BUASVM TIMIȘOARA
Multidisciplinary Conference on Sustainable Development
26– 27 May, 2022

Scientific Programme

Multidisciplinary Conference on Sustainable Development, 26 – 27 May 2022

Section: Animal Resources Bioengineering

BIOENGINEERING FACULTY OF ANIMAL RESOURCES
TIMIȘOARA, 2022

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Faculty Of Agrobiology And Food Resources,

Faculty Of Agriculture, University Of Novi Sad,

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USAMVBT is inviting you to a scheduled Zoom meeting.

Topic: **MULTIDISCIPLINARY CONFERENCE ON SUSTAINABLE DEVELOPMENT**
Time: **May 26, 2022 11:00** AM Bucharest (**Opening of the Conference 11.00 – 13.00**)

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Topic: **ANIMAL RESOURCES BIOENGINEERING – section (14.30 – 16.30)**
Time: **May 26, 2022 02:30** PM Bucharest

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Conferences Programme

1st Day –26 May, 2022 (Thursday)

"Iulian Drăcea"Auditorium
Banat's University of Agricultural Sciences and Veterinary Medicine
"King Michael I of Romania" from Timişoara

9.00 – 11.00 Registration on-site
10.00 – 11.00 Registration on-line
11.00 – 11.15 Opening of the Conference
11.15 – 11.35 Plenary Lecture PL1
11.35 – 11.55 Plenary Lecture PL2
11.55 – 12.00 Presentation of conference programme
12.00 – 13.00 Doctor Honoris Causa award: Prof dr. Ioan Jelev – vicepresident of Romanian Academy of Agricultural Sciences and Forestry
13.00 – 14.30 Lunch at university restaurant
14.30 – 18.00 Paper presentation on sections
19.30 - 22.00 Dinner "*Flonta Restaurant*"

Section: Animal Resources Bioengineering

"Iulian Drăcea"Auditorium
Banat's University of Agricultural Sciences and Veterinary Medicine
"King Michael I of Romania" from Timişoara

14.30–14.40 Opening of the Conference
14.40-15.10 Prof. Dr. Ozan Gundogdu **-** *Survival properties of Campylobacter jejuni, Department of Infection Biology, LSHTM: London School of Hygiene and Tropical Medicine*
15.10-16.30 Oral communications
16.30-17.00 Concluding Remarks

2nd Day –27 May, 2022 (Friday)

10.00-16.00 Paper presentation on section (Posters session)

Scientific Programme

1st Day – 26 May, 2022 (Thursday)

"Iulian Drăcea" Auditorium
Banat's University of Agricultural Sciences and Veterinary Medicine
"King Michael I of Romania" from Timişoara

9.00 – 11.00	**Registration ON-SITE**
10.00 – 11.00	**Registration ON-LINE**
11.00 -11.10	**Welcome speach** **Prof.dr.eng. Cosmin POPESCU, Rector** of Banat's University of Agricultural Sciences and Veterinary Medicine King Michael I of Romania" from Timisoara
11.10-11.15	**Conference opening** **Prof.dr. Isidora RADULOV, Vice-Rector** of Banat's University of Agricultural Sciences and Veterinary Medicine King Michael I of Romania" from Timisoara
11.15 -11.35	**PL1** *„Integrative Veterinary Chinese Medicine"* - **Dr. Lorena Lloret Nadal**, Founding member and director of the Chi Institute of Europe
11.35-11.55	**PL2 -** *„Use of Black Soldier fly to convert food waste into feed"* - **Prof. Dr. habil. Rui Costa** – Secretary General of the ISEKI Food Association, President of European Alliance of Subject-Specific and Professional Accreditation and Quality Assurance
11.55–12.00	Presentation of conference programme
12,00-13,00	***Doctor Honoris Causa*** award: ***Prof. dr. Ioan Jelev*** – vicepresident of Romanian Academy of Agricultural Sciences and Forestry
13.00 - 14.30	Lunch at university restaurant
14.30 - 18.00	Paper presentation on sections
19.30 – 22.00	Dinner ***"Flonta Restaurant"***

Section: Animal Resources Bioengineering

"Iulian Drăcea" Auditorium
Banat's University of Agricultural Sciences and Veterinary Medicine
"King Michael I of Romania" from Timişoara

9.00 – 11.00	**Registration ON-SITE (Foyer of the Faculty of Bioengineering of Animal Resources)**
14.30. –	**Registration ON-LINE**

14.30-14.40	**BIOENGINEERING OF ANIMAL RESOURCES 2022 – Opening ceremony**
	Welcome speach **Prof.Dr.eng. Ioan Peț, Dean of Bioengineering Faculty of Animal Resources -**
	Conference opening **Prof.Dr.eng. Gabi Dumitrescu** , *Vice-dean of the Bioengineering Faculty of Animal Resources, Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timişoara*
14.40-15.10	**Prof.Dr. Ozan Gundogdu -** *Survival properties of Campylobacter jejuni, Department of Infection Biology, LSHTM: London School of Hygiene and Tropical Medicine*

Chaired by: Prof. Nicolae Corcionivoschi

"Iulian Drăcea" Auditorium
Banat's University of Agricultural Sciences and Veterinary Medicine
"King Michael I of Romania" from Timişoara

15.10-15.20	**OP1. Nikolett Éva Kiss[1], János Tamás[1], Attila Nagy[1]** **CONTRIBUTION OF FEEDING PROCESSES TO THE ENVIRONMENTAL IMPACT OF BROILER CHICKEN PRODUCTION** *[1]University of Debrecen, Faculty of Agricultural and Food Sciences and Environmental Management, Institute of Water and Environmental Management. 138. Böszörményi str. Debrecen, Hungary*
15.20-15.30	**OP2. Lucian Ioniță, Elena Popescu-Miclosanu, Minodora Tudorache, Ion Custura** **THE EFFECT OF USING INFRARED LAMPS ON GROWTH PARAMETERS IN YOUTH JUMBO QUAIL DURING 1- 42 DAYS** *Ioniță T. Lucian Individual Enterprise Gherghița, Prahova, Romania* *University of Agricultural Science and Veterinary Medicine of Bucharest, Faculty of Animal production engineering and management, Mărăști no 59, Bucharest, Romania*

