. For the present study, we have comprised a group of 31 patients with general illness (HTA-associated diabetes), which we compared with a control group of 25 patiens, aged 50-85 years, to whom we measured the pH salivary. In the study group, low pH values were recorded due to the general diseases associated with the medication used, to restrict the consumption of fruits and vegetables, compared to the control group where the recorded pH has higher values.

Vasiliu Mihaela Păpuşa, Tomiță Daniela Ivona, Sachelarie Liliana, Fuioagă Paul Codrin, Shardi Manahedji Ardeshir, Costin G. („Apollonia" University, Faculty of Dental Medicine, Iaşi, România)

CONSUMPTION OF FRUIT AND VEGETABLES AND QUALITY OF LIFE
CONSUMUL DE FRUCTE ŞI LEGUME ŞI CALITATEA VIEȚII

A major public oral health problem with considerable social and economic cost is oral diseases such as dental cavities, periodontal disease, tooth loss, oral mucosal lesions, dental traumas that have a major impact on individuals, and Society with reduced quality of life. The diet rich in sugar and fat and low in fiber, vitamins and essential minerals are associated with dental cavities, and premature tooth loss. The study was carried out with the help of own questionnaires containing questions that refer to different aspects of the quality of life, such as satisfaction with personal life, food risk factors and behavior towards oral health, the impact of oral affairs. From the data obtained, we noticed that at a young age the aesthetic aspects are considered impervious to the perception of the quality of life, whereas in the adult population the diet and the quality of the consumed food are the first.

Halitchi Liliana-Gabriela [1], Tomiță Daniela Ivona[1], Codruța Iliescu[2] ([1]„Apollonia" University, Faculty of Dental Medicine, Iaşi, România; [2]UMF ,,Gr. T. Popa, Iaşi, România)

STUDY REGARDING INTERELATION DIET-BABY BOTTLE TOOTH DECAY IN YOUNG CHILFREN
STUDIU PRIVIND INTERRELAȚIA DIETA-CARIE DE BIBERON LA COPIL

In the case of temporary teeth, a marked growth of all indicators of decay is noted. Baby bottle tooth decay is a serious form of decay leading to rapid destruction and at early ages. Establishment of an etiopatogenic algorithm and incidence in Baby bottle tooth decay in children is needed. We intend to characterize a heterogeneous lot of el 140 children 64 girls and 75 boys between 18 months and 5 years, and to provide valid data regarding the number and location of cavities, clinical aspects of general data on food and eruption. In terms of feeding 99 BBTD children use formula in the bottle, 38 are breast fed; 110 of the children receive a bottle with a sweetened content, 90 children like sweet drinks. Bottle-feeding without precise timetable increases the risk of BBTD. No etiological study could prove a single cause of BBTD. Effective preventive action is required, done early, by professionals and family.

POSTER PRESENTATIONS

Chairmen:
Prof. dr. Marcel Vasile **DANCI**
Prof. dr. Carmen Doina **JITĂREANU**
Prof. dr**.** Lucia Carmen **TRINCĂ**

Secretariat:
Asist. dr. Ana **CAZACU**
Asist. dr. Emilian **BULGARIU**

Filimon Vasile Răzvan[1], Filimon Roxana[1], Damian Doina[1], Rotaru Liliana[2], Patraş Antoanela[2], Niculaua Marius[3] ([1]Research-Development Station for Viticulture and Winemaking Iaşi, Romania; [2]University of Agricultural Sciences and Veterinary Medicine Iaşi, Romania; [3]Research Center for Oenology of Romanian Academy - Iaşi Branch)

STUDIES ON THE PHENOLIC CONTENT OF RED SENESCENT GRAPEVINE LEAVES - A SUSTAINABLE SOURCE OF BIOACTIVE COMPOUNDS
STUDII PRIVIND CONȚINUTUL FENOLIC AL FRUNZELOR ROŞII SENESCENTE DE VIȚĂ DE VIE – SURSĂ SUSTENABILĂ DE COMPUŞI CU ROL BIOLOGIC ACTIV

In order to identify new sustainable sources of bioactive compounds for food, pharmaceutical and cosmetic industries, anthocyanin, proanthocyanidin and total phenolic contents of red senescent leaves of 47 grapevine cultivars and chromatic parameters of their alcoholic extracts were evaluated. Leaves were picked between two to eight weeks after grape harvest, the remaining chlorophyll and carotenoid amounts being also quantified. Red grapevine leaves showed high antioxidant activity (% scavenged DPPH), proportionally correlated with the concentration of anthocyanins and total phenolic compounds. Chlorophyll and carotenoid content of red leaves was low, without exceeding 1.56 mg/g and 0.92 mg/g dry weight, respectively. High amounts of antioxidant anthocyanins, proanthocyanidins and total phenolic compounds, as well as the chromatic diversity of the obtained extracts, justify the use of senescent red grapevine leaves as raw material in the production of valuable dietary supplements.

Patraş Antoanela[1], Stoleru Vasile[1], Filimon Răzvan Vasile[2], Sturza Rodica[3], Ghendov-Mosanu Aliona[3], Yin Junyi[4,5] ([1]University of Agricultural Sciences and Veterinary Medicine of Iaşi, Romania; [2]Research-Development Station for Viticulture and Winemaking Iaşi, Romania; [3]Technical University of Moldova, Chişinău, Republic of Moldova; [4]Nanchang University, China; [5]Hong Kong Polytechnic University)

EFFECTS OF SODIUM SALTS ON PHENOLIC CONTENT AND ANTIOXIDANT CAPACITY OF RED CABBAGE SPROUTS AND MICROGREENS
EFECTELE SĂRURILOR DE SODIU ASUPRA CONȚINUTULUI FENOLIC ŞI A CAPACITĂȚII ANTIOXIDANTE A GERMENILOR ŞI MICROPLANTELOR DE VARZĂ ROŞIE

Sprouts and microgreens are very rich in antioxidants (e.g. phenolic compounds) and their consumption is beneficial for humans' health. In the present research, the influences of two sodium salts, NaCl and Na_2SO_4 (10 mM and 100 mM), on phenolic content and antioxidant activity of red cabbage sprouts and microgreens were evaluated. The two sodium salts, generally, had positive effects on the studied parameters, so the germination performed under adequate salt stress may be an alternative to improve the phenolic content and antioxidant capacity, despite the non-convenient inhibition of germination and growth.

Trincă Lucia Carmen[1], Mareci Daniel[2], Cotea V. Valeriu[1], Souto Ricardo Manuel[3] ([1]University of Agricultural Sciences and Veterinary Medicine of Iaşi, Romania; [2]"Gh. Asachi" Technical University of Iaşi, Romania; [3]La Laguna University, Tenerife, Spain)

ELECTROCHEMICAL STUDIES ON THE STABILITY AND CORROSION RESISTANCE OF STAINLESS STEELS MATERIALS USED IN THE MANUFACTURE OF CONTAINERS FOR BEVERAGES
STUDII ELECTROCHIMICE PRIVIND STABILITATEA ŞI REZISTENȚA LA COROZIUNE A OȚELURILOR UTILIZATE LA FABRICAREA CONTAINERELOR PENTRU BĂUTURI

Austenitic stainless steel alloys are used as main substrate materials in different food industry applications, including the manufacturing of the containers used for the preparation and storage of acidified carbonated soft drinks. Yet, austenitic stainless steels are not inert materials in contact with these drinks, so that investigating these changes appears to be a useful necessity. Three carbonated soft drinks were investigated as for their ewffect on the stability of FeCrNi and FeCrNiMo alloys using two electrochemical techniques, namely linear potentiodynamic polarization (LPP) and electrochemical impedance spectroscopy (EIS), at 25 Celsius degrees. The high corrosion resistance of austenitic stainless steel alloys in the soft drinks was provided by the formation of a stable passive film formed by the metal oxides. Also, the electrochemical behaviour was associated to the antioxidant inhibitory action of caffeine as evidence by the potentiodynamic polarization and electrochemical impedance spectroscopy tests.

Trofin Alina, Ungureanu Elena, Trincă Lucia Carmen, Sandu Tatiana (University of Agricultural Sciences and Veterinary Medicine of Iaşi, Romania)

THE VARIATION OF THE IONIC CALCIUM ADSORPTION COEFFICIENT ON A RESIN WITH SULPHONIC GROUPS

VARIAȚIA COEFICIENTULUI DE ADSORBȚIE A CALCIULUI IONIC PE CATIONIT CU GRUPĂRI SULFONICE

Determination of the adsorption coefficient is essential for all retention processes of ionic species on surfaces, to determine the process efficiency and influence of the various factors on the adsorption. Calcium ions are present in significant quantities in many natural waters, causing high values of hardness, implicitly restricting the possibilities of using these waters. Decreasing the content of ionic calcium from aqueous solutions can be done by retaining them on cation exchangers, so in the present paper we chose a sulphonic resin - Dowex 50 - to study the calcium adsorption from aqueous solutions of different concentrations. We determined both the values of the adsorption coefficient over time for each concentration in the dynamic process as well as the correlation between the amount of ion in the initial solution and that retained on the surface of the adsorbent, depending on the amount of resin used.

Ungureanu Elena[1], Jităreanu Doina[1], Trofin Alina[1], Ungureanu O.C.[2], Popa V.I.[3] ([1]University of Agricultural Sciences and Veterinary Medicine of Iaşi, Romania; [2]"V.Goldiş" West University of Arad, Faculty of Biology, Romania; "Gh. Asachi" Technical University of Iasi, Faculty of Chemical Engineering and Environmental Protection, Romania)

LIGNIN DERIVATIVES MODIFIED BY HYDROXYMETHYLATION AND EPOXYDATION REACTIONS

DERIVAȚI LIGNINICI MODIFICAȚI PRIN REACȚIILE DE HIFROXIMETILARE ŞI EPOXIDARE

Lignin derivative (the commercial product - Protobind 2000) offered by the Granit Recherche Developement S.A. company, Lausanne-Switzerland was synthesized from annual plants. The present study's aim was to modify commercial lignins by the reaction of hydroxymethylation (produced in alkaline medium) and epoxydation (reaction with epichlorohydrin was performed in basic catalysis, aiming at increase the functionality) and to characterize the lignin derivatives chemical, spectral (^{1}H NMR) and thermogravimetric analysis (TG). Studies have revealed some functional changes related to the difference in reactivity and reaction conditions.

Covaşă Mihaela, Jităreanu Carmen Doina, Slabu Cristina, Marta Alina Elena (University of Agricultural Sciences and Veterinary Medicine of Iaşi, Romania)

THE INFLUENCE OF SALT STRESS ON ASCORBIC ACID (VITAMIN C) FROM FRUITS OF SOME TOMATO CULTIVARS FROM N-E ROMANIA

INFLUENȚA STRESULUI SALIN ASUPRA CONȚINUTULUI DE ACID ASCORBIC (VITAMINA C) DIN FRUCTELE UNOR GENOTIPURI DE TOMATE DIN NORD-ESTUL ROMÂNIEI

Vitamin C or ascorbic acid is an organic acid with antioxidant properties, involved in a number of processes taking place in living cells. Through their efforts to adapt to the saline stress, plants have to increase the antioxidant level by increasing, mainly, the ascorbic acid.The research was conducted under greenhouse condition. The biological material was represented by seven local tomatoes populations collected from areas with saline soils from Moldavia region and compared with commercial type salt-tolerant tomato. Tomato genotypes in the study were subjected to salt stress for a period of 30 days is constantly kept wet with saline solution to a concentration of 100 mM and 200 mM.The content of vitamin C in fruit was determined by using the titrimetric method.The research on the vitamin C content from tomatoes fruit showed that, as the concentration saline increases, the concentration of ascorbic acid raises too.

Jităreanu Carmen Doina, Slabu Cristina, Marta Alina Elena (University of Agricultural Sciences and Veterinary Medicine of Iaşi, Romania)

RESEARCHES ON THE INFLUENCE OF SALT STRESS PHYSIOLOGICAL AT SOME LOCAL POPULATIONS OF BEANS

CERCETĂRI FIZIOLOGICE PRIVIND INFLUENȚA STRESULUI SALIN LA UNELE POPULAȚII LOCALE DE FASOLE

Saline stress affects seeds germination, reduces the chlorophyll content in the plant leaves and the photosynthesis activity, changes that have prompted the researchers around the world, also in Romania to study with interest this abiotic factor. The success of the research could provide the extension of plant cultivation to areas affected by salinization or as well as the possibility of using sea and ocean water, a vast resource, for irrigation of crops, and as a result, the increase in world biomass production. The present research investigated the influence of saline solutions (100 mM and 200 mM NaCl) on the chlorophyll pigments content in 10 local populations of common beans (Phaseolus vulgaris L.) grown in pots, in greenhouse conditions. The main objective of this study was to identify the salinity tolerant genotypes, knowing that this attribute is also conferred by a high chlorophylls concentration. Also tolerant genotypes could be used in plant breading, as these local populations are adapted to the environmental conditions of the NE of Romania.

Manole Carmen Gabriela[1,2], Paraschiv Maria[2,3], Constantin Mugurașl[4], Bădulescu Liliana[1] ([1]Research Center for Studies of Food Quality and Agricultural Products – University of Agronomic Sciences and Veterinary Medicine of Bucharest, Romania; [2]The National Institute of Research and Development for Biological Sciences Bucharest, Romania; [3]Research Center for Advanced Materials, Products and Processes – University Politehnica of Bucharest, Romania; [4]University of Agronomic Sciences and Veterinary Medicine of Bucharest, Romania)

THE INFLUENCE OF STORAGE PERIOD ON VARIATION OF PHENOLIC CONTENT IN SWEET CHERRIES
INFLUENTA DURATEI DE PĂSTRARE ASUPRA CONȚINUTULUI DE COMPUŞI FENOLICI LA CIREŞE

The paper deals with bio-compounds preservation in soft fruits during storage in order to allow their consumption in off-season. The work addresses sweet cherries, the most popular consumed fruits in countries across the temperate regions like Romania, which the consumer can enjoy only in May-July period. Consequently, the aim of the study was to evaluate the influence of storage conditions on the yield of biologically active compounds. In this respect, the content of total phenols and flavonoids, and free radical scavenging activity have been analyzed in order to enable consumers to choose the most efficient storage method. The best characteristics cultivar offering the potential prospects for growers is also highlighted. Sweet cherries provided by 'New Star', 'Celeste' and 'Giant Red' cultivars were stored for 7 days in refrigerated and freezing conditions and then subjected to the extraction method with hydrochloric acid in methanol. Using Folin-Ciocâlteu method total phenols content of the extracts was determined. The flavonoid content was identified using an adapted method based on rutin as reference sample. The free radical scavenging activity of the extracts was determined using stabile 2,2 diphenyl-1-picrylhydrazyl radical. The results showed that high phenols and flavonoids contents are in 'N Star' cultivar (0.144 g in fresh fruits and 0.129 g refrigerated ones) while the free radical scavenging activity is better conserved in frozen fruits from 'Celeste' cultivar (5.94 mg/mL).

Stratu Anişoara, Costică Naela („Al.I.Cuza" University of Iaşi, Romania)

THE EFFECT OF ZINC ON GERMINATION AND SEEDLINGS GROWTH OF *ERUCA SATIVA* Mill.
EFECTUL ZINCULUI ASUPRA GERMINAȚIEI ŞI CREŞTERII PLANTULELOR LA *ERUCA SATIVA* Mill.

The effect of zinc on seed germination and growth in the first ontogenetic stages in the species Eruca sativa was investigated. Zinc was used as sulphate solutions, in five different concentrations: 50 mg/L, 100 mg/L, 150 mg/L, 200 mg/L, 250 mg/L. We analyzed the following indicators: the percentage of germinated seeds; the length of root, the length of the hypocotyl, the tolerance index, the seedling vigor index, water content and dry matter content of the seedlings. The following effects were found: the insignificant modifications of the germination percentage; the significant delay of the growth in length of the root and of the hypocotyl; the decrease of the tolerance index, of the seedling vigor index and of the water content.

Vamanu Emanuel (University of Agronomic Sciences and Veterinary Medicine of Bucharest, Romania)

EFFECT OF DISTILLED BEVERAGES ON THE ANTIOXIDANT STATUS AND ON THE STABILITY OF POLYPHENOLIC COMPOSITION AFTER THE GASTROINTESTINAL DIGESTION, *IN VITRO* STUDY
INFLUENȚA DISTILATELOR ALCOOLICE ASUPRA STATUSULUI ANTIOXIDANT ŞI A STABILITĂȚII COMPOZIȚIEI POLIFENOLICE ÎN URMA DIGESTIEI GASTROINTESTINALE, STUDIU *IN VITRO*

The in vitro effect of digestion on the quantity of phenols and on the antioxidant status after consuming three types of alcoholic (bilberry brandy from commerce, cherry brandy from craft production and a topinambur distillate supplemented with natural extracts) was determined. A high stability was found at gastric level, of the total polyphenol content, and a relatively constant value of ABTS scavenging activity and cupric reducing antioxidant capacity. This study also indicated a high stability related to the action of the pancreatinin and of bile salts of the artisanal sample. If the effect of alcohol intake is eliminated, the results have shown a reduced stability of the drinks containing cranberries and sour cherries, but also a reduced action of the distillate supplemented with spices – Sample 3.

Filimon Roxana, Filimon Vasile Răzvan, Paşa Rodica (Research-Development Station for Viticulture and Winemaking Iaşi, Romania)

STUDIES REGARDING POLLEN VIABILITY AND GERMINATION CAPACITY OF SOME *VITIS VINIFERA* L. VARIETIES
STUDII PRIVIND VIABILITATEA ŞI CAPACITATEA DE GERMINARE A POLENULUI UNOR SOIURI *VITIS VINIFERA L.*

Pollen quality is an important indicator in the estimation of grape production, being analysed based on its germination capacity. Thus, viability and germination potential of pollen from six Vitisvinifera L. varieties, grown in the climatic area of the Iasi vineyard, were analysed. To perform the determinations, were used comparatively three methods for observing the viable cells, by treating them with tetrazolium chloride (TTC), Lugol solution (IKI) and methylene blue (AM) solution. The germinating potential was analysed in vitro, the culture being performed on agar medium with added sucrose (0 to 20%). The viable cells were more clearly highlighted using the AM method, but the TTC method was more accurate in indicating the percentage of pollen viability. The highest pollen germination rate was observed in the 15% added sucrose variant.