15.30-15.40	**OP3. Djitie Kouatcho François[1*], Miegoué Émile[2], Mweugang Nathalie[1], Kepawo Syntia[1], Radu-Rusu Razvan M[3]; Eliza Simiz[4]** **GROWTH PERFORMANCE AND EGG'S CHARACTERISTICS OF SOME PHENOTYPES OF QUAIL RAISED IN CAMEROON** *[1]Laboratory of Applied Zoology, Faculty of Sciences, University of Ngaoundere, Po Box 454 Ngaoundere Cameroon.* *[2]Department of Animal Productions, Faculty of Agronomy and Agricultural Sciences. University of Dschang, Cameroon.* *[3]Iași University of Life Sciences, 3 Mihail Sadoveanu Alley, 700490 Iași, Romania* *[4]Banat University of Agricultural Science and Veterinary Medicine, Bioenginering Faculty of Animal Resources, Timisoara 119, Calea Aradului, Timisoara 300645, Romania*
15.40–15.50	**OP4. Ludovic Cziszter, Simona Baul, Ioan Cârpaci, Silvia Erina** **STUDY ON THE LACTATION ORDER INFLUENCE ON MILK PRODUCTION IN ROMANIAN SPOTTED COWS FROM TIMIŞ COUNTY** *Bioengineering Faculty of Animal Resources, Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timișoara, Calea Aradului 119, 300645, România*
15.50-16.00	**OP5. Ana Cismileanu, Alexandra Oancea, Catalin Dragomir** **EFFECT OF 2 TYPES OF YEAST ON RUMEN FERMENTATION IN CARPATINA CROSSBRED GOATS - SHORT TERM STUDY** *The National Research - Development Institute for Animal Biology and Nutrition (INCDBNA-IBNA Balotești)*
16.00-16.10	**OP6. Gabriela Maria Cornescu[1], Tatiana Dumitra Panaite[1], Arabela Elena Untea[1], Mara-Ioana Muntiu-Rusu[1], Ovidiu Avram[2]** **LIPOSOLUBLE VITAMINS IMPORTANCE INTO LAYING HENS NUTRITION** *The National Research - Development Institute for Animal Biology and Nutrition (INCDBNA-IBNA Balotești)*
16.10-16.20	**OP7. Marius Gavril Aipătioaie[1], Nicolae Tritean[1], Florin Russu[1], Camelia Urdă[1], Alexandru Marius Deac[2]*, Adriana Sebastiana Muscă[2], Ileana Miclea[2], Marius Zăhan[2]** **FATTY ACIDS PROFILE FROM MUSCLE LONGISSIMUS DORSI IN LOCAL SWINE BREEDS BAZNA AND MANGALITSA** *[1]Agricultural Research and Development Station Turda, 401100 - Turda, Agriculturii, 27, România* *[2]Faculty of Animal Sciences and Biotechnology, University of Agricultural Sciences and Veterinary Medicine of Cluj-Napoca, 400372 - Cluj-Napoca, Calea Mănăștur, 3-5, România*
16.20-16.30	**OP8. Flavia Luminița Bochiș** **SENIOR SPORT HORSE MANAGEMENT** *Banat's University of Agricultural Sciences and Veterinary Medicine from Timișoara, Faculty of Animal Sciences and Biotechnologies,300645-Timisoara, Calea Aradului, 119, Romania*
16.30-17.00	**Concluding Remarks**

2nd Day –27 May, 2022 (Friday)

10.00-16.00 **Paper presentation on section (Posters session)**

POSTERS

P1 **Miroslava Kačániová, Lucia Galovičová, Petra Borotová, Simona Kunová**
ANTIMICROBIAL ACTIVITY OF CORIANDER ESSENTIAL OIL AND VACUUM PACKAGING TO POULTRY SOUS VIDE MEAT, *Slovak University of Agriculture, Faculty of Horticulture and Landscape Engineering, Nitra 949 76, Tr. A. Hlinku 2, Slovakia*

P2 **Miroslava Kačániová, Lucia Galovičová, Petra Borotová, Simona Kunová**
ANTIMICROBIAL ACTIVITY OF SELECTED ESSENTIAL OILS
Slovak University of Agriculture, Faculty of Horticulture and Landscape Engineering, Nitra 949 76, Tr. A. Hlinku 2, Slovakia

P3 **Veronika Valková [1,2*], Hana Ďúranová [2], Lucia Galovičová[1], Miroslava Kačániová [1,3]**
ROSALINA, NIAOULI AND FIR ESSENTIAL OILS: STRONG ANTIFUNGAL BUT WEAK ANTIOXIDANT ACTIVITY
[1]Institute of Horticulture, Faculty of Horticulture and Landscape Engineering, Slovak University of Agriculture, Tr. A. Hlinku 2, 94976 Nitra, Slovakia
[2]AgroBioTech Research Centre, Slovak University of Agriculture, Tr. A. Hlinku 2, 94976 Nitra, Slovakia
[3]Department of Bioenergy, Food Technology and Microbiology, Institute of Food Technology and Nutrition,University of Rzeszow, 4 Zelwerowicza Str., 35-601 Rzeszow, Poland

P4 **Lucia Galovičová, Petra Borotová, Veronika Valková Miroslava Kačániová**
CINNAMOMUM CASSIA AND CANANGA ODORATA IN THE VAPOR PHASE
Institute of Horticulture, Faculty of Horticulture and Landscape Engineering, Slovak University of Agriculture, Tr. A. Hlinku 2, 94976 Nitra, Slovakia
AgroBioTech Research Centre, Slovak University of Agriculture, Tr. A. Hlinku 2, 94976 Nitra, Slovakia

P5 **Căbuța Mădălina[1], Dumitrescu Gabi[2], Filimon Nicoleta[3], Vlad Tania[1], Popescu Roxana[1]**
IN VITRO CYTOTOXICITY EVALUATION OF *BOSWELLIA SP.* ESSENTIAL OIL
[1]University of Medicine and Pharmacy V. Babes Timisoara, Cell and Molecular Biology Department; [2]The Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timisoara;[3]West University Timisoara, Faculty of Chemistry-Biology-Geography

P6 **Gabi Dumitrescu[1], Liliana Petculescu Ciochină[1*], Roxana Popescu[2], Nicoleta Marioara Carabă[3], Ioan Peț[1], Dorel Dronca[1], Mirela Ahmadi[1], Elena Peț[1], Florica Morariu, Damjan Ana Maria[1], EVALUATION OF THE ANTIPROLIFERATIVE EFFECT OF BUTYL METHYLPYRIDINIUM CHLORIDE (4MBPCCL) ON THE HCT-8 CELL LINE,** *[1]Banat University of Animal Sciences and Veterinary Medicine – King Michael I of Romania, , 300645, Timişoara, România;*
[2] "Victor Babes" University of Medicine and Pharmacy Timisoara, 300041 Timisoara, Romania
[3]West University of Timi¸soara, 300115 Timişoara, Romania

P7 **Kristýna Skoupá [*1], Andrej Bátik[1], Kamil Šťastný[2] and Zbyšek Sládek[1]**
IMPACT OF THE USE OF TESTOSTERONE AND ITS SYNTHETIC DERIVATIVES ON STRUCTURAL CHANGES IN PIG TESTES
[1]Department of Animal Morphology, Physiology and Genetics, Faculty of AgrSciences, Mendel University in Brno, Zemedelska 1, 613 00 Brno, Czech Republic
[2]Veterinary Research Institute in Brno, Hudcova 296/70, 621 00 Brno, Czech Republic

P8 **Lamprini Dimitriou[1], Maria Alexandraki[1], Athanasios Manouras[2] and Eleni Malissiova[1*], MEAT AND MEAT PRODUCTS AUTHENTICITY FOLLOWING THE GREEN DEAL PRIORITY FROM FARM TO FORK: A REVIEW**
[1] Food of Animal Laboratory, Animal Science Department, University of Thessaly, Gaiopolis Campus, Larisa 41500, Greece , [2]Nutrition and Dietetics Department, University of Thessaly, Karies, Trikala 42100, Greece

P9 **Maria Alexandraki[1], Athanasios Manouras[2] and Eleni Malissiova[1*]**
SHELF LIFE EXTENSION OF MINCED BEEF MEAT USING XANTHAN GUM AND QUAR GUM EDIBLE COATING CONTAINING ESSENTIAL OIL OF OREGANO
[1]Food of Animal Laboratory, Animal Science Department, University of Thessaly, Gaiopolis Campus, Larisa 41500, Greece
[2]Nutrition and Dietetics Department, University of Thessaly, Karies, Trikala 42100, Greece

P10 **Jozef Bujko[*1], Juraj Candrák[1], Peter Strapák[2], Cyril Hrnčár[3], Mariusz Bogucki[4]**
EVALUATION OF LACTOSE PERCENTAGE IN RELATION TO THE SOMATIC CELLS IN MILK OF DAIRY COWS OF THE SLOVAK SPOTTED CATTLE
[1]Department of Genetic and Animal Breeding Biology, Institute of Nutrition and Genomics,
[2]Department of Animal Husbandry,
[3]Department of Small Animal, Institute of Animal Husbandry, Faculty of Agrobiology and Food Resources, Slovak Agricultural University Nitra,
4Department of Cattle Breeding, Faculty of Animal Breeding and Biology, University of Technology and Life Sciences In Bydgoszcz, Poland