Paraschiv Nicoleta Luminţa, Volf Mariana (University of Agricultural Sciences and Veterinary Medicine of Iaşi, Romania)

VARIATION OF ELEMENTARY CHEMICAL COMPOSITION AT A CULTURE OF CHEMICHALLY FERTILIZED POTATO IN AN AREA BELONGING TO TCE 3 BRAZI, GIROV, NEAMT COUNTY

VARIAŢIA COMPOZIŢIEI CHIMICE ELEMENTARE LA O CULTURĂ DE CARTOF FERTILIZATĂ CHIMIC, ÎNTR-UN AMPLASAMENT APARŢINÂND TCE 3 BRAZI, GIROV, JUDEŢUL NEAMŢ

The elementary composition of plants varies in relation to several factors, but fertilization is a restrictive and limiting factor. The study has in view this aspect and highlights the impact of fertilizer doses, but also their chemical composition, on elementary chemical composition, on a potato culture produced in climatic and soil conditions in Neamt county. A fond fertilization with 375 kg / ha with NPK and an additional fertilization in vegetation with a formula of 16-20+18-46+Kristalon, achieves an accumulation in haulm of 0.43; 0.56 and 3.76% N, P, K in d. s. (ensuring medium to normal), and in tubers an accumulation of 1.04; 0.59 and 1.80% NPK in d.s. (ensuring normal to very good). Corroborated with soil fertility status as well as with other eco-pedo-climatic factors, these results are recorded in a register of the favorability of culture in the context of this scheme of fertilization.

Volf Mariana, Paraschiv Nicoleta Luminţa (University of Agricultural Sciences and Veterinary Medicine of Iaşi, Romania)

INFLUENCE OF SUPPLIMENTARY FERTILIZATION ON STATUS OF SOIL FERTILITY AND PRODUCTION, AT A CROP OF POTATOES IN POSITION BELONGINGTO TCE 3 BRAZI, GIROV, NEAMT COUNTY

INFLUENŢA FERTILIZĂRII SUPLIMENTARE ASUPRA STĂRII DE FERTILITATE A SOLURILOR ŞI ASUPRA PRODUCŢIEI, LA O CULTURĂ DE CARTOF, ÎNTR-UN AMPLASAMENT APARŢINÂND TCE 3 BRAZI, GIROV, JUDEŢUL NEAMŢ

Fertilization of soils is a very important agrochemical measure, in the chain of the technological links of a culture. The harmonization of the use of fertilizers in the ground, plant and cultivation technology and agronomic efficiency, are steps required in the case of using crops in an intensive system. The potato produced in the appropriate climate zones, is one of the cultures that have a favourable response to fertilization. The paper presents results of a study using conventional fertilizers as well as additional fertilizer on a crop of potato. The results showed that together with basic fertilization, the additional fertilization with a complex of fertilizers administered radicularly improved the fertility of the soil, providing nitrogen-form equivalent to an average towards the normal; the amount of phosphorus digestible and assimilable potassium is normal levels towards higher level. But the production is influenced by the foliar fertilizers, situated in the case of the agro-fond160-120-95 kg / ha a.s. NPK at 34,570 kg for Fertcomplex to 34,400 for Kristalon. The maximum productionis reached on the same agrofond of fertilization, in the version of combined administration of phasial, root and foliar fertilization, i.e. in the variant 16+20 + 18+46 + Kristalon.

2nd SECTION

HORTICULTURE TEHNOLOGIES

VEGETABLE GROWING, FRUIT GROWING, VITICULTURE, OENOLOGY, POSTHARVEST TECHNOLOGY OF HORTICULTURAL PRODUCTS, FLORICULTURE, ORNAMENTAL ARBORICULTURE, HORTICULTURAL CONSTRUCTIONS, HORTICULTURAL PLANTS PROTECTION, ECOLOGICAL HORTICULTURE

6th Lecture room, second floor

Chairmen:
Prof. dr. Valeriu **V. COTEA**
Prof. dr. Lucia **DRAGHIA**
Prof. dr. Gheorghe **GLĂMAN**
Prof. dr. Dorel **HOZA**
Prof. dr. Viorel **MITRE**
Prof. dr. Neculai **MUNTEANU**
Prof. dr. Liliana **ROTARU**

Secretariat:
Asist. dr. Maria **BRÎNZĂ**
Asist. dr. Monica **HEREA**
Asist. dr. Gabriel **TELIBAN**

Timp de prezentare: **5-7 minute**

ORAL PRESENTATIONS

Guțul Margareta, Iliev Petru (State Agrarian University of Moldova, Republic of Moldova)
THE IMPORTANCE OF THE PRODUCTION OF GRAFTED TOMATO SEEDLINGS
IMPORTANȚA PRODUCERII RĂSADURILOR ALTOITE DE TOMATE

Grafting tomatoes is considered one of the most important innovations over the last few years. Modernization of plants variety and parent stock is essential, because it brings us closer to the market needs and sustainable agriculture. The aim of the realized experience was to evaluate phenological phases of tomato plants, the productivity and the quality of the fruit under the grafting method (Beril F1, Abelus F1, Lilos F1 and Maxifort F1 rootstocks, Big Power F1). In this experience were assessed the following characteristics of the phytometric indices: the number of leaves, the diameter of the stem, the height of the plant up to the first bunch, in terms of fruit productivity and quality, or the harvest kg/plant, harvest m^2/kg, standard fruit per plot, nonstandard fruit rate, %, cracked fruit rate, %.

Mohammed Jasim Mohammed[1,2], Ciofu Ruxandra[1] (University of Agronomic Sciences and Veterinary Medicine of Bucharest, Romania; [2] College of Agricultureal and marshes, Thi-Qar University, Iraq)
THE IMPACT OF DIFFERENT NITROGEN SOURCES ON THE GROWTH AND YIELD OF TWO CUCUMBER VARIETIES UNDER THE GREENHOUSE
IMPACTUL DIFERITELOR SURSE DE AZOT ASUPRA CREŞTERII ŞI DEZVOLTĂRII A DOUĂ VARIETĂȚII DE CASTRAVEȚI DE SERĂ

This experiment was conducted at (USAMV Bucharest) during the summer season (2016) to study the effects of different sources of N fertilizers (organic and mineral) on the growth and yield of two cucumbers varieties (Ansor F1 and Trilogy F1). The fertilizers were: DIX 10N at rate (300 g/m^2), Novetec with two rates N2, N1 (100 g/m^2 and 50 g/m^2) and Orgevit at rate (200 g/m^2). Those 2 varieties were planted under 10 micro greenhouses. Results didn't show a significant increasing in plant height while the highest percentage of pigments (total chlorophyll, chlorophyll A\B and carotene) was found in treatment Ansor + DIX 10N (AD) at rates of 351.22, 2.573, 11.99 mg/L respectively. Results showed a significant increasing between the treatments in plant and root dry matter with all fertilizer.

Rozsa Melinda, Apahidean Maria, Gocan Tincuța-Marta (University of Agricultural Sciences and Veterinary Medicine of Iaşi Cluj-Napoca, Romania)
STUDY ON GOLDEN OYSTER MUSHROOM MYCELIUM *PLEUROTUS CITRINOPILEATUS* SINGER
STUDIU PRIVIND MICELIUL CIUPERCII AURII *PLEUROTUS CITRINOPILEATUS* SINGER

Few mushrooms are as spectacular as Pleurotus citrinopileatus Singer. Its brilliant yellow color astonishes all who first see it. This species forms clusters hosting a high number of individual mushrooms, whose stems often diverge from a single base. Spicy and bitter at first, this mushroom imparts a strong nutty flavour upon thorough cooking. P. citrinopileatus grows quickly through pasteurized straw and sterilized sawdust, and thrives at high temperatures. The present study carried out to evaluate suitable grain substrates for spawn development, growth and yield of P.

citrinopileatus. The grains taken for this study were wheat, sorghum, millet and maize. A total of four treatments replicated five times were taken under the complete randomized design. The minimum time taken for mycelium run was 17 days and maximum time taken from simulation to primordial initiation was recorded by millet grain spawn.

Rozsa Sandor[1], Lazăr V.[1], Gocan Tincuța Marta[1], Rózsa Melinda[1], Poşta G.[2] ([1]University of Agricultural Sciences and Veterinary Medicine of Iaşi Cluj-Napoca, Romania; [2]University of Agricultural Sciences and Veterinary Medicine of Banat from Timisoara, Romania)

INTERACTION BETWEEN GROWING SUBSTRATE NITROGEN CONTENT AND *AGARICUS BLAZEI* MURRILL MUSHROOMS PROTEIN CONTENT

INTERACȚIUNEA DINTRE CONȚINUTUL DE AZOT AL SUBSTRATULUI DE CULTURĂ ŞI CONȚINUTUL DE PROTEINĂ AL CIUPERCILOR *AGARICUS BLAZEI* MURRILL

Mushrooms provide important sources of protein extracted from materials of very low economic value, such as manure, agricultural waste, forestry, wood industry. Cultivated mushrooms having a saprophyte diet are forced to feed their enzymes from decomposing organic substances. During the composting and pasteurization of the substrate, the protein nitrogen is transformed into peptides and amino acids that are absorbed by mycelial hippocampal cells. Research has shown that there is a direct correlation between the total nitrogen content of the nutrient substrate (up to 2.7%), the production of mushrooms and the protein content of the mushrooms. In this study, four types of compost and three types of additional protein additions were investigated. The highest values of correlation coefficient (r = 0.88187) were obtained with the addition of 3% wheat bran, additional protein supplement in the substrate.

Voicu Miia, Munteanu Neculai, Stoleru Vasile, Cojocaru Alexandru (University of Agricultural Sciences and Veterinary Medicine of Iaşi, Romania)

THE INFLUENCE OF THE CULTIVAR ON THE MAIN BIOCHEMICAL INDICATORS ON PEA SEEDS

INFLUENȚA CULTIVARULUI ASUPRA PRINCIPALILOR INDICI BIOCHIMICI ÎN SEMINȚELE DE MAZĂRE

The main biochemical quality indices of seeds for the cultivated plants are influenced by a series of factors, such as: gentic, technological, abiotic or biotic factors. The storage period, the germination capacity and seed vigor are in direct correclation with the seeds' biochemical indices, which vary depending on the cultivar. The present work presents a study regarding the influence of the cultivar and storage period on the main biochemical indices of the garden pea seeds. The ash content varied in the case of pea seeds between 1.4% for the Skinado cultivar and 2.4% for the Television cultivar. The crude protein varied in the case of the cultivar selection under study between 20.20% for the Television cultivar and 27.40% for the Skinado cultivar, and the total lipids varied between 5.10% (Ambrosia cultivar) and 6.50% (Ran 1 round-seed and Kelvedon Wonder cultivars). The reducing sugars varied between quite large limits, from 10.20% in the case of the Television cultivar, up to 18.30% in the case of the Ran 1 wrinkled-seed cultivar.

Balan Valerian, Ivanov I., Şerban V., Balan P., Vamaşescu Sergiu (State Agrarian University of Moldova, Republic of Moldova)

CHANGES IN THE SIZE AND QUALITY ACCORDING TO COLOR CHERRIES

MODIFICĂRI ALE DIMENSIUNII ŞI CALITĂȚII CIREŞELOR ÎN FUNCȚIE DE CULOARE

The objective of the current research was to investigate the changes during maturation of cherries (Prunus avium L.). The studies were conducted in the commercial orchard of the Republic of Moldova, at Vindex-Agro SRL, Orhei (47 ° 46'S, 29 ° 13'E) during the three and four years of cherry tree fructification. The orchard was established in autumn 2011 with cherry trees of Ferrovia, Regina varieties, grafted on the Gisela 6 rootstock, at a planting distance of 4x2.5 m. The trees are formed according to the Slender Spindle Ameliorated system. Experience includes four rehearsals of eight trees each (n = 32). Fruit recording and evaluation was performed during the ripening period, according to the color of the skin, according to the CTIFL Colored Color (Yellowish-pink, Very light red, Red Bright red color, Dark red, Dark brown-red, Dark brown) and the content of soluble solids content (SSC). By deduction and calculation, the notion of calculating the cherry diameter was introduced in fruit growing knowing their mass. The last weeks before harvest, from the time the fruits begin to mature and the color of the skin changes from green to yellowish, a period determines fruit development and orchard productivity. In this period, as the fruit grows, their diameter increases, but with a much lower rhythm.

Dicianu Elena Diana, Elena Ştefania Ivan, Ionuț Ovidiu Jerca, Roxana Ciceoi, Florin Stănică (University of Agricultural Sciences and Veterinary Medicine of Bucharest, Romania)

MORPHOMETRIC AND PHYTOPATHOLOGICAL ANALYSIS OF ROMANIAN JUJUBE FRUITS DURING THE STORAGE PERIOD

ANALIZA MORFOMETRICĂ ŞI FITOPATOLOGICĂ A FRUCTELOR DE JUJUBE DIN ROMÂNIA ÎN TIMPUL PERIOADEI DE DEPOZITARE

Chinese jujubs are one of the most appreciated fruits. In Romania, jujube culture has begun to increase the interest both among producers and consumers, and the study of 15 genotypes is currently carried out at the Faculty of Horticulture in Bucharest. Our research focuses on the post-harvest behavior of jujube fruits and on

morphometric and phytopathological analyzes. The fruits were stored in a controlled atmosphere. To date, jujube fruits have proven to be resistant to diseases and pests, being grown without phytosanitary treatments for 19 years. Our observations in the field in the year 2016 have demonstrated the existence of four species of mushrooms per fruit before full maturation. The pathogens identified by the fruits belong to the genus: Alternaria spp., Rhizopus spp., Fusarium spp. and Monilinia spp. The results showed an indirect correlation between the incidence of fungi and the resistance of the jujube fruit to the crack.

Kiss Iosif-Karoly[1], Hoza Dorel[1], Istrate Mihai[2] ([1]University of Agricultural Sciences and Veterinary Medicine of Bucharest, Romania; [2]University of Agricultural Sciences and Veterinary Medicine of Iaşi, Romania)

OBSERVATIONS ON THE FROST RESISTANCE OF THE FERNOR WALNUT VARIETY DURING THE REST PERIOD (JANUARY-APRIL), UNDER THE PEDOCLIMATIC CONDITIONS IN SĂLCIOARA AREA, DÂMBOVIȚA COUNTY

OBSERVAȚII ASUPRA REZISTENȚEI LA ÎNGHEȚ A SOIULUI DE NUC *FERNOR*, ÎN TIMPUL PERIOADEI DE REPAUS (IANUARIE-APRILIE), ÎN CONDIȚIILE PEDOCLIMATICE DIN ZONA SĂLCIOARA, JUD. DÂMBOVIȚA

It is well known that walnut varieties with lateral fructification have a lower resistance to temperature variations during relative rest and on the entering vegetation. In the first decade of January 2017, in village Sălcioara, Dâmbovița county there was recorded extremely high variations in the negative temperatures, which could affect the viability of the male florids (men) and the small unisexed female buds. At the end of April (26-28 April) there were late spring frosts that caused massive tissue necrosis of young tissues in native walnut trees and partial frosts of male Fernor sprouts found in the phenophase of swelling of the buds. If the autochthonous genotypes produced 80% of the production of walnuts in the year 2017, these late frosts did not affect the subsequent development of fruit buds in the Fernor variety. Approximately 10% of male florid shoots (avenues) showed partial frostbite without having their total pollen emission capacity and 3% of small buds unisexed females were affected by frost.

Kotrotsios Ioannis, Slav Mădălin, Hoza Dorel (University of Agricultural Sciences and Veterinary Medicine of Bucharest, Romania)

PRELIMINARY STUDY IN REGARDS TO THE CULTURE OF BLUEBERRY IN CONTAINERS

CERCETĂRI PRELIMINARE PRIVIND CULTURA AFINULUI ÎN CONTAINER

The blueberry culture has presented a growing interest in the past years among fruit producers due to the constantly increasing demand on the market. However because of the specific pH requirements of the soil the culture can only be cropped where appropriate conditions are being met. To avoid restrictions of improper soil the focus has been shifted on containers. Thus, during a study of plant behaviour involving a 30 litres container and 4 blueberry varieties – Draper, Patriot, Brigitta and Elliot it has been observed that when they reach the age of 3 plants have a satisfactory growing response and start to form fruit. Among the four tested varieties differences have been registered in what regards the phenological progress of flowering, the growth and ramification capacity and the fruit forming capacity. The Patriot variety has been the most forward and Draper the most lateflowering. Draper has presented a higher vigour represented by a higher growing and ramification capacity while Brigitta has had a lower vigour overall.

Peşteanu Ananie, Croitor A. (State Agrarian University of Moldova, Republic of Moldova)

INFLUENCE OF FERTILIZATION WITH ZINC PRODUCTS ON THE PRODUCTIVITY AND QUALITY OF APPLE FRUITS

EFECTUL TRATĂRII CU FERTILIZANȚI FOLIARI PE BAZĂ DE ZINC ASUPRA PRODUCTIVITĂȚII ŞI CALITĂȚII FRUCTELOR DE MĂR

The study subject of the experience was Idared apple variety grafted on M 9, trees were trained as slender spindles for distance 3.5 x 0.8 m. To study the influence of fertilization with zinc products on the fructification of apple plantation was experimented the following variants: 1. Witness – no treatment; 2. Basfoliar Flo Zn - 1.0 L/ha; 3. Nertus Zinc - 2.0 L/ha; 4. Nertus Zinc - 3.0 L/ha. The Basfoliar Flo Zn fertilizer was applied once by spraying in the intensive growth phase of the fruit. The first treatment with Nertus Zinc was given in the pink button phase, the second - after flowering, and the third - the intensive growth of the fruits. The research was conducted during the period of 2015 year. In the present research work, we demonstrated that Nertus Zinc may be included in the technology system, applied 3 sprays at 2.0 L/ha.