P11 **Jozef Bujko[1*], Katarína Hozáková[2]**
ANALYSIS OF GROWTH TRAITS IN CALVES OF CHAROLAIS IN DIFFERENT BREEDING CONDITIONS
[1]Slovak University of Agriculture in Nitra, Faculty of Agrobiology and Food Resources, Institute of Nutrition and Genomics, Department of Genetic and Breeding Biology, Nitra, Slovak Republic
[2]Slovak university of Agriculture in Nitra, Faculty of Agrobiology and Food Resources, Department of Animal Husbandry, Nitra, Slovak Republic

P12 **Ioana Poroşnicu[1,3*], Andra S. Neculai-Văleanu[3], Adina M. Ariton[3],Nicolae I. Bădilaş[2], Bianca M. Mădescu[2,3], Mădălina A. Davidescu[2]**
MYCOLOGICAL AND MYCOTOXINIC INVESTIGATIONS OF PLANT SUBSTRATES IN THE MOLDAVIAN PLATEAU AREA
[1]The "Stefan S. Nicolau" Institute of Virology, Romanian Academy, 030304, Street "Mihai Bravu", no. 285, Bucharest, Romania
[2]"Faculty of Animal Sciences, University of Agricultural Sciences and Veterinary Medicine of Iasi, 700490, Mihail Sadoveanu Alley, no.3, Romania
[3]Research and Development Station for Cattle Breeding, 707252, Iasi-Ungheni no.9, Dancu, Iasi, Romania

P13 **Ioana Poroşnicu[1,3*], Andra S. Neculai-Văleanu[3], Adina M. Ariton[3],Nicolae I. Bădilaş[2], Bianca M. Mădescu[2,3], Mădălina A. Davidescu[2]**
IMPORTANCE OF ASPERGILLUS, PENICILLIUM, FUSARIUM GENERA AND CONTAMINATION CONTROL STRATEGIES
[1]The "Stefan S. Nicolau" Institute of Virology, Romanian Academy, 030304, Street "Mihai Bravu", no. 285, Bucharest, Romania
[2]"Faculty of Animal Sciences, University of Agricultural Sciences and Veterinary Medicine of Iasi, 700490, Mihail Sadoveanu Alley, no.3, Romania
[3]Research and Development Station for Cattle Breeding, 707252, Iasi-Ungheni no.9, Dancu, Iasi, Romania

P14 **Katalin Balog[1,3], Bíborka Sipos[2], Szilvia Kusza[3*], Zoltán Bagi[3]**
POLYMORPHISM MUSCLE RELATED GENES IN HYBRID AND HUNGARIAN INDIGENOUS SQUAB PIGEONS
[1]University of Debrecen, Doctoral School of Animal Science, 4032, Debrecen, Böszörményi út 138., Hungary
[2]University of Debrecen, Faculty of Agricultural and Food Sciences and Environmental Management, 4032, Debrecen, Böszörményi út 138., Hungary
[3]University of Debrecen Centre for Agricultural Genomics and Biotechnology, Faculty of Agricultural and Food Sciences and Environmental Management, 4032, Debrecen, Egyetem tér 1., Hungary

P15 **Bíborka Sipos[1], Katalin Balog[2,3], Szilvia Kusza[3*], Zoltán Bagi[3]**
PRECISION SELECTION IN SQUAB PIGEON- LITERATURE REVIEW OF THE POLYMORPHISMS OF MEAT RELATED GENE
[1]University of Debrecen, Faculty of Agricultural and Food Sciences and Environmental

Management, 4032, Debrecen, Böszörményi út 138., Hungary
[2]University of Debrecen, Doctoral School of Animal Science, 4032, Debrecen, Böszörményi út 138., Hungary
[3]University of Debrecen Centre for Agricultural Genomics and Biotechnology, Faculty of Agricultural and Food Sciences and Environmental Management, 4032, Debrecen, Egyetem tér 1., Hungary

P16 **Père Roger Gaise N'Ganzi[1], Ioana Mihaela Balan[2]*, Teodor Ioan Trasca[2]*, Raul Pascalau[2], Ioan Brad[2], Remus Gherman[2]**
FOOD SECURITY IN LOW DEVELOPED COUNTRIES – THE CASE OF THE CONGO D.R.
[1]Universite de l'Uele, Couvent Saint Sominique Kinshasa/Limete, Isiro - Kinshasa, Democratic Republic of Congo
[2]Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timisoara - Romania

P17 **Ioana Mihaela Balan[1*] , Remus Gherman[1*], Teodor Ioan Trasca[1], Sabry A. El-Khodery[2], Ioan Brad[1], Ana-Mariana Dincu, Emanuela Diana Gherman[1]**
FOOD WASTE WORLDWIDE - TOP 10 COUNTRIES
[1]Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timisoara - Romania
[2]Department of Internal Medicine and Infectious Diseases, Faculty of Veterinary Medicine, Mansoura University - Mansoura, Egypt

P18 **Martin Anamaria Roxana[1*], Balan Ioana Mihaela[1*], Trasca Teodor Ioan[1]**
ROMANIA FACING THE PROBLEM OF FOOD WASTE
[1]Banat's University of Agricultural Sciences and Veterinary Medicine "King Michael I of Romania" from Timisoara – Romania

P19 **Mirela Ahmadi[1], Lavinia Ştef[1], Gabi Dumitrescu[1], Liliana Ciochină-Petculescu[1], Mărioara Nicula[1], Florica Emilia Morariu[1], Aryan Ahmadi[1], Dorel Dronca[1], Marius Laurian Maftei[2], Ioan Peţ[1]**
BIOCHEMISTRY SIGNIFICANCE OF THE "NEW CHOLESTEROL"
[1]Banats' University of Agricultural Sciences and Veterinary Medicine "King Michael the Ist of Romania" from Timisoara, 119 Calea Aradului, Timisoara – 300645, Romania
[2]University of Agronomic Sciences and Veterinary Medicine, Bucharest, Romania, 59 Marasti Avenue, District 1, Bucharest, Romania

P20 **Dorel Dronca[1], Ioan Pet[1], Lavinia Ştef[1], Gabi Dumitrescu[1], Liliana Ciochină Petculescu [1], Pătruică Silvia[1], Mihaela Ivancia[2], Marius Maftei[3], Marioara Nicula[1], Adela Marcu[1], Sorin Voia[1], Mihaela Cazacu[1], Sandro Pogialli[1], Mirela Ahmadi[1]**
QUANTITATIVE EVOLUTION OF THE WILD ANIMALS POPULATIONS FOR HUNTING FROM 20-BARA
[1]Banats' University of Agricultural Sciences and Veterinary Medicine "King Michael the Ist of Romania" from Timisoara", Calea Aradului nr.119, Timisoara - 300645, Romania
[2]"Ion Ionescu de la Brad" University of Agricultural Sciences and Veterinary Medicine of Iaşi, 3, Mihail Sadoveanu Alley, Iaşi, Romania
[3]University of Agronomic Sciences and Veterinary Medicine, Bucharest, Romania, 59 Marasti Avenue, District 1, Bucharest, Romania

P21 **Dorel Dronca[1], Ioan Pet[1], Gabi Dumitrescu[1], Lavinia Ştef[1], Liliana Ciochină Petculescu [1], Pătruică Silvia[1], Mihaela Ivancia[2], Eliza Simiz[1], Marius Maftei[3], Marioara Nicula[1], Adela Marcu[1], Mihaela Cazacu[1], Silvia Erina[1], Mirela Ahmadi[1]**
ESTIMATION OF SEXUAL DIMORPHISM IN A POPULATION OF DOGS OF THE ROMANIAN MIORITIC SHEPHERD DOG BREED
[1] Banats' University of Agricultural Sciences and Veterinary Medicine "King Michael the Ist of Romania" from Timisoara", Calea Aradului nr.119, Timisoara - 300645, Romania
[2]"Ion Ionescu de la Brad" University of Agricultural Sciences and Veterinary Medicine of Iaşi, 3, Mihail Sadoveanu Alley, Iaşi, Romania
[3]University of Agronomic Sciences and Veterinary Medicine, Bucharest, Romania, 59 Marasti Avenue, District 1, Bucharest, Romania

P22 **Adela Marcu, Stef Lavinia, Pet Ioan, Dorel Dronca, Nicula Negu Marioara, Marcu Diana Ioana, Sipos Gabriel, Fleseriu Sebastian, Marcu Adrian, Bencsik Ioan, Julean Calin*, Stef Ducu Sandu**
BODY MEASUREMENTS AND MORPHOLOGICAL EVALUATION OF ROMANIAN RAVEN SHEPHERD DOG
[1] Banats' University of Agricultural Sciences and Veterinary Medicine "King Michael the Ist of Romania" from Timisoara", Calea Aradului nr.119, Timisoara - 300645, Romania

P23 **Elena Ilişiu[1,2], Andreea-Hortanse Anghel[1], Vasile - Călin Ilişiu[1,2], Camelia Zoia-Zamfir[1], Cristian-Vasile Ilişiu[2], Daniela-Rodica Mare[1], Dorina Nadolu[1], Ion-Dumitru Chirteş[1,2]**
THE INFLUENCE OF SHEEP AGE AT FIRST CALVING ON THE PRODUCTIVE PERFORMANCE OF LAMBS FROM TSIGAI BREED
[1]Research and Development Institute for Sheep and Goat Palas - Constanta,I.C. Brătianu, 248, Constanţa, Romania; [2]Caprirom Nord Association, Dedradului, 11, Reghin, Romania

P24 **Andrei Ciobanu[1*], Mihaela Ivancia[1] , Andreea D. Şerban[1], Dănuţ D. Dronca[2] , Răzvan Al. Popa[3] , Ştefil Creangă[1]**
COMPARATIVE STUDY ON THE AVERAGE DAILY GAIN OF TELEORMAN BLACK HEAD SHEEP LAMBS REARED ON TWO FARMS IN THE NE OF ROMANIA,
[1]University of Life Sciences " Ion Ionescu de la Brad" Iaşi, Aleea Mihail Sadoveanu nr.3, Iaşi, 700490, România; [2]Banat s University of Agricultural Sciences and Veterinary Medicine, Faculty of Animal Science and Biotechnologies, 300645, Calea Aradului 119, Timisoara, Romania; [3]University of Agricultural Sciences and Veterinary Medicine, 59 Marasti, 1 district, 011464 Bucharest, Romania

P25 **Cyril Hrnčár, Emília Hanusová, Anton Hanus, Jozef Bujko**
STUDY OF TIME INTERVALS OF EGG FORMATION IN ORAVKA HENS
Faculty of Agrobiology and Food Resources, Slovak University of Agriculture in Nitra, Tr. A. Hlinku 2, 949 76 Nitra, Slovak Republic

P26 **Cyril Hrnčár, Emília Hanusová, Anton Hanus, Jozef Bujko**
EFFECT OF TIME INTERVALS OF EGG FORMATION ON SOME QUALITY CHARACTERISTICS OF ORAVKA CHICKEN EGGS
Faculty of Agrobiology and Food Resources, Slovak University of Agriculture in Nitra, Tr. A. Hlinku 2, 949 76 Nitra, Slovak Republic

P27 **Gavojdian D.*, Nicolae I., Mincu M.**
CROSSBREEDING LOW PERFORMING DAIRY COWS WITH BEEF SIRES TO IMPROVE CALVES GROWTH AND FARM RETURNS
Research and Development Institute for Bovine, Balotesti, 077015, sos. Bucuresti-Ploiesti km 21, Ilfov, Romania

P28 **Gavojdian D.*, Mincu M.**
EVALUATING CATTLE WELFARE THROUGHOUT THE USE OF BEHAVIOURAL AND VOCAL INDICATORS: A REVIEW
Research and Development Institute for Bovine, Balotesti, 077015, sos. Bucuresti-Ploiesti km 21, Ilfov, Romania

P29 **Ariton Adina-Mirela[1], Ioana Poroşnicu[1], Andra-Sabina Neculai-Văleanu[1], Ioana-Cristina Crivei[1], Sănduleanu Cătălina[1], Alina-Narcisa Postolache[1], Trincă Lucia-Carmen[2]**
STRATEGIES FOR IDENTIFYING AND PREVENTING FUNGAL MASTITIS IN DAIRY COWS
[1]Research and Development Station for Cattle Breeding Dancu, Iaşi - Ungheni Alley No. 9, 707252, Iaşi, Romania 2Faculty of Horticulture, Iasi University of Life Sciences, Mihail Sadoveanu Alley No. 3, 700490 Iasi, Romania

P30 **Ariton Adina-Mirela[1*] , Neculai-Valeanu Andra-Sabina [1], Crivei Ioana-Cristina[1], Postolache Narcisa-Alina [1], Sanduleanu Catalina [1], Porosnicu Ioana[1], Elena Ungureanu[2]**
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BOOK OF ABSTRACT

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Section:- Animal Resources Bioengineering

BIOENGINEERING FACULTY OF ANIMAL RESOURCES

TIMIŞOARA, 2022

P1. - ANTIMICROBIAL ACTIVITY OF CORIANDER ESSENTIAL OIL AND VACUUM PACKAGING TO POULTRY SOUS VIDE MEAT

Miroslava Kačániová, Lucia Galovičová, Petra Borotová, Simona Kunová

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Abstract:
Poultry meat has valuable biological and nutritional characteristics which are currently considered as a dietetic food. This poultry meat is high in protein, essential amino acids, minerals and is low in fat. Meat is for its optimal composition and high-water activity very suitable breeding ground for undesirable microorganisms that cause microbial spoilage of meat. To prolong the shelf life of meat and preserve its quality and hygienic properties various forms of packaging are used. The aim of our work was to investigate the antimicrobial activity of essential oil from coriander in combination with vacuum packaging. Samples were collected from sous vide chicken breast meat,, prepared in vacuum. Listeria monocytogenes and coriander essential oil were applied on the chicken breast meat. After application, the samples were prepared by sous vide cooking at four different temperatures (50°C, 55°C, 60°C, and 65°C) during different time of intervals (5; 15; 30; and 60 min). The primary objective was to isolate and analyze the bacteria by matrix-assisted laser desorption/ionization time-of-flight (MALDI-TOF) Biotyper and with mass spectrometry (MS). Gram-positive and Gram-negative bacteria were identified. Most frequent type of bacteria isolated from samples were Gram-negative bacteria. The presence of the dominant species Listeria monocytogenes varied depending on temperature and time.

Keywords: antimicrobial activity, coriander essential oil, sous vide, Listeria monocytogenes

P2. ANTIMICROBIAL ACTIVITY OF SELECTED ESSENTIAL OILS

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Abstract:
Essential oils are natural, aromatic and volatile liquids, which are frequently obtained by steam or water distillation from plants. In general, they have a pleasant odor and their proven antimicrobial, antiviral, antifungal, antioxidant, antifungal, insecticidal and antiparasitic properties have been known for several years. The aim of this work was to monitor antimicrobial activity against pathogenic microorganisms using two methods. The antimicrobial activity of essential oils was determined using the disk diffusion method and the broth dilution method. We found that wild thyme and peppermint essential oils were the most effective against the gram-negative bacterium Pseudomonas aeruginosa CCM 3955 in both cases with size of an inhibition zone 20.66 mm measured by disc diffusion method. Coriander essential oil had the best antimicrobial activity against all tested pathogenic microorganisms in the range of concentrations from 0.75 µg.ml-1 to 13.35 µg.ml-1 with broth dilution method.