Irimia Liviu Mihai[1], Patriche Cristian Valeriu[2], Renan Le Roux[3], Valerie Bonnardot[3], Quenol Hervé[4] ([1]University of Agricultural Sciences and Veterinary Medicine of Iaşi, Romania; [2]Romanian Academy, Iaşi Branch, Geography Group, [3]Université de Haute Bretagne - Rennes 2, France, [4]LETG-Rennes (COSTEL), UMR 6554 CNRS, Université Rennes-2, France)

PERSPECTIVES OF WINE PRODUCTION IN THE COTNARI WINE REGION, IN THE CONTEXT OF CLIMATE CHANGE. PROJECTIONS FOR THE 2020–2100 TIME PERIOD BASED ON EUROCORDEX DATA

PERSPECTIVELE PRODUCȚIEI VITICOLE ÎN PODGORIA COTNARI ÎN CONTEXTUL SCHIMBĂRII CLIMATICE. PROIECȚII PENTRU INTERVALUL 2020 – 2100, BAZATE PE DATE EUROCORDEX

The Cotnari wine region is known as a traditional white wine producer. Recent data from viticulture research, as well as changes in the traditional grapevine variety assortment of this wine region indicate its gradual orientation towards the production of red wines. The cause of these developments is climate change. Since viticulture is a domain whose reputation is based on tradition and authenticity, the potential modification of types of wine production specific to Cotnari wine region can have a major impact on its profile. As a result, the analysis of the current and prospective climatic context within which viticulture production takes place in this area becomes mandatory. Its results are necessary for the development of adaptation strategies. This research provides such a scientific support. Are presented the spatial and structural changes in climatic suitability for the wine production between the 1961-2013 and the suitability of local climate for the 2020-2100 time period. While the climate suitability for the 1961 to 2013 time period was assessed using climatic data recorded in the Cotnari area, the projections for the 2020-2100 are based on EUROCORDEX data. The multi-annual averages of the bioclimatic indices indicate the radical change in climate profile of this wine region in the coming decades and, implicitly, in its climate suitability for wine production.

Irimia Liviu Mihai[1], Patriche Cristian Valeriu[2], Roşca Bogdan[2] ([1]University of Agricultural Sciences and Veterinary Medicine of Iaşi, Romania, [2]Romanian Academy, Iaşi Branch, Geography Group)

SPATIAL AND STRUCTURAL SHIFTS DETERMINED BY CLIMATE CHANGE WITHIN ROMANIAN VITICULTURE BETWEEN THE 1961 AND 2013

MUTAȚIILE SPAȚIALE ȘI STRUCTURALE DETERMINATE DE SCHIMBAREA CLIMATICĂ ÎN VITICULTURA ROMÂNIEI ÎNTRE 1961-2013

Climate change impacts the conditions of plant cultivation globally, requiring changes in local varieties and cultural practices. Viticulture is also significantly influenced, with research during the last decades showing significant changes in grapevine biology and wine-growing areas climate suitability. Grapevine growing stages start earlier and are shorter, grapes ripen earlier and accumulate higher amounts of sugars; grapes total acidity become deficient, requiring corrections in the winemaking process, and the wines lose their well-known organoleptic profile. Changes that occur in wine-growing areas are harder to perceive, but their mapping reveal major spatial shifts in climate suitability for wine production, both on altitude and latitude. The paper presents the values of these spatial shifts and the changes in climatic suitability for the wine production within Romanian wine regions. The results indicate the expansion of areas suitable for red wine production in Romania, a rather constancy of areas suitable for quality white wine production, the diminishing and shift to higher altitude of areas suitable for white and sparkling wines production. The causes of these shifts are the increase in temperatures and sunshine duration in Romania, on the background of a relative precipitation stability.

Savin Gheorghe, Cornea Vladimir, Botnarenco Andrei, Baca Ivan, Birsa Elena, Tofan Svetlana (Research and Practical Institute for Horticulture and Food Technologies, Chişinău, Republic of Moldova)

EVALUATION OF THE FERTILITY AND PRODUCTIVITY OF NEW SEEDLESS VARIETIES INCLUDED IN GRAPEVINE ASSORTMENT OF THE REPUBLIC OF MOLDOVA

EVALUAREA FERTILITĂȚII ŞI PRODUCTIVITĂȚII SOIURILOR NOI APIRENE INCLUSE ÎN SORTIMENTUL VITICOL AL REPUBLICII MOLDOVA

In the paper are presented the results of the study of the fertility and productivity of the new seedless varieties included in the grapevine assortment of the Republic of Moldova - Apiren alb, Apiren Basarabean, Apiren negru de Grozeşti, Apiren roz, Apiren roz timpuriu. The correlation between the main fertility elements (number of eyes left to cut, number of live eyes, total number of shoots, including fertile, number of formed inflorescences) was evaluated. In all cases a direct, very close correlation has been established, especially for the varieties Apiren negru de Grozeşti and Apiren roz timpuriu. It is noted the advanced resistance of these varieties to the wintering conditions, in particular the potential for issuing shoots from multiannual wood. Some preliminary assessment have been carried out on the application of two variants of the cutting of these varieties.

Andrieş Mitică Tiberiu[1], Tudose-Sandu-Ville Ştefan[1], Zamfir Cătălin Ioan[2], Vararu Florin[3], Niculaua Marius[2], Cintia Colibaba[1], Gheorghe Odăgeriu[2], Cotea V. Valeriu[1] ([1]University of Agricultural Sciences and Veterinary Medicine of Iaşi, Romania, [2]Research Center for Oenology of Romanian Academy - Iaşi Branch, Romania; [3]S.C. Agroindustriala Bucium S.A. – Iasi, Romania)

STUDY OF VOLATILE AROMA COMPOUNDS OF SOME ROSÉ WINES FROM IAŞI COPOU VINEYARD

STUDII PRIVIND COMPUŞII VOLATILI DE AROMĂ DIN UNELE VINURI ROZE OBȚINUTE ÎN PODGORIA IAŞI COPOU

The main objective of the present study is to identify volatile aroma compounds of so me rosé wines obtained from black grapes, in Iaşi Copou vineyard. Fetească Neagră, Băbească Neagră and Merlot grapes were manually harvested in 2016 and vinificated in rose wine. After 14 days fermentation at 15^{o}C, the wine samples were filtered, bottled and subjected to analyses. The wine aroma compounds were analysed by a Shimadzu GC-2010, coupled with a QP2010 Plus mass spectrometer. Menyterpenic compounds, alcohol sand esters were identified in the studied samples. The wine obtained from the Fetească neagră variety was found to have the highest content in terpenic compounds from all the studied samples.

Filimon Vasile Răzvan[1], Nechita Ancuța[1], Damian Doina[1], Paşa Rodica[1], Filimon Roxana[1], Băetu Marius[1], Mihai C.T.[2], Niculaua Marius[3] ([1]Research - Development Station for Viticulture and Winemaking Iasi, Romania; [2]Biological Research Institute Iasi, Romania; [3]Research Center for Oenology of Romanian Academy - Iaşi Branch, Romania)

SEPARATION AND CHARACTERISATION OF THE MAIN PROANTHOCYANIDIN FRACTIONS OF GRAPE SEEDS

SEPARAREA ŞI CARACTERIZAREA PRINCIPALELOR FRACȚIUNI DE PROANTOCIANIDINE DIN SEMINȚELE DE STRUGURI

Grape seeds, as waste products of the winemaking industry, contain large amounts of monomers, oligomers and more highly polymerised proanthocyanidins (PA), being a good source of phytochemicals for the production of antioxidative dietary supplements. PA from defatted grape seeds were extracted by precipitation with diethyl ether from the crude alcoholic extract and fractionated into monomers (FI), oligomers (FII) and polymers (FIII) of flavan-3-ols by their separation on C18 Sep-Pak cartridges. FIII was the predominant class of proanthocyanidins (82.22%), while monomeric PA has only 5.71% of total. The ratio PA (by vanillin assay) / tannins (Bate-Smith assay) indicates the highest degree of polymerisation (DP) in FIII fraction (1.28). Thin layer chromatography (TLC) confirmed the presence of monomers in FI, the DP increasing significantly for the next two fractions. Oligomeric and polymeric PA showed the highest antioxidant activity (% scavenged DPPH), but the synergic antioxidant effect of PA classes was also observed.

Nechita Ancuța[1], Filimon Răzvan[2], Zaldea Gabi[1], Filimon Roxana[1], Damian Doina[1], Nechita Bogdan[2], Paşa Rodica[1] ([1]Research-Development Station for Viticulture and Winemaking Iaşi, Romania; [2]Research Center for Oenology of Romanian Academy - Iaşi Branch, Romania)

VALUATION OF VEGETAL RESIDUE OF GRAPE SEEDS RESULTING FROM THE EXTRACTIVE PROCESSES OF PHENOLIC COMPOUNDS

VALORIFICAREA REZIDUULUI VEGETAL DE SEMINȚE DE STRUGURI REZULTAT DIN PROCESELE EXTRACTIVE ALE COMPUŞILOR FENOLICI

The stepwise extraction process of phenolic compounds from grape seeds ultimately leads to the production of a residue rich in protein, cellulose and substances without nitrogen which can be biodegraded in nature by microorganisms from the soil. The purpose of this research was to verify whether the vegetable residue of grape seeds, resulting from the extraction of polymerized proanthocyanidins can be used as an organic fertilizer in the soil. The soil biodegradation process was assessed by microbiological analysis and analysis of current and potential dehydrogenase activity. The results obtained showed that the vegetal residue led to the increase of the number of soil microorganisms involved in the nitrogen circuit and carbon, as a result of the triggering of the biodegradation process as well as its non-polluting effect supported by current and potential dehydrogenase activity determined in dynamics over a year in experimental plots.

Nechita Ancuța, Alexandru Cătălin[1], Filimon Răzvan[2], Filimon Roxana[1], Damian Doina[1], Nechita Bogdan[2], Paşa Rodica[1] ([1]Research-Development Station for Viticulture and Winemaking Iaşi, Romania; [2]Research Center for Oenology of Romanian Academy - Iaşi Branch, Romania)

ANTIMICROBIAL ACTIVITY OF AN ACTIVE BIOLOGICAL BIOPRODUCT OBTAINED FROM GRAPE SEEDS

ACTIVITATEA ANTIMICROBIANĂ A UNUI BIOPRODUS BIOLOGIC ACTIV OBȚINUT DIN SEMINȚELE DE STRUGURI

At the Research Station for Viticulture and Enology Iasi, a polymeric condensed proanthocyanidins was obtained from Fetească neagră grape seeds, through a phase preparation, which under determined conditions with hydrogen peroxide, led to the production of a water-soluble bio product with antibacterial, antifungal and antioxidant properties. Evaluation of the antimicrobial activity of the bio product was performed by determining minimum inhibitory concentration (MIC) and minimal bactericidal concentration (CMB) against Staphylococcus aureus and Escherichia coli. From the analysis of the obtained data it was found that the bio product reacted differently from the tested species, being more active against Staphylococcus aureus (G +). The determined MIC was 1.5 mg/mL and the CMB 2.0 mg / mL. In the case of the Escherichia coli (G-) test, the MIC and CMB values were equal but increased to 3.0 mg/mL.

Gocan Tincuța-Marta[1], Andreica Ileana[1], Poşta G.[2], Rózsa Melinda[1], Rózsa Sandor[1] ([1]University of Agricultural Sciences and Veterinary Medicine of Cluj-Napoca, Romania; [2]University of Agricultural Sciences and Veterinary Medicine of Banat from Timisoara, Romania)

THE EFFECTS OF THE INDUSTRIAL PROCESSING OF THE TOMATO PASTE AND TOMATOE JUICE ON THE C VITAMIN CONTENT

EFECTELE PROCESĂRII INDUSTRIALE A PASTEI DE TOMATE ŞI A SUCULUI DE ROŞII ASUPRA CONȚINUTULUI DE VITAMINA C

Nowadays, C vitamin deficiency is much higher than in the past centuries, primarily due to the explosion of processed foods, frozen foods, fast food foods and those cooked for a long time that cannot provide the body with an intake enough vitamins. We no longer eat fruits, for example, but we consume packaged fruit juices, which, due to pasteurization and preservation, largely lose their vitamins. In the present paper, the

content of C vitamin in processed tomatoes at different temperatures and for different periods of time was followed. As the processing temperature increases, there is also an increase in C vitamin loss. Maximum C vitamin loss occurred in 15 minutes of heating at 100 °C, and when the processing temperature drops, the additional C vitamin loss rate becomes smaller.

Mohammed Naithel Radhi[1], Petrişor Cristina[2], Roşca Ioan [1], Hattf Bazool Farhood[3], Crăciun Nicolae [3], Stoian Gheorghe[3] ([1]University of Agricultural Sciences and Veterinary Medicine of Bucharest, Romania; [2]Plant Protection Institute, Băneasa, Bucharest, Romania; [3]University of Bucharest, Department of Biochemistry and Molecular Biology, Romania)

BIOCHEMICAL AND MICROBIOLOGICAL STUDY CONCERNING IDENTIFICATION ROLE OF HYDROLASE ACTIVITIES FROM *TRICHODERMA HARZIANUM* AND *TRICHODERMA KONINGII* IN PATHOGENIC FUNGUS *F.OXYSPORUM* INHIBITION

STUDIU BIOCHIMIC ŞI MICROBIOLOGIC PRIVIND IDENTIFICAREA ACTIVITĂȚILOR DE HIDROLAZĂ DIN *TRICHODERMA HARZIANUM* ŞI *TRICHODERMA KONINGII* ÎN INHIBAREA CIUPERCII PATOGENE *F.OXYSPORUM*

The genus Trichoderma are a very largegroup of microorganisms that play a significant role in plant protection.Several Trichoderma spp. like Trichoderma harzianum and Trichoderma koningii strongly affected plants by stimulating plant growth,and protecting plants from fungal and bacterial pathogens such as Fusarium oxysporium. They are used as a biological plant protection as biofungicides Members of the Trichoderma spp. are also utilized indifferent branches of industry -principally in the enzymes, antibiotics, andother metabolites. In this study we focus in the effect of T. harzianumstrain ICCF 417 and T. koningii strain ICCF 418 on F. oxysporum (ZUM 2407) by microbiologicand enzymatic tests. Where the results of fungal growth speed of the maltmedium showed that the fungus T. koningii was the fastest in growing, followed by T. harzianum and F. oxysporium after 72 hours ofculture. While the degree of antagonism was 1 according to Bell scale in petridish on the PDA medium the ability of fungi T. harzianum and T. koningii to overcome on fungus F. oxysporium. The results of thestudy showed the susceptibility of bio-fungi on production of an enzyme FPasewas 32.3 % in T. harzianum comparative to T. koningii after 14 days of fermentation, theamylase was 84.5% in T. harzianum comparative to T. koningii while the CMCase was 36.6 % in T.harzianum comparative to T. koningii. Our results showed that hydrolase activities studied in this experiment play animportant role in pathogenic fungus F. oxysporum inhibition and the degree of effect is different.

Stoicescu (Ghinescu) Dana Cristina, Roşca Ioan (University of Agricultural Sciences and Veterinary Medicine of Bucharest, Romania)

THE BIODIVERSITY STUDY OF THE ENTOMOFAUNA (SUPERFAMILY PENTATOMIDAE - HETEROPTERA) FROM BANEASA FOREST, BUCHAREST

STUDIUL BIODIVERSITĂȚII ENTOMOFAUNEI (SUPERFAMILIA PENTATOMIDAE - HETEROPTERA) DIN PĂDUREA BĂNEASA, BUCUREŞTI

Among the factors that cause biodiversity loss, human activity in the sensitive ecosystem of forests can be easily monitored. The research carried out during 2016 focused on the study of Heteroptera fauna in the Baneasa forest, where the natural environment was modified by human intervention through both recreational activity and constructions, insect collection being made by mowing with the entomological net, determining the structure of the systematic groups of the Heteroptera identified in the Baneasa forest, and a characterization of the zoogeographical origin of the species. In the Baneasa forest, the area hardly affected by the human activity, but less researched in terms of Heteroptera fauna, 51 species of Pentatomoidae were found, in our opinion 10 seem to originate from Manciurian refuge Usuric subcenter, 37 from Mediterranean refuge, 2 come from the Caucasian tree refuge and one species could originate from the Aralo-Caspic refuge (Turanic).

Siakavelis Kostantinos, Roşca Ioan (University of Agricultural Sciences and Veterinary Medicine of Bucharest, Romania)

RESEARCHES ON THE PESTS EVOLUTION IN GRAFTED WATERMELON CROPS

CERCETĂRI PRIVIND EVOLUȚIA DĂUNĂTORILOR îN CULTURILE DE PEPENI VERZI ALTOIȚI

Grafting, at watermelons, could be used to increase resistance to environmental stress, in order to increase resistance to soil pathogens and pests (nematodes, European mole cricket, wire, white or grey worms), also could reduce, during the vegetation period, the pests attack (aphids, thrips, two-spotted spider mite, seedcorn maggot and mining fly). It is presented the situation of the trade, made by Kileler Plants SRL with grafted seedlings of green melons, grafted vegetables from Greece. Plants obtained from grafted melon seedling have not been attacked by nematodes, and the percentage of plants attacked by European mole cricket, wireworms, whiteworms and grayworms was lower, less than 0.1% of grafted plants have been destroyed by pests, in respect with 4.8% from non-grafted plants. The pest control technology during the vegetation period, is presented, showing that in the case of grafted plants at least one control treatment may be reduced.

POSTER PRESENTATIONS

Chairmen:
Prof. dr. Mihai **ISTRATE**
Prof. dr. Ion **SCURTU**
Prof. dr. Mihai **TĂLMACIU**
Conf. dr. **Gheorghe NICOLAESCU**
C.S. I Dr. ing. Doina **DAMIAN**
C.S. III Dr. ing. Alina **DONICI**

Secretariat:
Asist. dr. Maria **BRÎNZĂ**
Asist. dr. Monica **HEREA**
Asist. dr. Gabriel **TELIBAN**

Cojocaru Alexandru, Munteanu Neculai, Stoleru Vasile, Stan Teodor, Ipătioaiei Costel, Voicu Miia (University of Agricultural Sciences and Veterinary Medicine of Iaşi, Romania)

THE EFFECT OF MULCH AND DENSITY ON THE RHUBARB YIELD
EFECTUL MULCIULUI ŞI DENSITĂȚII ASUPRA PRODUCȚIEI DE REVENT

The aim of the present work has been to study the influence of technological factors (density and methods of mulching), on the total yield of rhubarb, in the case of Victoria and Glaskin's perpetual cultivars and the local population "De Moldova". Applying differential cultivation technology, the rhubarb yield varies according to the mulching system and crop density. The highest total production was obtained at straw mulching and density of 13.330 plants·ha^{-1}. Statistically assured yields were also obtained at the same density but without mulching. The total yield varied within wide limits according to the two technological factors, ranging from 26.37 t·ha^{-1} to 43.72 t·ha^{-1}.