Keywords: antimicrobial activity, essential oils, bacteria, minimal inhibitory concentration, disk diffusion method

P3. ROSALINA, NIAOULI AND FIR ESSENTIAL OILS: STRONG ANTIFUNGAL BUT WEAK ANTIOXIDANT ACTIVITY

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Abstract
Antioxidant and antifungal activities of three essential oils (EOs): Melaleuca ericifolia Smith (rosalina; REO), Melaleuca quinquenervia (niaouli; NEO) and Abies alba (fir; FEO) were determined. The antioxidant capacity was investigated by the 2,2-diphenyl-1-picrylhydrazyl (DPPH) assay, and the disc diffusion method was applied to evaluate their antifungal efficacy (in four concentrations 62.5 µL/L, 125 µL/L, 250 µL/L, 500 µL/L used) against Penicillium (P.) expansum microscopic filamentous fungi isolated from bread samples. From the findings it can be clearly evident that antioxidant activities of the EOs were very weak with values ranging from 25.81 ± 7.8 TEAC (6.2 ± 1.4%; FEO) to 162.0 ± 2.1 TEAC (15.9 ± 0.4%; NEO). Regarding antifungal properties, our results revealed that the effects of the EOs on P. expansum growth inhibition were dose-dependent, and they were proportionally increased with increasing EOs concentrations. Detected inhibition zones ranged from 0.00 ± 0.00 mm (for all EOs at 62.5 µL/L) to 11.67 ± 1.15 mm (for REO at 500 µL/L). In conclusion, the all analyzed EOs possess promising in vitro antifungal activity (despite their weak antioxidant capacity) suggesting their use as a promising natural preservative in the food industry.

Key words: Melaleuca ericifolia Smith, Melaleuca quinquenervia, Abies alba, DPPH assay, disc diffusion method, Penicillium expansum

Acknowledgement: This research was funded by the grant APVV-20-0058 "The potential of the essential oils from aromatic plants for medical use and food preservation".

P4 CINNAMOMUM CASSIA AND CANANGA ODORATA IN THE VAPOR PHASE

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Abstract

The aim of this study was to compare the effectiveness of contact and steam application of essential oils Cinnamomum cassia and Cananga odorata. Using the disk diffusion method, we found that Cinnamomum cassia essential oil achieved good effects against gram-positive, gram-negative bacteria and yeasts when in contact aplication. Very weak efficacy was found against filamentous microscopic fungi. Cananga odorata essential oil showed very weak antibacterial effects after contact application. Inhibition of yeast and filamentous microscopic fungi was weak to moderate. In the vapor phase, C. cassiaesential oil achieved very good antibacterial effects and its effect on the inhibition of filamentous microscopic fungi was significantly increased. C. odorata esential oil showed significantly better inhibitory effects against gram-negative and gram-positive bacteria. Its effectiveness against fibrous microscopic fungi was higher than with contact application. These findings suggest that essential oils with a higher proportion of volatile compounds may increase their effectiveness when vapor is applied. Although there is still no standard methodology for determining the activity of essential oils in the vapor phase, results reported thus far are encouraging and suggest possible applications in food preservation. With higher efficiency, lower amounts of essential oils are sufficient, which reduces the effect on sensory properties.

Keywords: essential oil, Cinnamomum cassia, Cananga odorata, antimicrobial activity, food mode

P5. IN VITRO CYTOTOXICITY EVALUATION OF *BOSWELLIA SP.* ESSENTIAL OIL

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Introduction. *Boswellia species* oleo-gum-resins are known for their anti-inflamatory, anti-arthritic, anti-microbial, neuroprotective and anti-neoplastic effects. In the current study, we wanted to study the anti-proliferative potential of *Boswellia sp*. essential oil. Our preliminary study analyzed the cytotoxic effect of the essential oil from *Boswellia sp.* in MCF7 cell line (epithelial cancer cell line derived from breast adenocarcinoma) and Caco-2 cell line (human Caucasian colon adenocarcinoma).

Materials and methods. The essential oil was purchased from doTERRA™ and was diluted with culture media to the following concentrations: 1:200, 1:400, 1:800, 1:1600, 1:3200, 1:6400. To test the cytotoxic effects, the MCF7 and Caco-2 cell lines were taken after pre-tripsinization, when proliferation reached 80% confluence. Cells ($3x10^5$/ml) were seeded in each well of 96-well culture plates in 100 µl growth media. After 24 hours, *Boswellia sp.* essential oil was added at various concentrations. A control lot was used in parallel. Cell viability was determined using the MTT assay.

Results and discusions. Cell viability assessment was analyzed at 24h, 48h, 72h for MCF-7, respective at 48h, 72h for Caco-2, following essential oil exposure. Although the two different cancer cell lines varied in their sensitivities to the volatile oil treatment, there was a significant supressed cell viability in both of them. High cytotoxic effects were seen at the 1:200 dilution in MCF7, but potent cytotoxicity was observed at 1:400, 1:800, 1:1600 dilutions also. In Caco-2 cell line, the essential oils suppressed cell viability in a more potent way following 72h exposure, at 1:200 and 1:400 dilutions.

Conclusions. The essential oil from various *Boswellia species* is shown to induce tumor cell cytotoxicity in different cancer cell types.

Key words: *Boswellia sp.,* cytotoxicity, adenocarcinoma

P6.EVALUATION OF THE ANTIPROLIFERATIVE EFFECT OF BUTYL METHYLPYRIDINIUM CHLORIDE (4MBPCCL) ON THE HCT-8 CELL LINE

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Abstract
The unique ability of ionic liquids to change their structure and properties, often only through a selection of ions, makes these salts attractive for a variety of applications, from materials science to electrochemistry or life sciences and medicine. .At present, very little data are available on biotoxicity, biodegradation, safety and their impact on health and the environment. For these reasons, our team set out to test the toxic effect of butyl methylpyridinium chloride (4MBPCCl), an ionic liquid with a pyridinium cation and a 10-carbon lachyl chain on human tumor cells in the HCT-8 line. To evaluate the toxic effect, the cells were treated for 24 hours and 48 hours with DMEM medium, in which butyl pyridinium chloride was added at a concentration of 0.25 mg / mL, 0.5 mg / mL, 1.0 mg / mL., 2.00 mg / mL and 4.00 mg / mL. The control group was not treatment with ionic liquid, and for each concentration three repetitions were performed. From the analysis of the results, it was observed that the 4MBPCCl ionic liquid, at all tested concentrations, had an inhibitory effect on cell growth and development, the maximum effect being reached at the highest concentration (4.00 mg / mL).

Keywords: ionic liquids, biotoxicity, butyl methylpyridinium chloride (4MBPCCl), tumor cells HCT-8

P7. IMPACT OF THE USE OF TESTOSTERONE AND ITS SYNTHETIC DERIVATIVES ON STRUCTURAL CHANGES IN PIG TESTES

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Abstract
Anabolic steroids are chemically synthetic derivatives of the male sex hormone testosterone or its structural modifications. They have a significant anabolic effect on protein synthesis, and therefore muscle tissue, and are used in livestock for a rapid increase in muscle mass. However, their influence on the genitals was somewhat neglected.
In our work, we focused on the changes caused by the application of two commonly used hormones, testosterone and its synthetic derivative nandrolone, on the structure of the testes in pigs. Thus, pigs were divided into three groups, control (CO), testosterone (TE) and nandrolone (NA). Pigs were administered steroids a total of 5 times after the first phase of pharmacokinetic testing, at 5 mg /kg over a period of 4 days. The tissues were then subjected to basic histological staining and significant changes were evident from this staining. The measurement would focus on parameters that may indicate changes in the microscopic structure of the seminiferous tubules, germline epithelium and interstitium and Leydig cells located therein. The height of the germinal epithelium was significantly lower in TE compared to CO, in NA the complete destruction of the epithelium occurred. In the lumen of the canal at NA, it was possible to observe only a three-dimensional mesh of ligament, which resembles prepubertal testes rather than an adult testicle. Mature spermatids in the seminiferous tubules could be observed in TE in approximately 60% of sections, in NA in only about 20%, and mainly spermatogonia were present in the epithelium. The seed-forming channels were also significantly apart in the cases of TE and NA. In both groups, the number of Leydig cells was also significantly reduced and the cells were significantly deformed. The results show that the application of anabolic steroids had a similar effect on pig testes as chemical castration and had a dramatic effect on histology and cytology, which is associated with the process of spermatogenesis and the formation of endogenous testosterone in Leydig cells. In general, we can conclude from the results that the synthetic derivative nandrolone had a stronger effect on tissue changes than testosterone alone. Thus, anabolic steroids can cause boar infertility and it is important to pay attention to the type and composition of anabolic drugs, the consequences, intensity and reversibility of which may vary. Effects of possible residues from uncastrated meat boars per human need to be further investigated, especially in the light of current trends in the search for alternative routes of surgical castration in fattening pigs.

Key words: anabolic steroids, testosterone, nandrolone, testes, pigs

P8. MEAT AND MEAT PRODUCTS AUTHENTICITY FOLLOWING THE GREEN DEAL PRIORITY FROM FARM TO FORK: A REVIEW

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Abstract
Meat authenticity characterizes meat and meat products integrity using different approaches, such as fraud, origin, production type etc. The European Green Deal priorities include the authenticity issues in order to enhance the farm to fork approach. According to FAO, authenticity is the quality of a food to be genuine and undisputed in its nature, origin, identity, and claims and to meet expected properties. The aim of the current study was to review the current knowledge on meat and meat products authenticity, identify lapses and trends. Based on a systematic review of the literature, data retrieved were critically assessed in order to identify the current situation and the future trends with reference to meat authenticity. The data review main conclusions, refer to the following points: With regards to the analytical approaches on meat and meat products authenticity, the primary tools used are molecular techniques, followed by spectroscopic, isotopic, chromatographic methods and some combinatory analytical approaches; spectroscopic techniques seem to be the techniques of the future in multi-component detection as they are fast, reliable and usually non-destructive; there were very few studies focused on the control of geographical origin; immunoenzymatic methods were used mainly to assess processed meat authenticity. This study revealed that even
though there is a lot of interest in the research community on meat authenticity, there are lapses in the authentication of meat geographical origin in terms of the analytical tools used, apart from the traceability records. Given the priority of EU on a farm to fork approach, meat and meat products origin should be a focus as it constitutes a very important quality trait for many consumers and in parallel cost effective and fast analytical tools are required to safeguard consumers.

P9. SHELF LIFE EXTENSION OF MINCED BEEF MEAT USING XANTHAN GUM AND QUAR GUM EDIBLE COATING CONTAINING ESSENTIAL OIL OF OREGANO

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Abstract
The aim of this study was to assess the effect of xanthan gum and quar gum mixture containing oregano essential oil as a new edible coating on the preservation and the extension of shelf life of minced beef meat at the refrigerator temperature (4°C). The minced beef meat samples were coated with mixture of xanthan gum and quar gum containing oregano essential oil at levels of 0%, 1%, 2%, and 3% and compared with control (uncoated minced beef meat) in terms of microbial, physicochemical, and sensorial properties on the days 0, 3, 6, 9 and 12 of the storage. The pH, color, odour, microbiological (Total Viable Count, Coliforms, Enterobacteriaceae) and sensory tests were conducted using standard methods, and the results were analyzed by analysis of variance. The microbiological analyses demonstrated that there was greater microbial growth in the uncoated minced beef meat than in the coated ones. Sensory attributes (odor, color and overall acceptability) were significantly enhanced in treated meat samples ($P < 0.05$). The results of chemical, microbiological, and sensory analysis proved beneficial in extending shelf life and storage quality of minced beef meat during refrigerated storage

Key words: cattle, dairy cows, milk components, lactose, somatic cells count, correlation

P10. EVALUATION OF LACTOSE PERCENTAGE IN RELATION TO THE SOMATIC CELLS IN MILK OF DAIRY COWS OF THE SLOVAK SPOTTED CATTLE

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Abstract
The aim of this study was to evaluate lactose percentage in relation to the somatic cells count in milk of Slovak Spotted cattle. A total of 468,082 control milk samples from 28,848 dairy cows born from 2000 to 2013 were used for investigating lactose percentage (LP), milk yield (MY), lactose yield (LY), fat percentage (FP), proteins percentage (PP) and somatic cells count (SCC). Data were analysed using the SAS version 9.4 and linear model with fixed effects: farmer (F), years-month of control (YM), order of lactation (OL), sire (S), coding of SCC (CS). In the dataset the average of LP was 4.78±0.27 %, while the one of MY, LY, FP, PP and SCC were 20.44±8.65, 0.98±0.43,04±0.80, 3.49±0.37 and 455.95±1,296.16 cells * 1000/ ml. The correlation of LP with MY, LY, FP, PP, and SCC was equal to r = 0.33205, r = 0.41609, r = -0.11414, r = -0.24404 and r = -0.31175. These correlation coefficients were statistically highly significant P <0.0001. Among all fixed effects in the analysis ofof variance of LP, the most relevant effect was observed for CS (P<.0001).

Keywords: cattle, dairy cows, milk components, lactose, somatic cells count, correlation

P11 ANALYSIS OF GROWTH TRAITS IN CALVES OF CHAROLAIS IN DIFFERENT BREEDING CONDITIONS

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Abstract
The issue was solved by the growth of 632 Charolais calves born between 2011 and 2016 from three farms in the Slovak Republic who are part of performance beef cattle testing. In our work was evaluated a live birth weight, weight at 120 days of age, weight at 210 days of age, weight at age 365 days, average daily gain from birth to 120 days of age, average daily gain between 120 and 210 days of age and average daily gain up to 365 days. Assessment factors were selected by breeder, sex of calves, calf birth year, calf birth month and sire effect. Evaluating of the live weight at birth founded the highest weight of farm A (42.92 kg), which is closest to the breed standard. Heaviest calves were born in 2016 with very high significant effect ($p<0.001$) on the birth weight. Male calves were heavier than heifers in single, heifer twins were also heavier. High statistical significance ($p<0.001$) was detected by sire. In our work we´ve founded the best weaning weight 229.11 kg in lower birth weight (33.52 kg). This indicator reduced over the years up to year 2016, when the weight raised again. Heifers reached higher values than bulls (203.74 kg compared to 177.40 kg), while the impact of this factor was statistically significant ($p<0.05$). The highest calves weaning weight was found in the October (224.35 kg) and the January (209.98 kg). We also investigated the correlation dependence of growth characteristics, when we found a positive correlation dependence ($r = 0.03$) between weaning weight and birth weight, which is statistically not significant ($p>0.05$).