Gache (Lungu) Mirabela, Munteanu Neculai, Stoleru Vasile, Teliban Gabriel Ciprian, Galea (Deleanu) Florina Maria, Caba (Inculeț) Simona-Carmen (University of Agricultural Sciences and Veterinary Medicine of Iaşi, Romania)

PRELIMINARY STUDIES ON THE CULTURE OF VEGETABLE PLANTS IN POTS AND CONTAINERS
STUDII PRELIMINARE PRIVIND CULTURA PLANTELOR ÎN GHIVECE ŞI CONTAINERE

This paper presents a literature review of the vegetable growing in pots and containers. Growing vegetables in this system it is known for a long time in the countries of Western Europe and in some areas of our country. Adopting this system in Romania requires in-depth studies regarding: the suitable species, the type of pots and soil recipes needed, crop establishment and maintenance (fertilizers, irrigation) and, in some cases optimization of the certain referring to light and placement of pots and container. This type of culture is spread mainly in peri-urban areas were the interest among gardeners to grow their own crops and secure their vegetable needs is high and has a favorable environment. This type of system presents a large diversity worldwide but, within this diversity, the climatic conditions from our country must be appropriate for growing vegetable species in pots and containers.

Inculeț Simona-Carmen, Munteanu Neculai, Teliban Gabriel-Ciprian, Stoleru Vasile (University of Agricultural Sciences and Veterinary Medicine of Iaşi, Romania)

PRELIMINARY STUDIES REGARDING THE IMPROVEMENT OF TOMATO QUALITY THROUGH DIFFERENT TECHNOLOGICAL MEASURES
STUDII PRELIMINARE PRIVIND ÎMBUNĂTĂȚIREA CALITĂȚII FRUCTELOR DE TOMATE PRIN DIFERITE MĂSURI TEHNOLOGICE

The tomatoes represent the most largely spread vegetable species, being valued across all continents and cultivated over the period of the entire year. The tomato nutritional quality largely depends on the genetic potential of the cultivar, the biotope, as well as the fertilization system that was used. The main aim of these studies represents the analysis of the effect of using different technological means (cultivar, fertilization, irrigation) in order to obtain the tomato fruits with a high nutritional content.

Iurea Dorina[1], Munteanu Neculai[2], Mangalagiu Ionel[3], Stoleru Vasile[2] ([1]Institute of Biological Research Iaşi – Subsidiary of National Institute of Research & Development for Biological Science Bucharest, Romania; University of Agricultural Sciences and Veterinary Medicine of Iaşi, Romania; [3]"Al. I. Cuza" University of Iaşi, Romania)

STUDY ON THE INFLUENCE OF SOME NATURAL PHYSIOLOGICAL ACTIVE COMPOUNDS ON THE TOMATO CROP FROM POLYTUNNELS
STUDII PRIVIND INFLUENȚA UNOR COMPUŞI NATURALI FIZIOLOGIC ACTIVI ASUPRA CULTURII DE TOMATE ÎN SOLARII

The Moldstim – a furostanol glycoside – representing natural substance belonging to the class of saponines (to be met in Capsicum annuum)- were obtained through alcoholic extraction from hot pepper and constitute bioactive substance of vegetal origin, having a wide variety of biological activities, especially antitumoral, antiviral, antifungical, etc. The objective of the present paper is the evalution of its biostimulator activity of Moldstim on the groth and development of tomato plants. The treatments consist of the spraing with aqueous solution of Moldstim in different dosses and ways of using. Result emphasized the favorable effects of treatments on extra-yearly and yearly yields, depending of phenophase and concentration of the holdstim solution.

Maftei (Hriscu) Adriana, Munteanu Neculai, Stoleru Vasile, Teliban Gabriel Ciprian, Galea (Deleanu) Florina-Maria (University of Agricultural Sciences and Veterinary Medicine of Iaşi, Romania)

RESEARCH ON GROUNDING AND CULTIVATION OF VEGETABLE CROPS IN MICROGREENS SYSTEM
CERCETĂRI CU PRIVIRE LA PREGĂTIREA ŞI CULTIVAREA LEGUMELOR ÎN SISTEMUL MICROGREENS

Microgreens represent a new category of vegetable products that have a shorter life period than the normal vegetables and differ in size (from 3 to 10 cm) and contain a variety of flavors, colors, textures. They have higher nutritional intake than the normal vegetables and represent a new trend current with their colors and taste. They have a vegetation period of between 7 and 28 days depending on the species chosen and can they can be grown in protected areas throughout the year. The main object of this paper is to create a guide for the growth of this type of vegetable crop, taking into account the following aspects: the choice of the cultivated species, the choice of the crop support, the sprouting regime, the culture substrate, finally establishing the best methods and species of vegetables production in microgreens.

Rozsa Melinda, Apahidean Maria (University of Agricultural Sciences and Veterinary Medicine of Iaşi Cluj-Napoca, Romania)

THE INFLUENCE OF TEMPERATURE AND PH ON *CORDYCEPS MILITARIS* MUSHROOM MYCELIUM GROWTH
INFLUENȚA TEMPERATURII ŞI A PH-ULUI ASUPRA CREŞTERII MICELIULUI CIUPERCII *CORDYCEPS MILITARIS*

Cordyceps is from the Greek kordyle meaning "club" and ceps for "head". Sinensis means "from China". Militaris is related to the growth pattern that looks like a regiment of toy soldiers. Cordyceps is the fruiting body of fungi parasitizing other fungi, such as the deer truffle (Elaphomyces spp.), or insects, such as caterpillars of moths, ants, and beetles. It grows inside the caterpillars and other insects to produce hyphae. When they die, the fungus produces a fruiting body that sporulates into the wind to infect another generation. For the successful cultivation of any mushroom on a small scale or commercial scale, one of the most important requirements is the mycelium of that species or variety. The spawn is a pure culture of the mycelium grown on a special medium. The growing temperature and substrate pH are specific for each species and variety.

Rozsa Sandor (University of Agricultural Sciences and Veterinary Medicine of Iaşi Cluj-Napoca, Romania)

CORRELATION BETWEEN SOLUBLE DRY MATTER AND β-1,3 D-GLUCAN CONTENT IN *AGARICUS BLAZEI* MURRILL MUSHROOMS
CORELAȚIE ÎNTRE SUBSTANȚA USCATĂ SOLUBILĂ ŞI CONȚINUTUL DE β-1,3 D-GLUCAN LA CIUPERCILE *AGARICUS BLAZEI* MURRILL

Experiments carried out by the researchers, about the extraction of the anti-tumour substances, like protein complex polysaccharides, which have demonstrated favorable effects of the immunostimulatory preparations and biologically active biomass obtained from certain species of fungi from the Basidiomicetae group. Thus, the antitumor activity of the β-1,3-D-glucan polysaccharide fractions extracted from mycelial biomass and fructification bodies of Agaricus blazei Murrill are well known. Mushrooms grown on synthetic substrate with wheat bran addition have a higher content of soluble dry substance (8.80%) and proteins (30.63% of the dm). The content of β-1,3-D-glucan, a specific substance in Agaricus blazei Murrill mushrooms, with a high biological value, is relatively high in the product obtained on the classic compost with the addition of corn flour and wheat bran (3.22-3.41 mg 100 g-1 dm). Regression obtained from the correlation of these, shows strong link between the two components being very significant in both cases.

Teliban Gabriel-Ciprian[1], Munteanu Neculai[1], Stoleru Vasile[1], Popa Lorena-Diana, Burducea Marian[2] ([1]University of Agricultural Sciences and Veterinary Medicine of Iaşi, Romania, [2]„Al. I. Cuza" University of Iasi, Romania)

ASSESSING THE POSSIBILITY OF RUNNER BEAN (*PHASEOLUS COCCINEUS* L.) CULTIVATION IN A GARDEN SYSTEM IN ROMANIA - A COMPARATIVE STUDY BETWEEN DIFFERENT CULTIVARS
STUDIUL COMPARATIV AL UNOR CULTIVARE DE FASOLE MARE DE GRĂDINĂ (*PHASEOLUS COCCINEUS* L.)

This paper aims to assess the possibilities of cultivating runner beans (Phaseolus coccineus L.) in order to obtain string less pods, under the field conditions from Iasi County (Romania). The experience was organized in the form of comparative crops using 11 cultivars obtained from the UK. The experiment was

carried out at the "Vasile Adamachi" research farm of "Ion Ionescu de la Brad" University of Agricultural Sciences and Veterinary Medicine of Iasi, Faculty of Horticulture. The culture was set up in 2016, by direct sowing (three plants / nest), at a distances of 100 x 50 cm. The preliminary results, after one year of experimentation, revealed that the runner bean plants have a good adaptability to the environmental conditions in our country. Furthermore, runner bean cultivated in garden system can provide fresh pods for consumption throughout the vegetation period.

Vitănescu Maricel, Munteanu Neculai, Cojocaru Alexandru, Stoleru Vasile (University of Agricultural Sciences and Veterinary Medicine of Iaşi, Romania)

PRELIMINARY STUDIES REGARDING THE INTRODUCTION IN THE CROP OF THE *CHENOPODIUM QUINOA* WILLD SPECIES AS A VEGETABLE PLANT

STUDII PRELIMINARE PRIVIND INTRODUCEREA ÎN CULTURĂ A SPECIEI *CHENOPODIUM QUINOA* WILLD CA PLANTĂ LEGUMICOLĂ

Quinoa is a species originating in South America, more exactly in the area of Lake Titicaca from the Andes mountains, which is generally cultivated for its seeds. The aim of the preliminary research was to study the possibility of introducing the quinoa species in the vegetable crop, for its leaves. Quinoa adapts to areas of warm and dry climate. The plant can grow in humidity conditions of 40% up to 88%, is resistant to temperatures ranging from-4 °C and 38 °C, appropriate for crops cultivated at the sea level, and up to altitudes of 4.000 meters. The seeds' nutritional quality is granted by the high content of protein, quality fatty acids and a high number of amino acids, which makes it a functional food product, ideal for the human body.

Voicu Miia[1], Munteanu Neculai[1], Stoleru Vasile[1], Teliban Gabriel[1], Stoleru Carmen[2] ([1]University of Agricultural Sciences and Veterinary Medicine of Iaşi, Romania; [2]"V. Adamachi" College of Agricultural and Food Industry, Iaşi, Romania)

THE INFLUENCE OF THE STORAGE PERIOD OF PEA SEEDS ON THEIR GERMINATION CAPACITY

INFLUENȚA DURATEI DE PĂSTRARE A SEMINȚELOR DE MAZĂRE ASUPRA CAPACITĂȚII DE GERMINARE

The present paper presents a study regarding the influence of the storage period on the germination capacity of garden peas seeds. The germination capacity of the garden peas seeds was done according to the Romanian standard SR 1634/1999, during a period of three years, between 2012-2014. The number of germs resulted naturally has constantly declined starting from 2012 up until 2014, in all cultivars, but the biggest decline was recorded in the Skinado (11.80 %) and Television (12.32 %) cultivars. The final value of the total germination in the case of the Television cultivar was of 76.5 %, being below the acceptable limit for germination, that is of 80%.

Iurea Elena, Sîrbu Sorina, Corneanu Margareta (Research and Development Station for Fruit Tree Growing, Iaşi, Romania)

RESEARCH ON THE BEHAVIOR OF SOME SWEET CHERRY CULTIVARS IN IASI AREA

CERCETĂRI PRIVIND COMPORTAREA UNOR SOIURI DE CIREŞ ÎN ZONA IAŞI

The aim of the paper is to present the valuable features of sweet cherry cultivars obtained at RSFG Iasi but also of some foreign cultivars which improve the range with different fruit ripening period throughout during entire harvest season. Regarding on the three years average yield (2015-2017) it is reported statistically that all the cultivars recorded insignificant differences compared to the average of cultivars (20.3 kg/tree) with values between 16.7 kg/tree (Cătălina) and 24.3 kg/tree (Marina). In terms of weight and equatorial diameter of fruits, Cetățuia (5.0 g respectively 21.07 mm) recorded significant negative differences compared to the average of the variants (6.9 g and 23.53 mm) and all cultivars taken in the study registered insignificant differences compared with control.

Sîrbu Sorina, Iurea Elena, Corneanu Margareta (Research and Development Station for Fruit Tree Growing, Iaşi, Romania)

NEW SWEET CHERRYCULTIVARSFORROMANIAN ORCHADS

NOI SOIURI DE CIREŞ PENTRU PLANTAȚIILE POMICOLE DIN ROMÂNIA

In the last ten years was been introduced into the orchards of Romania new autochthonous sweet cherry cultivars or from the foreign assortment. Research was conducted during 2014-2016 at three Romanian new obtained cultivars as 'Andreias', 'Alexus' and 'Mihailis' and two introduced sweet cherry cultivars as 'Kordia' (Czech Republic) and 'Van' (Canada). An other cultivar, 'Boambe de Cotnari' (Romania) was evaluated. 'Boambe de Cotnari' is an old cultivar very spread in Romania and still demanded by producers. Some parameters related to phenological stages and fruit characteristics were determined. Sweet cherry cultivars taken into study registered fruit weight value as 7.72 g (as average 2014-2016) and soluble solids content as 14.53°Brix.

Veringă Daniela[1], Mohora Angela[1], Lămureanu Gheorghe[2] (Research and Development Institute for Processing and Marketing of the Horticultural Products – Horting, Bucharest, Romania; [2]Research Station for Fruit Growing Constanta, Romania)

PRELIMINARY RESULTS REGARDING MAINTAINING OF THE QUALITY AFTER HARVESTING OF THE APRICOTS

REZULTATE PRELIMINARE PRIVIND MENȚINEREA CALITĂȚII CAISELOR DUPA RECOLTARE

The aim of this paper is to establish the influence of variety and storage conditions on the preserving capacity after harvesting of the apricots. The paper presents the results obtained in 2016 on quality maintaining of the apricots. There were studied two Romanian varieties of apricots, created from Research Station for Fruit Growing (R.S.F.G) Constanta - Mamaia and Olimp. Apricots were kept at Research and Development Institute for Processing and Marketing of the Horticultural Products Bucharest, in different technological conditions: ambient temperature (20-22ºC); temperature of 10-12° C (refrigerated conditions), with and without modified atmosphere and temperature of 3-5ºC (cold storage). The initial level and the evolution during storage of the firmness of the fruits and of the main biochemical components: soluble dry matter, soluble carbohydrates, titratable acidity and vitamin C were determined. After storage determinations were performed on the total losses, quantitative losses (expressed by evaporate-transpiration) and qualitative depreciations. The results revealed the fact that, in general the apricots were sensitive to storage, the maximum storage duration being 5-20 days, depending on the storage conditions. The two main problems were represented by the mass losses, which caused the wrinkle of the fruist and the injuries, which mostly affected the appearance and the consumption quality. The losses by impairment were between 0 to 22.5%, depending on the variety, conditions and duration of storage. The depreciation of the apricots during storage was caused in most cases by the attack and the development of diseases (Botrytis, Penicillium, Phytophthora etc), which have spread rapidly in the fruit mass. The apricots of Mamaia variety were more resistant to storing than Olimp variety, which degraded faster and more than the others. The most favorable conditions for the maintaining of the quality have been shown to be temperature of 10-12° C (refrigerated conditions), with modified atmosphere (5% CO_2-enriched), in which apricots have recorded, after 20 days of storage, quantitative losses of less than 0.5% and losses by impairment of 0-2.78%, depending on variety.

Enache Viorica, Tăbăranu Gabriel, Donici Alina (Research and Development Station for Vine and Winemaking Bujoru, Romania)

TREND OF THE EVOLUTION OF DAILY PRECIPITATION IN THE CONDITION OF PROBABLE CLIMATIC CHANGES IN THE DEALUL BUJORULUI VINEYARD

TENDINȚA EVOLUȚIEI PRECIPITAȚIILOR ZILNICE ÎN PODGORIA DEALUL BUJORULUI ÎN CONDIȚII DE SCHIMBĂRILOR CLIMATICE PROBABILE

The evolution of the precipitations in the Dealul Bujorului vineyard was studied during 1980-2016. The periods 1980-2006 and 2007-2016 were compared. We analyzed the frequency of torrential rains, rainfalls, rainfall surplus / rainfall both during the vegetation period and during the winter. All these observations and determinations will allow the assessment of the consequences of extreme precipitation under the current climate change conditions. From the data analyzed was observed a tendency to accentuate the rainfall events during certain periods (increased frequency of extreme rains, torrential rain followed by long periods with rainfall, increasing the frequency of non-worthwhile rains).

Damian Doina, Filimon Roxana, Nechita Ancuța, Filimon Răzvan (Research-Development Station for Viticulture and Winemaking Iaşi, Romania)

AGROBIOLOGICAL AND TECHNOLOGICAL CHARACTERISATION OF SOME CLONAL ELITES FOR WINE GRAPES OBTAINED WITHIN S.C.D.V.V. IAŞI

CARACTERIZAREA AGROBIOLOGICĂ ŞI TEHNOLOGICĂ A UNOR ELITE CLONALE PENTRU STRUGURI DE VIN OBȚINUTE ÎN CADRUL S.C.D.V.V. IAŞI

Autochthonous and cosmopolitan grapevines varieties represent a valuable source of germoplasm, which is particularly important for the breeding of the currently cultivated genotypes.Thestructural improvement of the national viticulturalassortment is supported by scientific research in the field of vine breeding, whose mission was and is to renew, diversify and increase the biological value of the vine assortment by creating new qualitative and productive genotypes with superior resistance to disease and stress factors, through both genetic engineering and clonal selection. The present paper contains the results obtained at the Research Development Station for Viticulture and Winemaking Iasi, referring to the agrobiological and technological characteristics of clonal elites selected from the populations of the varieties: Sauvignon blanc, Pinot gris and Cabernet Sauvignon. The clonal elites obtained, through the cultural and qualitative features for which they were selected, complementarily contribute to achievement of high quality grape productions.

Rotaru Liliana, Colibaba Lucia Cintia (University of Agricultural Sciences and Veterinary Medicine of Iaşi, Romania)

THE INFLUENCE OF ORGANIC FERTILISER NOVA® ON THE OENOLOGICAL POTENTIAL OF FETESCĂ REGALĂ AND ALIGOTÉ IN IASI VINEYARD

INFLUENȚA FERTILIZANTULUI ECOLOGIC NOVA® ASUPRA POTENȚIALULUI OENOLOGIC AL SOIURILOR FETESCĂ REGALĂ ŞI ALIGOTÉ, CULTIVATE ÎN PODGORIA IAŞI

The necessity of vineyard fertilization is imposed by the fact that the vine is a perennial plant and it extracts for a long time large amounts of nutrients. In this context, this paper also includes a study on the use of a NOVA® organic fertilizer in establishing the oenological potential of vine varieties that are highly cultivated in Moldova, which allow the consumer to appreciate a wide range of wines. The technological grape indices of the studied varieties have demonstrated the superiority of applying biofertilisers, making them larger, less dense in berries that have a higher mass and must capacity. The grape yield is slightly larger, namely: 73.7% for the Aligoté variety, compared to 72.5% untreated variety, while for Fetească regală variety the increase is up to 65.9%, compared to 64.9%. The quality of the grapes has also been improved by application of the NOVA® foliar biofertiliser, the accumulation in sugar being higher while the acidity is more balanced. Accumulation in sugars allows the production of white table wines with geographical indication (Aligoté) or quality wines (Fetească regală).

Zaldea Gabi, **Nechita Ancuța, Damian Doina, Alexandru Lulu Cătălin (**Research-Development Station for Viticulture and Winemaking Iaşi, Romania)

DYNAMICS OF SOIL MOISTURE IN VINEYARDS UNDER WATER AND THERMAL STRESS CONDITIONS

DINAMICA UMIDITĂȚII SOLULUI ÎN PLANTAȚIILE VITICOLE ÎN CONDIȚII DE STRES HIDRIC ŞI TERMIC

At the Copou - Iasi viticulture center, in recent years we witnessed a decrease in the multi - annual average rainfall regime, this being of 579.6 mm and of 398.1 mm (1981-2010) during the vegetation period. Between 1992 - 2014, the driest years were 2000, 2007, 2009 and 2012. Drought conditions were also in 2015 and 2016, having different characteristics. In 2015, there were few precipitations accompanied by high temperatures, often above 30°C. The amounts of rainfall recorded in 2016 were very unevenly distributed, thus there were recorded months with very low quantities, well below the normal values and months when quantities were higher than the normal values. Low rainfall and high temperatures have led to a sharp decline in accessible soil moisture values, well below optimal humidity levels for the vine, and to increased deficit.

Zaldea Gabi, **Nechita Ancuța, Alexandru Lulu Cătălin (**Research-Development Station for Viticulture and Winemaking Iaşi, Romania)

EVALUATION OF THE CONSERVATION OF BIODIVERSITY OF ECOSYSTEMS IN THE WINE CENTER OF COPOU IAŞI

EVALUAREA STĂRII DE CONSERVARE A BIODIVERSITĂȚII ECOSISTEMELOR DIN CENTRUL VITICOL COPOU IAŞI

In order to assess the positive impact of the implementation of bio-resources, the greening system and multifunctional protection areas, on the functional biodiversity in the vineyard ecosystems of the vine plantations under the administration of the Research Station for Viticulture and Enology Iasi, six experimental plots were selected, which have native varieties, older and newer, recent creations, varieties of table grapes and wine grapes. The conservation status of biodiversity was assessed by means of two indicators, namely the quantity of semi-natural elements in the landscape of the vineyard holding and their quality. Following the assessment of the conservation status of the agroecological infrastructures (IAE) within the studied wine perimeter, it was found that these have on average a medium to good status, being able to apply corrective measures.

Andrieş Mitică Tiberiu[1], Odăgeriu Gheorghe[2], Vararu Florin[3], Zamfir Cătălin Ioan[2], Cotea V. Valeriu[1] ([1]University of Agricultural Sciences and Veterinary Medicine of Iaşi, Romania, [2]Research Center for Oenology of Romanian Academy - Iaşi Branch, Romania; [3]S.C. Agroindustriala Bucium S.A. – Iasi, Romania)

EXPERIMENTAL ASPECTS REGARDING THE MALOLACTIC FERMENTATION USING THE FREEZE-DRIED CULTURE OF *OENOCOCCUSOENI* FOR REDWINES

ASPECTE EXPERIMENTALE PRIVIND FOLOSIREA UNUI PREPARAT DE *OENOCOCCUSOENI* LA FERMENTAȚIA MALOLACTICĂ A UNOR VINURI ROŞII

This paper presents some typical aspects of the malolactic fermentation process, respectively, the variation of total acidity, real acidity (pH) and volatile acidity, malic acid metabolization and formation of lactic acid. Also, other composition characteristics like tartaric and citric acids, potassium, calcium, reducing sugars and phenolic compounds were studied. The experiment was conducted both in laboratory conditions as well as in industrial conditions, on Feteascaneagra and Cabernet sauvignon wines. In order to start the malolactic fermentation, after 7-15 from the end of alcoholic fermentation, a freeze-dried culture of Oenococcusoeni (commercialized under the name of FD-DVS Viniflora CH11) were inoculated directly into wine. In all samples except the control sample we found a decrease of total acidity andmalic acid content, correlated to an increase of the pH and lactic acid content. Regarding the potassium and calcium cations, there was a decrease. Also, the content of phenolic compounds, showed differences from the control sample.

Ciubucă Aurel, Donici Alina, Postolache Elena, Bora D.F., Bîrliga Nicolaie, Donici Iulian (Research and Development Station for Vine and Winemaking Bujoru, Romania)

DETERMINATION OF LEVURIEN BIOMASS IN BIOREACTOR
DETERMINAREA BIOMASEI LEVURIENE ÎN BIOREACTOR

In the bioreactor, optimal growth and multiplication conditions were created by applying growth and aeration factors, reaching a multiplication rate of 32x10^6 cells / ml in the bioreactor versus 12x106 cells/mL at the control. The amount of yeast biomass obtained in the bioreactor was 78.6% higher than in the control by the aerobic stimulation effect of the synthesis of cellular precursors of biomass multiplication. In the bioreactor, the conditions of respiratory multiplication of the yeast have been established, as proven by the reduced alcohol content of 7.5% alcohol and the large amount of biomass obtained by biosynthesis compared to the control where the fermentative processes prevail at the expense of the respiratory ones.

Codreanu Maria[1], Cotea V. Valeriu[2], Niculaua Marius[3], Luchian Camelia Elena[2], Colibaba Cintia Lucia[2] ([1]Directorate for Agriculture Iasi County, Romania, [2]University of Agricultural Sciences and Veterinary Medicine of Iaşi, Romania, [3]Research Center for Oenology of Romanian Academy - Iaşi Branch, Romania)

STUDY ON THE USE OF CARBON NANOTUBES IN THE PRE-FERMENTATIVE STAGE OF WINE PRODUCTION
STUDII ASUPRA UTILIZĂRII NANOTUBURILOR DE CARBON ÎN ETAPA PREFERMENTATIVĂ DE OBȚINERE A VINULUI

An important role in structuring the quality of the future wine is palyed by the treatments applied in the pre fermentative stage of winemaking.This study aims to assess the influence of prefermentative treatments with carbon nanotubes on the compositional characteristics of Cabernet Sauvignon wine. The total polyphenols content expressed as mg of gallic acid showed that carbon based materials reduced the amount of phenols in wine from 616,71 mg/L to 513,47 mg/L. Major colour and hue differences for Cabernet Sauvignon wines are found in the samples treated with carbon nanotubese. Tyrosine content decreased from 31.67 mg/L (M) to 0.01 mg/L (CNTs).

Colibaba Lucia Cintia, Rotaru Liliana (University of Agricultural Sciences and Veterinary Medicine of Iaşi, Romania)

STUDIES REGARDING SOME GAPE VARIETIES IN DEALU BUJOR VINEYARD DURING 2015-2016 PERIOD
STUDII ASUPRA UNOR SOIURI DE STRUGURI DIN PODGORIA DEALU BUJOR IN CONDIȚIILE ANILOR 2015 SI 2016

As a result of climatic changes we are witnessing in recent years, the characteristic phenophases of vines are constantly changing. Their evolution is extremely important for obtaining a qualitative final product, be it wine or table grapes. The present article follows the maturation period of some grape varietiesstruguri (Fetească albă, Fetească regală, Băbească gri, Fetească neagră and Băbească neagră) in the DealuBujor vineyard in correlation with the obtained wines but also the climatic conditions in the area in the years 2015 and 2016. The obtained results (the maturation dynamics of the grapes – total acidity, sugars and mass of 100 berries) as well as those from the obtained wines' analysis can be used for the creation of specific viticultural and oenologic databases, to represent in a clear and concise way the region's oenological potential in the current climate.

Focea Mihai, Luchian Camelia, Moroşanu Ana Maria, Niculaua Marius, Andrieş Tiberiu, Cotea V. Valeriu (University of Agricultural Sciences and Veterinary Medicine of Iaşi, Romania)

ORGANOLEPTIC CHARACTERISTICS OF EXPERIMENTAL SPARKLING WINES
CARACTERISTICI ORGANOLEPTICE ALE UNOR VINURI SPUMANTE EXPERIMENTALE

There are two main production processes for the quality sparkling wines: traditional and charmat methods. In the traditional procedure, the second alcoholic fermentation of the base wine is carried out in sealed bottles. Some of the most popular sparkling wines, such as Champagne and Cava, are produced by the traditional method. Sensory and organoleptic characteristics are one of the most important indicators of sparkling wine quality for the acceptability of a product by consumers. So, this research is focused on the study of the influence of different yeasts strains on the organoleptic profile of the experimental sparkling white wines produced by traditional method. Therefore, a Muscat Ottonel grape must was used and passed by a reverse osmosis process. The obtained permeate was mixed with a calculated amount of the concentrate to generate a must with a potential of 10.5% (v/v) alcohol, in order to obtain the base wine for the second fermentation. The obtained, stabilized, sparkling wine was analyzed for oenological parameters and to determine the organoleptic characteristics. Following the organoleptic analysis, the significant differences in the sensory profile for the analyzed wine samples were confirmed.

Nistor Alina-Mihaela[1], Niculaua Marius[2], Cotan Ştefan-Dragoş[1], Luchian Camelia-Elena[1], Teliban Iulian[1], Cotea V. Valeriu[1] ([1]University of Agricultural Sciences and Veterinary Medicine of Iaşi, Romania; [2]Oenology Research Center – Iaşi Branch of the Romanian Academy)

THE NEGATIVE INFLUENCE OF TEMPERATURE OVER FLAVOR COMPOUNDS FROM WINE
INFLUENȚA NEGATIVĂ A TEMPERATURII ASUPRA COMPUŞILOR DE AROMĂ DIN VIN

The aromatic profile of wine is offered by the variety of volatile chemical compounds, especially esters, alcohols, carboxylic acids and compounds that contain nitrogen, which can determine different aromas based on concentration. One of the very important factors in forming the aroma is the fermentation temperature whose optimal value must be between 15-17 °C. This study evaluated a series of wine samples which were fermented without temperature control, reaching an average temperature of between 21-24°C. Following this experiment it was observed how the compounds that give floral and fruity aromas can give unwanted sensations in high concentrations. At the same time, several esters of the fatty acids were observe which give a heavy smell and cause the sensation of fat. It was observed that the aromatic profile of the sample which was fermented at higher temperature is more affected, even becoming repulsive once the temperature is rising.

Teliban Iulian[1], Colibaba Cintia[1], Zamfir Cătălin[2], Niculaua Marius[2], Odageriu Gheorghe[2], Tudose Sandu-Ville Ştefan[1], Costea-Savin Zenaida[1], CoteaV.Valeriu[1] ([1]University of Agricultural Sciences and Veterinary Medicine of Iaşi, Romania; [2]Oenology Research Center – Iaşi Branch of the Romanian Academy)

STUDIES ON SOME ALIGOTĔ WINES OBTAINED THROUGH DIFFERENT WINE-MAKING TECHNOLOGIES
STUDII ASUPRA UNOR VINURI DE ALIGOTÉ OBȚINUTE PRIN DIFERITE TEHNOLOGII DE VINIFICAȚIE

The spectacular advances recorded lately by the volatile compound detection devices can not yet analyse a series of flavors that can be spotted by a trained taster. In this article we studied the influence the fermentation volumes have on the sensory profile of the final product. Aligoté grapes from Bucium viticultural center, in Iasi vineyard were used. After crushing, destemming and pressing, the marc was divided into containers of various volumes, from 25 L demijohns to 1000 L tanks. Various selected yeasts was innoculated. For the organoleptic annalysis of wines obtained by the fermenting Aligoté musts, a sensory analysis was organized for each wine assortment. The wines obtained in the industrial system show notes of fresh cut grass and hay and more pronounced notes of green fruits, with a stronger minerality. The texture and persistence of the wines obtained at small scale production are more obvious.

Tudose-Sandu-Ville Ştefan[1], Niculaua Marius [2], Colibaba Cintia [1], Andrieş Mitică Tiberiu[1], Zamfir Cătălin Ioan[2], Luchian Camelia Elena[1], Cotea V. Valeriu[1] ([1]University of Agricultural Sciences and Veterinary Medicine of Iaşi, Romania, [2]Research Center for Oenology of Romanian Academy - Iaşi Branch, Romania; [3]S.C. Agroindustriala Bucium S.A. – Iasi, Romania)

STUDIES REGARDING THE INFLUENCE OF SOME SELECTED YEAST STRAINS ON THE AROMATIC COMPOUNDS FROM CIDER
STUDII PRIVIND INFLUENȚA UNOR PREPARATE LEVURIENE ASUPRA COMPUŞILOR DE AROMĂ DIN CIDRU

The purpose of this study is to identify the influence of seven yeast stains to aroma compounds from cider.
110L of apple juice was divided into seven glass containers and subjected to fermentation. Were used seven Sacharomyces cerevisiae yeast strains commercialized under the name ofV1-Fermative Blanc Aromatique(Sodinal®-France), V2-Lalvin Rhone 2056 Yseo(Lallemand®-Australia) V3-Maurivin (AB®-England), V4-Yseo Cross Evolution(Lallemand®-Australia) V5-Yseo Cross Evolution(Lallemand®-Australia), V6-Fermactive Thyol(Sodinal®-France) V7- Afinity ECA5 Levure-Yeast (IOC ®-France).The primary fermentation was carried at 18°C and lasted for two weeks. The secondary fermentation happened after bottling, without other yeast inoculation. After the second fermentation ended, the obtained cider was subjected to gas chromatograph aroma compounds analyses.The results shows high content of aroma compounds from the groups of alcohols, esters and terpenes in all seven variants. Of all seven studied samples, it was notedthe yeast strains commercialized under the name of V3-Maurivin AB®, with a high number of aromatic compounds in.

Bahrim Cezar, Draghia Lucia, Brînză Maria, Chelariu Elena Liliana (University of Agricultural Sciences and Veterinary Medicine of Iaşi, Romania)

MORPHOLOGICAL AND ORNAMENTAL STUDY OF *EREMURUS* SPECIES
STUDII PRIVIND CARACTERELE MORFOLOGICE ŞI ORNAMENTALE ALE UNOR SPECII DE *EREMURUS*

Eremurus genus includes perennial plants found in dry grassland and semi-desert in western and central Asia. The species of Eremurus are ornamental plants well known for their large colorful racemes which make stunning attractions in the garden, and also used for cut flower production. Fur ther more, members of this genus have several other uses such as a source of natural glueand as a vegetable. The underground organs of th eplant consist of tuberous roots and a corm-like crown with renewal buds. The morphological and ornamental features of three species of Eremurus (E. stenophyllus (Boiss. Bushe) Baker, E. robustus (Regel) Regel, E. himalaicus Baker.) were studied. The investigations were carried out in the experimental fields of University of Agricultural Sciences and Veterinary Medicine from Iasi, Romania, where different Eremurus species were growing.

Călin Maria[1], Cristea Tina Oana[1], Ambăruş Silvica[1], Brezeanu Creola[1], Brezeanu Petre Marian[1], Muscalu Sebastian Petru[1], Prisecaru Maria[2], Costache Marcel[3], Şovărel Gabriela[3], Bratu Liliana[3] ([2]Research and Development Station for Vegatable Growing of Bacău, Romania; [2] "Vasile Alecsandri" University of Bacău, Romania; [3]Vegetable and Flower Research and Development Institute Vidra, Romania)

THE STUDY OF BIOLOGICAL CONTROL OF ONION THRIPS IN PEPPER
STUDIUL COMBATERII BIOLOGICE A TRIPSULUI COMUN LA ARDEI

The trials of trips attack and ecological control of pests were performed at Vegetable Research and Development Station Bacau – Romania, during 2016 - 2017. The dynamic of trips attack in pepper and effectiveness of Amblyseius swirskii At.-H. (Arachnida, Mesostigmata, Phytoseiidae) releases in control of onion trips at pepper collection of cultivars in tunnels was studied. The trial of A. swirskii in trips control was performed at the following release rates: V1 – 500,000 mites/ha; V2 – 700,000 mites/ha; V3 – 900,000 mites/ha; V4. 1 million mites/ha; V5 - Control. On observed that the reducing trips degree attack by release of A. swirskii at pepper is effective in August - September using the release rates between 700,000 ex /ha - 1,000,000 ex/ ha.

Şovărel Gabriela, Costache Marcel, Scurtu Ion, Velea M. (Vegetable and Flower Research and Development Institute Vidra, Romania)

EFFICACY EVALUATION OF CERTAIN "BIO" PRODUCTS ON POWDERY MILDEW PATHOGENS ON TOMATOES AND MELONS IN LABORATORY CONDITIONS
EVALUAREA EFICACITĂȚII UNOR PRODUSE „BIO" FAȚĂ DE AGENȚII PATOGENI CARE PRODUC FĂINAREA LA TOMATE ŞI PEPENI GALBENI ÎN CONDIȚII DE LABORATOR

The purpose of this experiment was to study the biological efficacy of "bio" products Mimoten 0.3% (80% Mimosa tenuifolia extract) and Zytron 0.15% (20% citric seeds extract), on tomatoes and melons against Erysiphe sp. and Sphaerotheca fuliginea, respectively. The experiments were carried out in "wet chambers" (in thermostat at 26± 20C and 60 -70% RH) on detached leaves with similar levels of the attack degree from tomato and melons plants attacked by Erysiphe sp. on tomatoes and Sphaerotheca fuliginea on melons. The combination of Mimoten 0.3% + Zytron 0.15% products had the best efficacy in controlling of both pathogens Erysiphe sp. on tomatoes (76.3%) and Sphaerotheca fuliginea on melons (65.4%).