Key words: growth indicators, Charolais, live weight, performance testing, weaning weight

P12. MYCOLOGICAL AND MYCOTOXINIC INVESTIGATIONS OF PLANT SUBSTRATES IN THE MOLDAVIAN PLATEAU AREA

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Abstract
Mycological and mycotoxinic contamination of plant substrates endangers the most important sectors globally - agriculture, animal husbandry and the food industry. The starting point of contamination is the spread of pathogens in the field, transport and even handling before storage. Increasing the temperature and humidity of these seeds can be an important factor in the development of fungi and mycotoxins. In this paper, we aimed to evaluate the fungal and mycotoxinic potential in the samples that characterize the area of the Moldavian Plateau. From agricultural farms, samples such as corn, wheat, barley, soybeans, rapeseed, peas and sunflowers were collected and analyzed and a series of 10 determinations / sample were performed in order to establish the fungal and mycotoxinic load. The results clearly indicate the presence on the seed coat of fungal spores of the genera Penicillium (60%), Aspergillus (52.8%), Fusarium (48.5%) together with species from the Mucoraceae family (38.5%). The most contaminated samples were corn, wheat and barley grains. The climatic conditions in this geographical area are favorable for these species of micromycetes and regarding the mycotoxinic examination performed by the TLC technique, the mycotoxins identified in the 70 plant substrates were aflatoxins B1, G2, ochratoxin and zearalenone.

Key words: contamination, mycotoxins, micromycetes, plant substrates

P13. IMPORTANCE OF ASPERGILLUS, PENICILLIUM, FUSARIUM GENERA AND CONTAMINATION CONTROL STRATEGIES

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Abstract
Contamination of plant substrates with micromycetes from the genera Aspergillus, Penicillium and Fusarium is favored by the existence of optimal environmental conditions for their development, with negative consequences on production, animal health and food safety. The development of micromycetes causes a great loss of nutritional value and the production of extremely toxic metabolites - mycotoxins. The situation is very complicated when it is found that there are a multitude of secondary fungal metabolites. There is a problem with global food and feed safety, so we live with a certain degree of risk. Although the research effort has been immense in trying to delineate several aspects of mycromicetes and mycotoxin contamination, many questions remain unanswered. It is essential to carry out several investigative studies on this scourge for consumer safety, therefore the role of each manufacturer, control bodies and regulators should be paramount in the current mycological and mycotoxin situation, in order to obtain favorable results to facilitate the improvement of the quality control system of plant substrates, food and this desideratum can be achieved only through certain control strategies to prevent contamination.

Key words: contamination, control strategies, plant substrates, secondary metabolites

P14. POLYMORPHISM MUSCLE RELATED GENES IN HYBRID AND HUNGARIAN INDIGENOUS SQUAB PIGEONS

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Abstract
Pigeon breeding has an extremely long history in many countries worldwide, which partly due to the high biological value of pigeon meat. At the end of the 20th century, the Hungarian squab pigeon breeders was one of the largest exporters in the world. However, this sector has collapsed in Hungary in the recent decades. Nevertheless, a number of indigenous squab pigeon breeds have survived, the suitability of which in commercial production is now questionable. The recently launched National Pigeon Program has a positive impact on the development and growth intensity of this sector. However, this requires new, modern genetic background, which are currently provided by French hybrids. In order to remain competitive and reduce imports, it is important to further develop these genotypes as well. Molecular genetic methods and precision breeding can be one of the effective tools for this. Gene polymorphism studies can be used to identify important genes or polymorphisms in individuals with specially designed primers, thus enabling faster genetic progression during the selection programs. In this work, we determined polymorphism of some muscles-related gene polymorphism in an indigenous breed (Blue Sovater) and a hybrid genotype (Mirthys). Total of 40 blood samples (20 Blue Sovater pigeons; 20 Mirthys hybrid) were genotyped using KASP-PCR method for the following genes: AGLOB, CKM, DRD4, LDHA and LDHB. The action of α-A globin and the D4 dopamine receptor physiologically influences regulatory processes, creatine kinase is involved in the regulation of muscle function and lactate dehydrogenase genes are involved in muscle glycogenesis. The five genes in the study affect muscle function, leading to the development of appropriate meat forms. Based on the results, Blue Sovater had more polymorphic loci (4) were higher than the Mirthys hybrid (2). Because hybrids are developed to meet modern processing and consumer requirements (e.g., uniform size and meat forms), these lines have a much cleaner, more uniform genetic stock. This is beneficial for the products and production efficiency, but the reduced genetic diversity limits the possibilities for further selection. Based on our results, the Blue Sovater is characterized by greater genetic variance, which may even make it suitable as a crossing partner for the further development of hybrid lines. It also provides an opportunity to exploit and utilize the genetic resources of indigenous breeds.

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P15. PRECISION SELECTION IN SQUAB PIGEON- LITERATURE REVIEW OF THE POLYMORPHISMS OF MEAT RELATED GENE

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Abstract
Pigeon is one of the oldest domesticated animal species used by human. One of the most important advantage of the species is its high biological value meat. Squab pigeon is still rarely studied, especially by biotechnology research, which is evolving rapidly. Pigeon meat is once again becoming a popular and sought-after export product. Because of today's increasing production and market competition, the future of the industry depends on precision selection programs supported by genetic and genomic tools. In the following work, we have summarized literature datas about the most important genes and their polymorphism associated with pigeon meat production. Polymorphisms presented here were responsible for the regulation of growth traits, content of fat tissue, and muscle tissue. In all reviewed studies, carcass value indicators and meat quality were taken into account, which were then associated with the results of the single-point nucleotide polymorphism (SNP) assay. Polymorphisms in the melanocortin 3 Receptor (MC3R) and melanocortin 4 Receptor (MC4R) genes were correlated with growth and weight gain in squab pigeons. Most of the genes studied so far are involved in the regulation of fat tissue. Fatty acid-binding protein (FABP1) gene is responsible for the function of so-called fatty acid-binding proteins, and the absence or underactivity of the Kruppel-like factor 15 (KLF12) gene has resulted in increased obesity. Diacylglycerol acyltransferase 2 (DGAT2) gene is responsible for the synthesis of triacylglycerol, which plays an important role in the regulation of intramuscular fat deposition. Myostatin (MSTN) gene affects the function of myostatin, the absence or mutation of which results in unusual and high levels of muscularity. Myogenesis are managed by myogenic regulatory factors (MRFs), which are responsible for skeletal muscle differentiation. A rarely studied but important factor is the myogenic factor 5 (MYF5) gene, which correlated with carcass muscularity and growth characteristics. Adenyl succinate lyase (ADSL) are implicated in the synthesis of inosine monophosphate (IMP). In recent decades, several studies have shown that IMP is a key factor in the taste of meat. These genes could be a potential candidate genetic marker for marker-assisted selection in squab pigeon. Our review helps to form a picture of the gene polymorphisms studied in squab pigeons in the context of meat production and product quality. This provides an opportunity to identify the further research directions and to use the different results in practical selection programs.

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OP1. CONTRIBUTION OF FEEDING PROCESSES TO THE ENVIRONMENTAL IMPACT OF BROILER CHICKEN PRODUCTION

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Abstract
The environmental impact of broiler chicken production was evaluated in this study utilizing life cycle analysis (LCA). The research examined at 11 different impact categories (abiotic depletion potential for elements (ADPe); abiotic depletion potential of fossil fuels (ADPf); acidifcation potential (AP); eutrophication potential (EP); global warming potential (GWP); ozone layer depletion potential (ODP); photochemical oxidation potential (POP); human toxicity potential (HTP); fresh water aquatic ecotoxicity potential (FAETP); marine aquatic ecotoxicity potential (MAETP); terrestrial ecotoxicity potential (TETP)). The goal of the study was to determine the environmental critical points in broiler production for each impact category, as well as the contribution of feed and related processes to the environmental burden when compared to transportation, natural gas and electricity consumption, and other chicken house processes.
The results show that feed and related activities were the largest contributors to the environmental burden in the case of 8 out of 11 impact categories (ADPe, AP, EP, GWP, POP, FAETP, HTP, TETP). In fact, animal feeding contributed more than 80% to five of these impact categories (AP, EP, POP, FAETP, and TETP). Natural gas consumption and transportation processes were the main contributing activities for the ADPf and ODP impact categories, whereas electricity consumption was the main contributing activity for MAETP.