Şovărel Gabriela[1], Costache Marcel[1], Cenuşă Ana Emilia[1], Scurtu Ion[1], Călin Maria[2] ([1]Vegetable and Flower Research and Development Institute Vidra, Romania; [2]Research and Development Station for Vegatable Growing of Bacău, Romania)

RESEARCH CONCERNING THE PATHOGENS CONTROL ON MELONS IN THE FIELD
ASPECTE PRIVIND CONTROLUL AGENȚILOR PATOGENI LA CULTURILE DE PEPENI GALBENI DIN CÂMP

The melons crops in the field crops are frequently attacked by Pseudoperonospora cubensis (downy mildew) Sphaerotheca fuliginea (powdery mildew) and Alternaria cucumerina (alternaria leaf spot). For controlling of these pathogens there were experimented different mixture between fungicides: Melody Compact 49 WG, Ortiva 250 SC, Bravo 500 SC and Dithane M 45 WP with Score 250 SC or Orius 25 EW. For controlling of pathogen Pseudoperonospora cubensis the best results were obtained with following mixtures: Melody Compact 49 WG 0,2 % + Score 250 SC 0,05 % and Melody Compact 40 WG 0,2 % + Orius 25 EW 0.05 %, with 97.7 % efficacy and respectively 95.2 %. For controlling of pathogen Sphaerotheca fuliginea the best results were obtained with following mixtures: Ortiva 250 SC 0.075 % + Score 250 SC 0.05 % and Ortiva 250 SC 0.075 % + Orius 25 EW 0.05 % with 100 % efficacy. The same variants gave good results in controlling of pathogen Alternaria cucumerina, with 91.8 % efficacy and respectively 89.8 %.

Tăbăranu Gabriel, Enache Viorica, Donici Alina, Bîrliga Nicolaie (Research and Development Station for Vine and Winemaking Bujoru, Romania)

RESEARCH ON BIODIVERSITY CONSERVATION AND MANAGEMENT IN THE VITICULTURAL AGROECOSYSTEM IN THE DEALUL BUJORULUI VINEYARD
CERCETĂRI PRIVIND CONSERVAREA ŞI GESTIONAREA BIODIVERSITĂȚII ÎN AGROECOSISTEMUL VITICOL DIN PODGORIA DEALUL BUJORULUI

The paper presents the research carried out at the Bujoru Viticulture and Wine Research and Development Station between 2015 and 2016. Research has focused on conservation and enhancement of functional and planned biodiversity through the implementation of all bio-resources of the greenhouse system and multifunctional protection areas, which are conducive to reducing the pathological risks and reducing external inputs (diesel, pesticides). Assessment of the state of conservation of biodiversity in the viticultural ecosystem of pogoria Dealul Bujorului.Biodiversity is a specific feature of our planet that ensures the optimal functioning of ecosystems, the existence and development of the biosphere in general. Lately, the issue of protecting biodiversity at ecosystems, species and populations has become increasingly vital to reducing the human impact on the biosphere. The viticultural ecosystem is defined as the functional unit of biosphere created and controlled by man in order to obtain high yields of grapes, of high quality and in more economical and socially advantageous conditions.

Tălmaciu Mihai, Tălmaciu Nela, Herea Monica, Mocanu Ionela (University of Agricultural Sciences and Veterinary Medicine of Iaşi, Romania)

OBSERVATIONS ON THE STRUCTURE, DYNAMICS AND ABUNDANCE OF CARABID SPECIES (ORDER COLEOPTERA, FAMILY CARABIDAE) FROM APPLE TREE ORCHARDS

OBSERVAȚII PRIVIND STRUCTURA, DINAMICA ŞI ABUNDENȚA SPECIILOR DE CARABIDE (ORD. COLEOPTERA, FAM. CARABIDAE) DIN PLANTAȚIILE POMICOLE DE MĂR

The paper presents the obtained results from the observations made in a fruit tree orchards within SC Loturi Service SRL Delesti, Vaslui County. The material collection was done using the Barber traps once a week during June - September. Several collections of entomological material captured in the soil traps were made, then the carabid species were selected and identified. The collected species belong mainly to the following genres: Harpalus, Pterostichus, Amara, Calathus, Carabus etc.

Tălmaciu Nela, Tălmaciu Mihai, Herea Monica, Mocanu Ionela (University of Agricultural Sciences and Veterinary Medicine of Iaşi, Romania)

CONSIDERATIONS ON ENTOMOFAUNA IN SOME APPLE ORCHARDS

CONSIDERAȚII ASUPRA ENTOMOFAUNEI DIN UNELE PLANTAȚII POMICOLE DE MĂR

Observations were made at the SC Loturi Service SRL Delesti, Vaslui in a fruit-growing orchard with *intensive apple trees where a vegetal carpet is made especially of graslands between the rows of trees. The plantation has been chosen to maintain the vegetal carpet that can influence the local ecosystem conditions, such as the physical, chemical and microbiological characteristics of the soil; biodiversity of useful entomofauna; reducing the level of attack of phytopathogenic agents and specific pests, and with multiple effects on the quantity and quality of fruit and ultimately on the profitability of apple crops. For the collection of the entomological we have been used the soil traps type Barber of being in number of six, arranged in a single row at a distance of 10 m between them. Samples were harvested constantly every 10-14 days. At each collection, the material of trap was cleansed by plant debris, and the entomofauna collected was brought to the lab and then were identified the useful and harmful species.*

Croitoru Nichita[1], Pănuță Sergiu[1], Bodescu Ciprian[2], Lăcătuşu Oana[2] ([1] State Agrarian University of Moldova, Republic of Moldova, [2]University of Agricultural Sciences and Veterinary Medicine of Iaşi, Romania)

SOME BIOECOLOGICAL PARTICULARITIES AND FIGHTING AGAINST THE MAIN SPECIES OF PESTS IN THE PEAS CULTURE

UNELE PARTICULARITĂȚI BIOECOLOGICE ŞI COMBATEREA PRINCIPALELOR SPECII DĂUNATOARE DIN PAJIŞTI

Increased productivity of pea crops is only possible through the use of intensive technologies, which involve the cultivation of potentially high yielding varieties and hybrids with increased resistance to harmful organisms, the improvement of integrated plant protection systems capable of providing large and stable crops. Integrated pest control requires the use of all prevention and prophylaxis, which involves rotation of crops, the use of healthy seeds, the correct application of soil work, the observance of the seasons and the depth of sowing, plant desiccation, weed control. A special place in the integrated protection system for canned peas is chemical products, the use of which is often inevitable.

Pănuță Sergiu[1], Croitoru Nichita[1], Bodescu Ciprian[2], Lăcătuşu Oana[2] ([1]State Agrarian University of Moldova, Republic of Moldova, [2]University of Agricultural Sciences and Veterinary Medicine of Iaşi, Romania)

SOME ASPECTS REGARDING THE FIGHT AGAINST CEREALS BEETLE IN THE CONDITIONS OF THE REPUBLIC OF MOLDOVA

UNELE ASPECTE PRIVIND LUPTA IMPOTRIVA COLEOPTERELOR DIN CULTURILE DE CEREALE ÎN CONDIȚIILE REPUBLICII MOLDOVA

Scientific research over several years has shown that the productivity of grain crops declines considerably both quantitatively and qualitatively under the influence of various harmful organisms, the population often outweighing the economic threshold of harm. Of the entire range of insect pest species, a special place and a primordial economic importance have the grubby beetle of grain. It is considered the most dangerous pest of autumn paws. Attacks numerous cultivated and spontaneous grasses, causing greater damage to wheat, barley, rye. It attacks both the adult and the larva, but produces particularly large damage to the larvae. Adults attack all the spinal organs. The biggest damage is caused by the larvae attacking the leaves, especially in the winter wheat, with a characteristic attack. They do not rotate the leaves, but chew them in the mouthpiece, extracting cellulite juice. The larval attack at first occurs in the form of winds, which gradually increase and encompass the entire culture. In large invasions, the sowing can be completely destroyed.

3rd SECTION

LANDSCAPE ARCHITECTURE

ORNAMENTAL ARBORICULTURE, SUISTAINABLE DEVELOPMENT IN LANDSCAPE ARCHITECTURE, HISTORICAL EVOLUTION OF THE LANDSCAPE, LANDSCAPE ESTHETICS, PHILOSOPHY AND PSYCHOLOGY, ENVIRONMENT MANAGEMENT IN LANDSCAPE ARCHITECTURE, LANDSCAPE ARCHITECTURE IN THE URBAN RESTORATION, REHABILITATION AND CONVERSION, LANDSCAPE COMPOSITION AND DESIGN

Floriculture Lab., second floor

Chairmen:
Prof. dr. Doina Mira **DASCĂLU**
Conf. dr. Elena Liliana **CHELARIU**
Şef lucr. dr. Andrei **SLONOVSCHI**

Secretariat:
Asist. dr. arh. Mirela **COJOCARIU**
Asist. dr. Roxana **PAŞCU**

Timp de prezentare: **5-7 minute**

ORAL PRESENTATIONS

Oana Viorica Ciobanu (County Library "Gh. Asachi" Iaşi)
INTERSECTIONS – VOLUNTEERS AND THE "TREE'S LIBRARY"
INTERSECȚII – VOLUNTARII ŞI BIBLIOTECA ARBORILOR

The University of Agricultural Sciences and Veterinary Medicine „Ion Ionescu De La Brad" Iaşi, Faculty of Horticulture, SC APAVITAL SA Iaşi, Iaşi Environmental Protection Agency, Technological High School „Petru Poni" and County Library „Gh. Asachi" of Iaşi mainly focused on continuous development of projects to support the educational community and collaboration by creating a closer link between students and teachers. Noting the benefits of this link between the educational and scientific development and non-formal, the partners approachements offers the possibility of achieving a high level of technical performance and teaching, creating opportunities for professional affirmation expanding opportunity and guidance to pupils and students in our institutions. Arboretum SC APAVITAL SA from Iaşi Copou can be viewed through the work of landscape design 3D of the project ***"Tree's Library".****Landscape design activity is the result of students from the Faculty of Horticulture, Marinela Bucătaru (while volunteer library), coordinated by Lecturer dr. Tatiana Sandu and ing. dr. Roxana Mihaela Anghel. Students profile "Natural resources and environmental protection" of Technological High School „Petru Poni" will be initiated into the mysteries of landscape design and this is another way to protect the environment by developing recreational mode.I think the statement* ***"education success for the future will be a green and civic cooperation"*** *is desirable to keep in mind when planning our future activities.*

Dascălu Doina Mira[1], Dascălu Vlad[2] ([1]University of Agricultural Sciences and Veterinary Medicine Iaşi, Romania, [2]Technical College "Gh. Asachi" Iaşi, Romania)
THE RESCUE OF IAŞI CITY LANDSCAPE. HOMAGE TO G. M. CANTACUZINO
SALVAREA PEISAJULUI CITADIN IEŞEAN. OMAGIU LUI G. M. CANTACUZINO

Great architect and a type of Renaissance personality "Homo Universalis", G. M. Cantacuzino placed his mark on Iaşi mainly through his writings full of a special love for this city. Apparently a city that had nothing to impresses travelers, Iași city managed however to reveal to G. M. Cantacuzino his subtle charm. Shortly before his death, worried about the gloomy post-war future which was expected for Iasi urban enviroment, the architect pleaded for the salvation of the city landscape in his conferences in 1955 and 1958, titled "Iasi City, a landscape". His alarm signal related to what could be saved from the historical built ensemble of old Iasi was ignored at that time. Shortly after these conferences, the old Iasi was destroyed and systematized, as happened with many of the historic cities of Romania.

Dascălu Doina Mira[1], Dascălu Vlad[2] ([1]University of Agricultural Sciences and Veterinary Medicine Iaşi, Romania, [2]Technical College "Gh. Asachi" Iaşi, Romania)
PROBLEMS OF PEDESTRIAN TRAILS IN URBAN SPACES
PROBLEME ALE TRASEELOR PIETONALE DIN SPAȚIILE URBANE

Many urban spaces are mostly revealed by walking along or inside them. In this context, pedestrian trails play a special role because it mediate perception, establishes the speed, succession and character of

landscape experiences. The walkways represent a means of directing or controlling landscaping. Trails development can be dotted with elements or points of interest, consisting of vegetation or constructed objects. Along alleys, the trails can be dilated in some places, becoming areas of ambient interest with resting places, water games and vegetal compositions. Navigating or scrolling along a trail, the landscape's perception must be controlled and dosed so that we do not reveal too much at once, nor do we strain the viewer by preventing it from penetrating in depth. The relaxation places must offer physical and psycho-emotional comfort, both through the elements of their design and by the aesthetic arrangement of the adjacent frame.

Stanaitiene Vilma[1], Dascălu Doina[2] ([1]Kaunas Jurgis Dobkevičius Progymnasium, Kaunas, Lithuania; [2]University of Agricultural Sciences and Veterinary Medicine of Iaşi, Romania)

LITHUANIAN PROTECTED LANDSCAPE
PEISAJUL LITUANIAN PROTEJAT

Lithuania has 1020162 hectares of protected areas, which account for 15.64% of total surface of the country. The Lithuanian natural heritage comprise the countryside and natural environment, including flora and fauna (scientifically known as biodiversity), as well as geological elements (scientifically known as geodiversity). These kind of heritage sites often serve as an important component in a country's tourist industry, attracting many visitors from abroad as well as locally. Heritage can also include cultural landscapes, meaning natural features that may have cultural attributes. Some of the cultural features of these protected areas are inherited from past generations, maintained in the present and bestowed for the benefit of future generations.

Cehan Agata Mihaela, Gheorghiță Constanța Carmina ("Gh. Asachi" Technical University of Iaşi, Romania)

URBACULTURE – AN ELEMENT OF RESHAPING THE CITYSCAPE
URBACULTURA – ELEMENT DE MODELARE A PEISAJULUI URBAN

A house surrounded by a garden is no longer the living scenography for the majority of citizens. The rural exodus and population growth have been combined so that today most people live in urban collective-housing assemblies. The concept of urbaculture thus determines a set of new forms of agriculture that allows local production of plants within an urban territory, the existing buildings on which they develop being dedicated strictly to living. It should be noted that urbaculture refers both to the need for urban agriculture that feeds the inhabitants of the building, but also to the change of mentality, so that it can be integrated into the main ideas of urbanization. Therefore, urban agriculture aims to inventing approaches and methods that allow buildings to be considered as complex systems in which different mechanisms will interact so that the living place ca be adapted to the stakes of the century.

Cehan Agata Mihaela, Gheorghiță Constanța Carmina ("Gh. Asachi" Technical University of Iaşi, Romania)

ORNAMENTS OF VEGETAL INSPIRATION IN SACRED ARCHITECTURE
ORNAMENTE DE INSPIRAȚIE VEGETALĂ ÎN ARHITECTURA SPAȚIULUI SACRU

The worship space is the only architectural program capable to illustrate the cohesion between matter and spirit. Worship spaces, either churches, temples, sanctuaries or mosques, are composed after rigorous criteria based on symbolic meanings. Designing these spaces is edifying for the respective religious ideologies and revealing their conception about life, world and divine. Along time, the vegetal world has been a constant source of inspiration for the building's ornamental registers. Flowers or parts of them, trees or just branches, leaves and/or fruits, alone or in various combinations have been adopted as decorations through imitation or stylization. This paper examines a series of worship spaces, from the perspective of decorative vegetal elements. It aims to identify and interpret symbol elements used in the architecture of the sacred space, metaphorical images of the archetypal spaces.

Cehan Agata Mihaela, Gheorghiță Constanța Carmina ("Gh. Asachi" Technical University of Iaşi, Romania)

BIOMIMETICS IN LANDSCAPE ARCHITECTURE
BIOMIMETISMUL ÎN ARHITECTURA PEISAGERĂ

Seeking inspiration in nature is not a new idea, the practice demonstrating it throughout the history of mankind. But the imitation of nature, in finding an innovative concept form a sustainable point of view, is the path that any designer/planner, who is committed to delivering a transitional architecture that involves both energy saving and ecological principles, must follow. This is an approach that invites human to take advantages of the multiple sources of inspiration which nature offers: forms, materials or ecosystems. Biomimetics is a tool of sustainable development. In the scientific, technical or industrial fields, the field of biomimetic applications is vast and varied: from agriculture to industry, architecture, innovation, economy. It is an approach that invites the man to obtain from various sources of inspiration that nature presents: forms, materials or ecosystems.

Gheorghiță Constanța Carmina, Constantinescu Cătălin ("Gh. Asachi" Technical University of Iaşi, Romania)

URBAN LANDSCAPE BETWEEN UTOPIA AND REALITY
PEISAJUL URBAN – ÎNTRE UTOPIE ŞI REALITATE

The paper investigates the theme of urban landscape and its proximity to the descriptions offered in literary utopias. Clarifying the "visionary"/"utopian" opposition requires the revaluation and the reappraisal of the original significations of utopian space, as they are fixed by the literary texts centered on the idea of social and urban reform, beginning with Morus' Utopia. Architects have always faced utopia, having to choose between accepting or refuting its ideological dimensions (economic, political, social). This confrontation led to interpretative speculations that encouraged a new architectural discourse, and in the 1970s many theorists declared the death of modernity and the end of utopia, causing a retheorization of utopia, especially at the end of the 20th century, marked by the fall of communism and its architectural projects. Today's urban and landscape design cannot ignore the retheorization of utopia, especially in postcommunist countries, modeled by social and urban engineering of communist ideology (utopia).

Grigorovschi Mircea, Gheorghiță Constanța Carmina ("Gh. Asachi" Technical University of Iaşi, Romania)

REMODELAREA AMENAJĂRILOR PEISAGISTICE ALE INSTITUȚIILOR SPITALICEŞTI IEŞENE
RESHAPING OUTDOOR ENVIRONMENTS: LANDSCAPING HEALTH FACILITIES

The landscape, an urban design and development tool, is being defined by the form and the historical evolution, the individual perception and the social groups that inhabit it. All these elements are overlapping on society's cultural pattern, thus being born the human-landscape interaction, within the meaning of subjective perception of the existing target. This study aims landscaping the precincts of some health facilities from Iasi – hospitals, houses for elderlys, clinics, etc. The research is mainly based on the result of the analysis of univocal relations established between all elements of the architecture - art – landscape ensemble, which will generate directions for improving the quality of the urban space. The proposals generated within this study have sought improving the urban image of some of Iasi's precincts of some health facilities. Thus, this study demonstrates that the value of architectural ensembles is based on a system of quality factors of the landscaping, dosed so as to generate a coherent landscaped system, adapted so as to emphasize the value of the public space.

Paşcu Roxana, Zlati Cristina, Bernardis Roberto (University of Agricultural Sciences and Veterinary Medicine of Iaşi, Romania)

RESEARCH ON SUSTAINABLE METHODS OF MAINTENANCE OF GREEN ROOFS
CERCETĂRI PRIVIND METODE SUSTENABILE DE ÎNTREȚINERE A ACOPERIŞURILOR VERZI

The practice of developing vegetation roofs can be said to have ancient origins, proof being the legendary Babylonian hanging gardens. As a result, today, this practice has a high environmental value and therefore in this paper we present methods through which we want to add the new valency of ambiental improvement and safety in maintenance to green terraces. Special attention was paid to drainage and water retention in order to adjust stratigraphy of green terraces. Thus, by reducing the weight and reducing the costs of maintenance activities, it was determined that the time evolution of the roof is directly related to the economic and environmental sustainability of the system and as a result, three levels of maintenance have been defined. In achieving these levels two fundamental aspects have been highlighted: a visible one, mainly related to aesthetic aspects and another, imperceptible at first glance, involving the elements of structure, protection, maintenance and safety.

Chelariu Elena Liliana, Cojocariu Mirela, Draghia Lucia, Brînză Maria (University of Agricultural Sciences and Veterinary Medicine of Iaşi, Romania)

RESEARCH REGARDING THE BEHAVIOUR OF SOME ROSE FROM THEA GROUP IN CROPPING CONDITIONS FROM IAŞI COUNTY, ROMANIA
CERCETĂRI PRIVIND COMPORTAREA UNOR TRANDAFIRI DIN GRUPA THEA ÎN CONDIȚIILE DE CULTURĂ DIN IAŞI, ROMANIA

The current paper aimed to analyse the behaviour of some rose from Thea group in the pedoclimatic conditions from Iaşi County, Romania. Experiments and determinations were carried out in cropping conditions provided by rose collection of Floriculture discipline from UASVM Iaşi, Romania. At the end of the study was observed that in the cropping conditions from North-East area of Romania, rose assortments had a very good adaptation. From spring till autumn plants are decorative, being suitable to be used in different types of landscape design.

Cojocariu Mirela, Chelariu Elena Liliana (University of Agricultural Sciences and Veterinary Medicine of Iaşi, Romania)

ROSES' UTILIZATION IN CONTEMPORARY LANDSCAPE DESIGNS
UTILIZAREA TRANDAFIRILOR ÎN AMENAJARILE PEISAGISTICE CONTEMPORANE

Rose, at which the first flowers open at the beginning of summer, with its various shapes, flavors and nuances, could be in many situations an inspired option for the decor of different types of landscape

designs. Its history is long and full of symbols. Due to the work of breeders we are enjoying today of an enormous variety of marvelous kinds. Apart of flowers beauty, many modern kinds impress through a long flowering season (repeated waves) and by a very good resistance to pests and diseases. There are forms and varieties suitable for almost any situation, from covering roses which could form real colored vegetative carpets to the climbing ones which could harmonious dress high columns and pergolas.

Vâşcă Zamfir Diana, Pomohaci C.M., Rută Simona Ioana (University of Agricultural Sciences and Veterinary Medicine of Bucharest, Romania)

STUDIES ABOUT THE FERTILIZATION REGIME ON SOME ORNAMENTAL SPECIES CULTIVATED IN INDOOR GREEN WALLS SYSTEMS

STUDII ASUPRA REGIMULUI DE FERTILIZARE AL UNOR SPECII ORNAMENTALE CULTIVATE ÎN SISTEM DE PERETE VERDE

Green walls have been promoted in particular for the benefits they bring in the climate parameters, such as heat and sound insulating effects or pollutants and particulate filter.As the green walls are still relatively uncommon and used in Romania, the main objective of this research was to study the behavior of several ornamental indoor, decorative habitus and leaf species, on a fertilization regime with different fertilizers, reflected in the evolution of the main characteristics defining their decorative potential in the specific limiting conditions of a plant wall culture. The range of ornamental indoor decorative habitus and foliage species was as follows: Hedera helix, Ophyopogon jaburan, Tillandsia cyanea, Nephrolepis cordifolia, Tradescantia zebrina, Clorophytum comosum, Spatiphylium walisii.

Moraru Mihaela, Draghia Lucia, Chelariu Elena Liliana, Brînză Maria (University of Agricultural Sciences and Veterinary Medicine of Iaşi, Romania)

EFFECT OF STORAGE TEMPERATURE AND GAMMA RADIATIONS TREATMENT OF *ECHINOPS RITRO* SEEDS ON MORPHOLOGICAL AND DECORATIVE CHARACTERISTICS

EFECTUL TEMPERATURII DE PĂSTRARE ŞI A TRATAMENTULUI CU RADIAȚII GAMMA A SEMINȚELOR DE *ECHINOPS RITRO* ASUPRA CARACTERELOR MORFOLOGICE ŞI DECORATIVE ALE PLANTELOR

The experiments were carried out between 2016-2017, aimed to determine the influence on morphological characters of Echinops ritro cv. 'Globe Thistle', obtained from seeds, subjected to various treatments (gamma and thermal treatments). The gamma radiation used in experiments were 50, 100 and 250 Gy. Thermal treatments consisted in keeping seeds at room temperature (18-20°C) or keeping them in the refrigerator (5°C) for 3 weeks before sowing. In 2017, determinations and observation were made regarding the starting of vegetation and appearance of floral stems, the height of the plants, the number of leaves/plants, the number of inflorescences/plants. In most of the analyzed characters the positive influence were notice at seeds kept at room temperature and iradiated at 50 Gy.

POSTER PRESENTATIONS

Chairmen:
Prof. dr. Maria **CANTOR**
Prof. dr. Doina Mira **DASCĂLU**
Conf. dr. Elena Liliana **CHELARIU**

Secretariat:
Asist. dr. arh. Mirela **COJOCARIU**
Asist. dr. Roxana **PAŞCU**

Zlati Cristina, Pascu Roxana, Bernardis Roberto (University of Agricultural Sciences and Veterinary Medicine of Iaşi, Romania)

CONCEPTUL DE PERMACULTURA IN AMENAJARE PESAGISTICA AGRICOLA 3D
PERMACULTURE CONCEPT IN 3 DIMENSIONAL AGRICULTURAL LANDSCAPING

Permaculture is a design system for creating sustainable human environments, that expands its applicability also in agricultural landscaping and is not limited to plant and animal agriculture, but also includes community planning and adoption of concepts and philosophies that are both earth-based and people-centered, such as bioregionalism. The general aim of this study is to emphesise the benefits of permaculture concept in the actual globalization context and presenting of a permaculture example in Iasi, on the rooftop of a building located in the University of Agricultural Sciences and Veterinary Medicine campus. Directly related to ensuring the ecological balance of the environment, the biological material used was made up of endemic spontaneous flora grown in a substrate formed by the decomposition of vegetal remains from the nearby forest. The analyzes performed in the experiment revealed the degree of stress of the species to the required culture conditions.

Boboc (Oros) Paula, Cantor Maria, Hitter Timea, Gocan Tincuța Marta (University of Agricultural Sciences and Veterinary Medicine Cluj-Napoca, Romania)

PASSIFLORA – SOURCE OF SANOGENIC COMPOUNDS, PROSPECTS FOR MEDICINE AND CURRENT USES
PASSIFLORA – SURSĂ DE COMPUŞI SANOGENICI, PERSPECTIVE PENTRU MEDICINĂ ŞI UTILIZĂRI CURENTE

Passiflora genus includes over 500 species, being the most spread of tropical flora. Originally from South America, with more than 60 edible species, Passiflora genus presents more and more interest among researchers. The passion fruit is remarked by a high content of vitamins, polyphenols and carotenoids, antioxidants and anticancer substances (have been identified 13 types of carotenoids, including beta-, zeta- and alpha-carotene, b-cryptoxanthin, lycopene). The researchers demonstrated the antioxidant and antibacterial activities of leaves and stems of Passiflora quadrangularis, Passiflora maliformis, Passiflora caerulea and Passiflora edulis. Passiflora incarnata species has been extensively studied due to its high content of active substances, which has been reported as antispasmodic, sedative and analgesic use. Concidering the available biochemical data and the recording of sanogenic effects of the Passifora genus, it is intended to increase the popularity of these species in order to raise their interest for acclimatization and cultivation in Romania.

Brînză Maria[1], Draghia Lucia[1], Chelariu Elena Liliana[1], Boz Irina[2] (University of Agricultural Sciences and Veterinary Medicine of Iaşi, Romania; [2]Integrated Centre for Environmental Science Studies in the North-East Development Region – CERNESIM, "Al. I. Cuza" University of Iaşi, Romania)

THE INFLUENCE OF SOME FERTILIZERS ON ANATOMICAL STRUCTURE AND THE ASSIMILATING PIGMENTS OF *GAZANIA SPLENDENS* 'BIG KISS'
INFLUENȚA UNOR ÎNGRĂŞĂMINTE ASUPRA STRUCTURII ANATOMO-MORFOLOGICE ŞI A CONȚINUTULUI ÎN PIGMENȚI ASIMILATORI LA *GAZANIA SPLENDENS* 'BIG KISS'

This paper presents results of the research on the influence of the latest fertilizers on the growth and development of 'Big Kiss' which belongs to the Gazaniasplendens species. The research aimed to establish the influence of fertilizers Osmocote®Pro and Blutenzauber on the content of photosynthetic pigments and histo-anatomical structure of the 'Big Kiss'. The results obtained showed that samples that were fertilized presented an increase of photosynthetic pigments' content compared to the untreated sample. By analyzing the results of all samples, it was noted that the application of Pro Osmocote® fertilizer led to obtaining the greatest total content of assimilating pigments and also the increase of a,b chlorophyll content. Highlighting the structural differences due to the type of fertilizer was made by histo-anatomical sections at the level of the leaf lamina.

Chelariu Elena Liliana (University of Agricultural Sciences and Veterinary Medicine of Iaşi, Romania)

STUDIES REGARDING THE BEHAVIOUR OF *CHASMATHIUM LATIFOLIUM* ORNAMENTAL SPECIE IN CROPPING CONDITIONS FROM IAŞI COUNTY, ROMANIA

CERCETĂRI PRIVIND COMPORTAREA SPECIEI ORNAMENTALE *CHASMATHIUM LATIFOLIUM* ÎN CONDIȚIILE DE CULTURĂ DIN IAŞI, ROMÂNIA

Chasmathium latifolium belongs to Poaceae family and is classified in category of ornamental grasses. The aim of the current study was to identify a suitable substrate for producing Chasmathium latifolium seedlings, as well as monitoring of its behaviour in the specific cropping conditions from Iaşi County, Romania. Experiment was carried out with four different substrates: V_1 – garden soil; V_2 – jiffy pots; V_3 –1 part peat + 1 part garden soil; V_4 – 2 parts peat + 1 part garden soil. The obtained seedlings of Chasnathium latifolium were grown in exactly the same field conditions. The best results for quality of seedlings were obtained at variant V_4 and cropping plants showed a very good adaptation at the pedoclimatic conditions from Iasi County, Romania.

Chelariu Elena Liliana[1], Ghiorghe Cristian[2] ([1]University of Agricultural Sciences and Veterinary Medicine of Iaşi, Romania; [2]SC SUPERPĂMÂNT SRL, Iaşi, Romania)

INFLUENCE OF VERMICOMPOST ON SEEDLINGS OBTAINING AT SOME SPECIES OF ORNAMENTAL GRASSES

INFLUENȚA VERMICOMPOSTULUI ASUPRA PRODUCERII RĂSADURILOR LA UNELE SPECII DE IERBURI ORNAMNETALE

The best alternative of nowadays environmental degradation is to realise a proper use of the available unutilized organic biodegradable wastes for converting them into compost within a short period. Vermicompost could be used as an excellent soil amendment for main fields and nursery beds and has been reported to be useful in raising nursery species plants. The current paper present the influence of vermicompost on producing of seedlings at ornamental grasses species Pennisetum glaucum and Pennisetum setaceum. Vermicompost was utilized in doses of 0% (V1), 10% (V2), 20% (V3) and 30% (V4). For all variants the basic utilised substrate was formed by 2 parts peat and 1 part garden soil. All variants at which vermicompost was utilised provided a more vigorous seedling in comparison with control variant (V1) and the best results were recorded at V4. Vermicompost could promote early and vigorous growth of seedlings. Vermicompost has found to be effectively enhanced for root formation, elongation of stem and production of biomass at vegetables, as well as for ornamental plants.

Galea (Deleanu) Florina-Maria, Munteanu Neculai, Stoleru Vasile, Teliban Gabriel Ciprian, Gache (Lungu) Mirabela Mirabela, Hriscu (Maftei) Adriana (University of Agricultural Sciences and Veterinary Medicine of Iaşi, Romania)

ORNAMENTAL VEGETABLE GARDENS IN A FAMILY SYSTEM

GRĂDINI LEGUMICOLE ORNAMENTALE ÎN SISTEM FAMILIAL

Ornamental vegetable gardens have a long history on the European continent. The design of the gardens is different due to influences originated from customs and traditions, which represent important elements in their composition and are reflected in the vegetable growing methods and species used. The purpose of this paper is to analyse the opportunities that these gardens have and to satisfy the nutritional and aesthetic needs of a family. To reach the aim and proposed objectives a series of experiments and case studies were conducted. By combining the owners underlined nutritional needs from our previous studies and the obtained results from our experiments, applicable solutions were created for family vegetable gardens. From a therapeutic point of view this type of landscape design helps maintain cultural identity, encouraging communication and socialization between members of a community. The obtained results show that the studied family gardens situated in urban areas have a positive influence on the sustainability of the community maintaining a "heathy life style" for its inhabitants.

4th SECTION

ENGINEERING AND ENVIRONMENTAL PROTECTION

CLIMATOLOGY AND AGRO METEOROLOGY, ECOLOGY, WATER AND SOIL POLLUTION, WIND ENGINEERING AND AIR POLLUTION, SOURCES OF RADIATION AND NUCLEAR SAFETY, PLANNING AND MANAGEMENT OF WATER RESOURCES, REGULARIZATION OF RIVERS AND DAMS, HYDROLOGY AND HYDROGEOLOGY, ENVIRONMENTAL QUALITY MONITORING AND DIAGNOSIS, STORAGE AND WASTE RECYCLING, TECHNOLOGIES AND EQUIPMENT FOR DECONTAMINATION, BALANCE STUDIES AND ENVIRONMENTAL IMPACT, ENVIRONMENTAL HEALTH

Vegetable Growing Lab., Second floor

Chairmen:
Prof. univ. dr. Mihail **LUCA**
Conf. univ. dr**.** Vasile **STOLERU**

Secretariat:
Şef lucr. dr. Raluca Maria **HLIHOR**
Asist. dr. Lucia Cintia **COLIBABA**

Timp de prezentare: **5-7 minute**

ORAL PRESENTATIONS

Avram Mihaela, Luca Mihail ("Gh. Asachi" Technical University of Iaşi, Romania*)*

DEGRADAREA MEDIULUI RIVERAN ÎN BAZINUL HIDROGRAFIC AL RÂULUI TROTUŞ ÎN URMA INUNDAȚIILOR DIN ANUL 2016

DEGREE OF THE RIPARIAN ENVIRONMENT IN THE TROTUS HYDROGRAPHIC BASIN AFTER THE FLODS IN THE YEARS 2016

The paper presents an analysis of the degradation phenomena of the riparian environment in the Trotuş river basin following the floods produced in the summer of 2016. The Trotuş River has been affected by many floods over the past 28 years, 2004, 2005, 2011 and 2016. The riverine environment was affected by the degradation of shore defence works, the morphological modification of the riverbed, the destruction of the roads, the erosion of the agricultural land, the deposition of pollutants on the land adjacent to the river, etc. The June 2016 flood in the Trotuş River basin resulted in the degradation to the total destruction of over 318 km of bank defence hydrotechnical works. The floods caused the degradation of 1337 ha of agricultural land, the degradation of 355 km of road and 180 bridges. The floods affected over 376 homes in the studied area, from which it destroyed 76.

Chirica Ştefania, Luca Mihail ("Gh. Asachi" Technical University of Iaşi, Romania*)*

ANALYSIS OF THE MOLDAVIAN PLATEAU POTABLE WATER SOURCES QUALITY PARAMETERS

ANALIZA PARAMETRILOR DE CALITATE LA SURSELE DE APĂ POTABILĂ DIN PODIŞUL MOLDOVENESC

Potable water sources worldwide have started to decline in volume and deteriorate in quality. This situation is present in Romania, in the plain and plateau area of Moldova. This area has a small number of viable drinking water sources from groundwater, rivers and lakes. Rural settlements in this area are the most affected by the lack of unpolluted water sources. The natural pollution occurs due to the nature of the rocks from the water sources' site, where the presence of sulphates and chlorides is predominant. The researches show exceedings to almost the entire nutrient group. The highest concentrations of nitrates are recorded in the Jijia and Bahlui hydrographic basin. The analyses carried out in Iaşi area regarding the groundwater quality parameters have highlighted high concentration of sulphates. This exceeds the standardised value so that the groundwater source is improper for catchment and usage as drinking water for the population.

Chirica Ştefania[1], Luca Mihail[1], Luca Alexandru Lucian[2] ([1"]Gh. Asachi" Technical University of Iasi, Romania; [2]Polias-Instal" Company, Iasi, Romania)

PROTECTION OF DISTRIBUTION NETWORKS WATER QUALITY

PROTECȚIA CALITĂȚII APEI POTABILE DIN REȚELELE DE DISTRIBUȚIE

This paper presents a number of issues regarding the protection of drinking water quality in conveyance and distribution networks. Studies and research have shown that the physical and hydraulic integrity of the conveyance and distribution system influences the drinking water quality parameters. The state of pipelines, tanks, and hydraulic installations' physical integrity may influence the influx of contaminants into drinking water. The physical integrity factors considered in the research are: pipe material, geometric parameters, interior and exterior protection quality, corrosion, structural failure, degradation. The hydraulic integrity factors considered in the research are: variation of flow and pressure, velocity, sedimentation phenomenon, cavitation. Water integrity factors are: disinfectant dose, storage and movement time, physical and chemical reactions with the pipe, contaminant infiltration, age, biological stability. The case study for Iaşi city confirms the evolution of water quality parameters along the pipe network.

Luca Mihail[1], Avram Mihaela[2], Marcoie Nicolae[1], Chirica Ştefania[1] ([1"]Gh. Asachi" Technical University of Iaşi, Romania [2]A.B.A – Siret Bacău, Romania*)*

INFLUENCE OF HYDROCLIMATIC RISK FACTORS ON THE RIVER POLLUTION PHENOMENON

INFLUENȚA FACTORILOR DE RISC HIDROCLIMATIC ASUPRA FENOMENULUI DE POLUARE AL RÂURILOR

The paper presents an analysis of the river pollution phenomena in the Trotuş River Basin. The Trotuş River area has been affected by multiple floods over the past 28 years (significant in 2004, 2005, 2011 and 2016). The most important categories of pollutant pressures in the Trotuş Hydrographic Basin are punctual, diffuse and hydromorphological. The most significant point sources of pollution in the river basin are of domestic, industrial and agricultural type. The pollutants that affected the watercourses in the Trotuş catchment area during the study period were petroleum products (51.2%) and organic substances (21.4%). The remaining 27.4% of pollutants are ammonium, ammonia, hydrogen sulphide, heavy metals, cyanide, urea, detergents, ash, phosphorus, etc.

Luca Mihail[1], Bălan R.[2], Chirica Ştefania[1,] Luca Alexandru Lucian[3] ([1"]Gh. Asachi" Technical University of Iasi, Romania; [2] "Prut-Barlad" Water Basin Administration, Iasi, Romania; [3] Polias-Instal" Company, Iasi, Romania)

RESEARCHES ON GROUNDWATER POLLUTION IN THE AREA OF INDUSTRIAL WASTE DUMPS

CERCETĂRI PRIVIND POLUAREA APELOR SUBTERANE ÎN ZONA DEPOZITELOR DE DEŞEURI INDUSTRIALE

Industrial waste dumps in exploitation or conservation represent a high risk of groundwater pollution. The Moldovan area has a large number of industrial waste dumps for mine waste, slag and ash from thermal power stations and steel plants, technological waste, etc. The degradation of the constructive structure of the deposits allows the underground infiltration of pollutants and contamination of water sources. The case study highlights the movement of a complex of pollutants from the landfill of a metalworking plant into the underground water. During the research measurements were made in observation drills and laboratory determinations were performed. The processing of the experimental data showed substantial overshoots in the following physical and chemical indicators: total iron (Fe +), ammonium (NH4), hardness, potassium permanganate (KMnO4), sulphates (SO4-) and chlorides (C1-). Contaminants from the landfill polluted groundwater and surface water sources for several localities.

Hlihor Raluca-Maria[1,2], Simion Isabela-Maria[1], Roşca Mihaela[1], Cozma Petronela[1], Pogăcean Manuela Olga[1,3], Stoleru Vasile[2], Gavrilescu Maria[1,4] ([1"]Gh. Asachi" Technical University of Iasi, Romania; [2]University of Agricultural Sciences and Veterinary Medicine of Iasi, Romania; [3]Phytosanitary Office Mureş, Târgu Mureş, Romania; [4]Academy of Romanian Scientists, Bucharest, Romania)

ASSESSMENT OF ACUTE AND CHRONIC RISKS GENERATED BY PESTICIDE RESIDUES IN SWEET PEPPERS

EVALUAREA RISCULUI ACUT ŞI CRONIC GENERAT DE PREZENȚA UNOR PESTICIDE ÎN ARDEIUL GRAS

Human exposure to pesticides can result from dietary ingestion of fruits and vegetables containing pesticide residues accumulated during their treatment or by inhalation, dermal contact and ingestion of direct emissions from the "lost" fraction in the environment during pesticides application. A total of 13 pesticides were applied in a field survey on sweet peppers based on their phenological growth stages. The aim of this study was to evaluate the human health effects of pesticides residues in sweet peppers on various consumer age groups with the utilization of cluster diet models in European Union countries. The short-term and long-term exposure of children and adults to pesticides residues was assessed considering the data retrieved at harvest based on a deterministic approach. The results indicate that the presence of pesticide residues in sweet peppersat harvest in the analyzed concentrations could not be considered a serious public health problem.

Hlihor Raluca-Maria[1,2], Asiminicesei Dana[1,2], Stoleru Vasile[2], Gavrilescu Maria[1,3] ([1]"Gh. Asachi" Technical University of Iasi, Romania; [2]University of Agricultural Sciences and Veterinary Medicine of Iasi, Romania; [3]Academy of Romanian Scientists, Bucharest, Romania)

COMPARATIVE STUDY OFSOME HEAVY METALS TOXICITY INLETTUCE
STUDIU COMPARATIV PRIVIND TOXICITATEA UNOR METALE GRELE ÎN SALATĂ

Heavy metals are consideredamong the most dangerous pollutants due to their persistence in the environment, soils being affected by fertility decreasing and worsening nutrition conditions for plants. This paper is focused on a comparative study of Pb(II) and Cd(II) toxicity on the growth and germination of green lettuce seeds (Lactuca sativa L.var.capitata).The effects of seven concentrations of Pb(II) and Cd(II) were evaluated to determine the germination rate, toxicity index and tolerance index of green salad seedlings under laboratory conditions, for 7 days.The results showed that seed germination ratesdecreased from 90% (10 mg/L) to 60% (500 mg/L), with Pb(II) concentration increasing. In the case of Cd(II), the germination rate decreased from 80% (10 mg/L) to 40% (120 mg/L). This study showed that Cd(II) ion is more toxic to the germination of lettuce seeds, comparative withPb(II) ion.

Dincă Lucian, Dincă Maria (National Institute for Research and Development in Forestry "Marin Drăcea", Braşov, Romania)

THE CHARACTERISTICS OF FOREST SOILS FROM IASI COUNTY
CARACTERISTICILE SOLURILOR FORESTIERE DIN JUDEȚUL IAŞI

The purpose of this article is to present a description of forest soils from Iasi County, based on the soil analysis realized in the period 1989-2015. As a total, 201 soil profiles and 620 pedo-genetical horizons were analyzed. Amongst the 15 soil types identified in the county, the most widespread are: preluvisol (weakly acid soils, eubasic, with a large total cationic exchange capacity, well supplied with nitrogen and moderately humiferous), eutric cambisol (weakly acid soils, eubasic, with a large total cationic exchange capacity, well supplied with nitrogen and moderately humiferous), luvisol (moderately acid soils, eubasic, with a large total cationic exchange capacity, well supplied with nitrogen and intensely humiferous), phaeozem (weakly alkaline soils, eubasic, with a very large total cationic exchange capacity, normally supplied with nitrogen and intensely humiferous), chernozem (weakly alkaline soils, eubasic, with a very large total cationic exchange capacity, normally supplied with nitrogen and moderately humiferous) and fluvisol.

POSTER PRESENTATIONS

Chairmen:
Prof. univ. dr. Mihail **LUCA**
Conf. univ. dr**.** Vasile **STOLERU**

Secretariat:
Şef lucr. dr. Raluca Maria **HLIHOR**
Asist. dr. Lucia Cintia **COLIBABA**

Hlihor Raluca-Maria[1,2], Pogăcean Manuela Olga[1,3], Cozma Petronela[1], Stoleru Vasile[2], Gavrilescu Maria[1,4] ([1]"Gh. Asachi" Technical University of Iasi, Romania; [2]University of Agricultural Sciences and Veterinary Medicine of Iasi, Romania; [3]Phytosanitary Office Mureş, Târgu Mureş, Romania; [4]Academy of Romanian Scientists, Bucharest, Romania)

KINETICS OF PESTICIDES DEGRADATIONIN SWEETPEPPERS
STUDIU CINETIC PRIVIND DEGRADAREA PESTICIDELOR ÎN ARDEIUL GRAS

Pesticides, chemical compounds applied especially to ensure plant protection, are raising nowadays concerns on environmental and human consequences associated to exposure. In this context, this paper analyses the dynamics of pesticides behavior in sweet peppers in three phases of development after applying treatments in normal and double doses. The environmental factors (temperature, humidity, precipitation) that influence the degradation process of pesticides in sweet peppers were identified and analyzed. The maximum residue levels were exceeded when pesticides such as bifenthrin, folpet, tebuconazole, metalaxyl-M and chlorpyrifoswere applied in normal and double doses. In order to evaluate the degradation of pesticides applied in sweet peppers in normal and double doses, the following kinetic models were considered: first-order, 1.5th-order, second-order, RF-first-order, RF-1.5th-order, RF-second-order.Based on experimental data, modelling pesticides dissipation allowed the estimation of their corresponding half-lives. The half-life values are further used in predicting final residues in crops as a part of risk assessments.The results indicate that the half-life of pesticides in sweet peppers varies between 0.026 days (bifenthrin) and 13.43 days (metalaxyl-M).

Hlihor Raluca-Maria[1,2], Rosca Mihaela[1], Comaniță Diana Elena [1], Cozma Petronela[1], Simion Isabela-Maria[1], Gavrilescu Maria[1,3] ([1]"Gh. Asachi" Technical University of Iasi, Romania; [2]University of Agricultural Sciences and Veterinary Medicine of Iasi, Romania; [3]Academy of Romanian Scientists, Bucharest, Romania)

THE POTENTIAL OF SOME INDIGENOUS MICROORGANISMS AND PLANTS FOR THE REMOVAL OF HEAVY METALS FROM SOIL
POTENȚIALUL UNOR MICROORGANISME ŞI PLANTE INDIGENE PENTRU ÎNDEPĂRTAREA METALELOR GRELE DIN SOL

Heavy metals found in soils from different industrial sources or mining activities are persistent pollutants able tobioaccumulatealong the food chain and cause negative effects on the environment and human health. Today, physical, chemical and biological processes are applied for their removal from soil environments. Biological processes become more and more preferred, often proving to be more advantageous than the conventional remediation tools, mainly because they can be implemented directly onto the contaminated sites. In this context, the present paper examines the abilities of microorganisms and plants in terms of tolerance and bioaccumulation of heavy metals. A particular interest is given to the bioaccumulation processes of metals by bacteria, alone or in synergism with indigenous plants. Also, some advances in the biosorption of metal ions are demonstrated together with various strategies and practices to explore the synergism between microorganisms and plants as valuable biological resources.

Ghinea Cristina[1,2], Comaniță Elena Diana[2], Gavrilescu Maria[2] ([1]"Ştefan cel Mare" University of Suceava, Romania; [2]"Gh. Asachi" Technical University of Iasi, Romania)

LIFE CYCLE ASSESSMENT OF CORRUGATED BOARD PACKAGING
EVALUAREA CICLULUI DE VIAȚĂ A AMBALAJELOR DE CARTON ONDULAT

In this paper corrugated board packaging life cycle was evaluated with life cycle assessment (LCA) methodology. Two LCA methods were considered for the evaluation: CML 2001-Jan.2016 and ReCiPe 1.08, both included in GaBi software. Results showed that corrugated board packaging has negative impacts on the environment even if there were registered low values. Elimination methods like landfilling and incineration of corrugated board packaging waste are increasing the negative impacts on the environment, while recovery of packaging waste and their use in the corrugated board production leads to the reduction of these impacts and natural resources conservation.

Deutekom A.[1], Hadderingh M.[1], Harten Julia[1], Kooistra J.[1], Visscher Susan[1], Leusink Gabriela[1], Stoleru Vasile[2] ([1]Van Hall Larensten, University of Applied Sciences, The Netherlands; [2]University of Agricultural Sciences and Veterinary Medicine of Iaşi, Romania)

DETERMINATION OF LYCOPENE IN TOMATOES USING HPLC METHOD
DETERMINAREA CONTINUTULUI DE LICOPEN DIN TOMATE UTILIZÂND METODA HPLC

Four different samples of dried tomatoes for the determination of lycopenewere deliveredby University of Agricultural Sciences and Veterinary Medicine of Iasi.Lycopene is an anti-oxidant that can be found in tomatoes and has primarily positive effect on cardiovascular diseases and prostate cancer. The goals of this research were: determination of lycopene in tomatoes on a HPLC system; validation and optimization of the HPLC method for the analysis of lycopene; determine the concentration of lycopene in the samples.Lycopene is sensitive for light, high temperatures and degrades at low concentrations. Also it oxidizes when it is exposed to air. Therefore it is very hard to measure the concentration of lycopene.Commercially available pure lycopene for HPLC quality (Sigma Aldrich) was used to make the calibration standards for lycopene. Astaxanthin (Sigma Aldrich) was used as internal standard. To extract the lycopene from the sample a 50 mg of sample is dissolved in 30 ml ethyl acetate and refluxed for 2 hours. The standards and samples were measured immediately after they were made to prevent lycopene degrading.The calibration curve has a R^2 of 0,97. Point 6 is not an outliner following Grubs test. Lycopene peak overlaps with other peaks from lycopene isomers or β-carotenoids. This makes it difficult to calculate the area. Calibration standards in higher concentrations for more linearity. A known amount of lycopene in sample preparation for recovery. Using ethyl acetate as solvent for the calibration standards.It is possible to measure lycopene with the HPLC and a calibration curve has been made. A method has been developed to measure lycopene at the HPLC but has not yet been optimized and validated.

Ciuraru Marius – Constantin, Ciubotăriță Anamaria, Darie Ştefan - Mihai, Lamban Ştefana, Stoleru Vasile (University of Agricultural Sciences and Veterinary Medicine of Iaşi, Romania)

THE INFLUENCE OF GROWING SYSTEMS ON YIELD AND HEAVY METAL CONTENTS OF EGGPLANTS
INFLUENȚA SISTEMELOR DE CULTIVARE ASUPRA PRODUCȚIEI ŞI CONȚINUTULUI DE METALE GRELE LA PĂTLĂGELELE VINETE

The present study was carried out in the field of vegetable research from "Vasile Adamachi" farm, Iaşi. The aim at the interaction of eggplants with external factors, either natural or conventional, namely the identification of the main risk factors existing in the conventional system and ecological system, let us make a complex and comparative analysis between the two systems of eggplant production. Analysis of the heavy metal content was carried out by atomic absorption spectrophotometry using the Shimadzu GC-2100 equipment. As a result of the analyzes, the content of Cr, Ni, Cu, Zn, Cd and Pb were found in both systems (conventional and organic). Cr, Ni, Cu and Zn content of the conventional system has exceeded the maximum permitted by EC Regulation no. 396/2005, while the heavy metal content of the organic system did not exceed for any chemical elements the maximum limits allowed by regulation.

Arsenie Teodora Gabriela, Bulgariu Dumitru, Bulgariu Laura ("Gh. Asachi" Technical University of Iasi, Romania)

KINETIC STUDY OF PB(II) AND HG(II) REMOVAL FROM AQUEOUS MEDIA ON RAPESEEDS BIOMASS
STUDIUL CINETIC AL ÎNDEPĂRTĂRII IONILOR DE PB(II) ŞI HG(II) DIN MEDII APOASE PE BIOMASĂ DE RAPIȚĂ

In this study, the removal of Pb(II) and Hg(II) ions from aqueous solution using rapeseeds biomass was examined in batch systems, in optimal experimental conditions (pH 5.5; 8 g biosorbent/L and room temperature) as a funtion of contact time. The results obtained for the removal of each studied metal ion were analyzed using three kinetics models: prseudo-first order, pseudo-second order and intra-particle diffusion, in order to elucidate the mechanism of the removal process. For both studied metal ions, the experimental data are well described by the pseudo-second order kinetics model. The obtained information's can be used for to highlight the potential applicability of rapeseeds biomass as low-cost biosorbent in the clean-up processes of aqueous effleunts, containing toxic heavy metals.

Bădescu Iulia Simona, Negrilă Lăcrămioara, Nacu Gabriela, Bulgariu Dumitru, Bulgariu Laura ("Gh. Asachi" Technical University of Iasi, Romania)

BIOSORPTIVE POTENTIAL OF VARIOUS WASTE BIOMASSES FOR CU(II) IONS REMOVAL FROM AQUEOUS SOLUTION
POTENȚIALUL BIOSORPTIV AL UNOR DEŞEURI DE BIOMASĂ PENTRU ÎNDEPĂRTAREA IONILOR DE CU(II) DIN SOLUȚII APOASE

In this study, was analyzed the biosorptive potential of various waste biomasses in the removal process of Cu(II) ions from aqueous solution. Three types of biosorbents have been used in experiments, namely: mustard waste biomass, marine algae biomass and lignin. All these materials are wastes resulted from different industrial activities, and their use for the metal ions removal from aqueous solution is in agreement with the principles of circular economy. The experimental results obtained for the influence of initial Cu(II) ions concentration and contact time on the removal efficiency from aqueous media were modelled using various isotherm and kinetics models. The parameters obtained from modelling have permitted the evaluation of biosorptive potential of these three types of waste biomasses in the removal processes of Cu(II) ions from aqueous solution.

Cojuhari Tamara, Vrabie Tatiana, Krivov Ludmila, KoterneakAna-Maria, Anghel Liubovi (National Museum of Ethnography and Natural History, Chisinau, Republic of Moldova)

THE DYNAMICS OF BIOCENOTICS INDICES OF THE SOIL IN THE FOREST ECOSYSTEM, "CODRII" RESERVATION

DINAMICA UNOR INDICI BIOCENOTICI AI SOLULUI ÎN ECOSISTEMUL FORESTIER, REZERVAȚIA “CODRII”

This paper represents a stage of long-term research in which we highlight the dynamics of humus, soil reaction indexes and hydrolytic acidity. During vegetation period, as a result of research in 3 types of forest it was established: territorial distribution of humus shows essential variations depending on the type of soil, vegetation type and depth. The typical gray clay forest soil over clay-sandy loam (oak with hornbeam forest, A) and brown clay soil over deeply gleyed clay (durmast oak with linden and ash forest, B) are much more supplied with organic matter, which in the 0-40 cm layers falls within the limits of 1,1-8,5%, 0,9-8,6% and 0,3-3,5% in the brown sandy loam soil over clay-sand (beech with durmast oak forest, C). The dynamics of the pHH2O, pHKCl indices, hydrolytic acidity is determined by the soil type, depth and floral indices. Soil of forest A in layers 0-60 cm, characterized by neutral to weak acid pHH2O, pHKCl to moderately acidic, low-medium hydrolytic acidity; Forest soil B is weak acid for pHKCl and neutral-weak acid for pHH2O, hydrolytic acidity is low; The forest soil C is more acidic and has higher hydrolytic acidity.