Key words: broiler chicken production, environmental impacts, feed and related processes, life cycle assessment

P16. FOOD SECURITY IN LOW DEVELOPED COUNTRIES – THE CASE OF THE CONGO D.R.

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Abstract
The article focuses on food security in the least developed countries, through a case study of the Democratic Republic of Congo, a low-income country with a food deficit, with one of the lowest rates of gross domestic product per capita in the world. The article presents the initial context, after gaining independence in 1960, and the current context of Congo DR, briefly developing the demographic situation and food insecurity, presenting the dynamics of agri-food indicators, which have a direct impact on food security. The study has as inputs the data provided by the World Bank.
Key words: Food security and insecurity, agriculture, GDP, economic growth, population growth

P17. FOOD WASTE WORLDWIDE - TOP 10 COUNTRIES

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Abstract
Food waste worldwide is beginning to become a "heavy" problem of one billion tons. It is almost unbelievable that in 2021, global food waste reached an extraordinary value of 931 million tons. Of these, over 60% is represented by food waste at the household level. In this context, the present research analyzed which countries have the highest level of food waste, presenting a double Top 10: the first - Top 10 of the countries with the highest total food waste at national level and the second - Top 10 countries with the highest food waste per capita.

Key words: Food waste, level, country, top, household

P18. ROMANIA FACING THE PROBLEM OF FOOD WASTE

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Abstract
In Europe, an estimated 87.6 million tonnes of food is wasted in one year. Romania is in the middle of the European ranking in terms of the volume of food thrown away, a fact mentioned in the study published by the ONU. It is estimated that 1.35 million tons of food are dumped annually in our country, indicating only food from people's households. So, every year, 70 kilograms of food per person is thrown in the trash. The COVID pandemic has caused an increase in food waste, both because of the population that has procured very large quantities to stock up and because of the distribution chains that have undergone changes in their functioning.
The EU and its Member States have set themselves the goal of reducing food waste by 50% by 2030, using the ONU targets. Concrete measures have been taken to reduce food waste and losses. Where this cannot be done, they urge the reuse, recycle and use the food for another purpose. Citizens of the EU are urged: to reduce the production of food waste from production to distribution, to reduce the amount of food thrown away from households, to stimulate food donations, to monitor and account for the application of measures to combat food waste.

Key words: food waste, food security, losses, households

P19. BIOCHEMISTRY SIGNIFICANCE OF THE "NEW CHOLESTEROL"

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Abstract
Cholesterol is essential for humans and animals, but high levels of serum cholesterol can lead to severe heart diseases, which has already a high incidence – especially in humans. This is why cholesterol and other biochemical substances with the same action are subject of various researches, being named as "unproven risk factors for atherosclerosis". One of the biochemical with heart diseases risk is considered homocysteine – an amino acid also known as "the new cholesterol", which if it is accumulated in high concentrations may contribute to the formation of atherosclerosis plaque. Different factors relating the homocysteine serum concentration, such as: genetics, gender, age, body weight, associated diseases and medications are discussed and studied to understood better the role of "new cholesterol" and its health implications. Also, studies are focused on different cofactors of biochemical reactions that are involved in homocysteine homeostasis, like vitamins and minerals.

Key words: homocysteine, cholesterol, cardiovascular disease

P20. QUANTITATIVE EVOLUTION OF THE WILD ANIMALS POPULATIONS FOR HUNTING FROM 20-BARA

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Abstract
After Romanian integration into European Union the hunting populations need special attention. The observed size of an animals' population, which is opposed to the genetic size, is given by the number of the individuals from all categories and also by the total number of males and females participating in the production of the descendant generation. The study presented in this paper aimed to analyze the quantitative evolution of 13 wildlife populations and environmental conditions, on the background of hunting 20-Bara, between 2018 and 2021, thus contributing to the knowledge of the hunting heritage in Timiș County, for a sustainable management and conservation. Thus, this study recommends the revival of the existing population on this hunting area, through "blood refreshing" actions, as well as the permanent monitoring and limitation of populations from the Canidae family, especially of the Jackal (Caniș aureus L.) species, and the Red Fox (Vulpes vulpes L) species.

Key words: observed size, hunting animals, hunting population, hunting area

P21. ESTIMATION OF SEXUAL DIMORPHISM IN A POPULATION OF DOGS OF THE ROMANIAN MIORITIC SHEPHERD DOG BREED

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Abstract
Romanian Mioritic Shepherd Dog, was selected from a natural population breed of Romanian Carpathian Mountains. The aim of this study was to analyze the existence and size of sexual dimorphism in a population of 26 males and 23 females of the Mioritic Shepherd Dog breed, for 6 body measurements: ear length, ear width, distance between the ears, distance between the eyes, length hair at withers and metacarpal perimeter. Following the study on the significance of statistical differences between body measurements recorded in 26 males and 23 females, it was concluded that sexual dimorphism is not evident in the population of the Romanian Mioritic Shepherd Dog studied in this paper, except the distance between the ears character. Among the other characters, the differences between the individuals of the two sexes are insignificant ($p>0.05$). We recommend to the dog breeders to take into account the genetic improvement programs, and also the results presented in this paper.

Key words: sexual dimorphism, Romanian Mioritic Shepherd Dog, males, females, body measurements

P22. BODY MEASUREMENTS AND MORPHOLOGICAL EVALUATION OF ROMANIAN RAVEN SHEPHERD DOG

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Abstract
Romanian Raven Shepherd dog is the fourth breed of shepherd dog of national interest, formed in the area of the southern Carpathians and the related sub-Carpathian area. The breed is nationally recognized and approved in Romania, with a national breed standard. In order to be internationally approved, breed morphometric studies are required. The purpose of this study is to evaluate body measurements in certain target population of Romanian Raven Shepherd Dog in relation to the national breed standard. The research was performed on a representative group of males and females, using classical methods of zoometry. The main body measurements studied were: height at the withers, thoracic perimeter, body length, head proportion. The data obtained were statistically processed. Following the processing of the obtained data, it is observed that most of the morphological parameters taken into study fall within the rigors of the national breed standard. The populations are genetically stable and the traits still considered unstable can be stabilized by a correct selection and breeding activity.

Key words: Romanian Raven Shepherd Dog, body measurements, selection

OP2. THE EFFECT OF USING INFRARED LAMPS ON GROWTH PARAMETERS IN YOUTH JUMBO QUAIL DURING 1- 42 DAYS

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Abstract
In order to determine the effect of using infrared lamps in raising the Jumbo youth meat quail as a source of heating and lighting during the 1-42 days of age, an experiment was organized on a total number of 300 quail chickens, divided into three equal groups (100 chicks/ group), respectively two sources of electric heating and electric lighting (control batch – 100 W power incandescent lamps, experimental batch I – 100 W infrared lamps and experimental lot II - infrared lamps in the 0-3 weeks of growth and incandescent lamps in the period of 4-6 weeks of growth).
Average live weight at the age of 42 days was of 216.55 g/head in control group, of 185.56 g/head in experimental group I and of 248.55 g/head in experimental group II, 12,87% higher compared to the control batch and with 25,34% compared to experimental group I, the differences between the three groups being very significant.
The average consumption of compound feeds was of 1344 g c.f./head in control group, of 855 g c.f./head in experimental group I and of 1310 g c.f./head in experimental group II, the differences between the three groups being very significant.
In view of the inferior results recorded in the case of experimental group I, it can be stated that the use of infrared lamps for the entire growing period of 42 days to Jumbo meat quail youth has negative effects on the weight gain of the chicks, especially in the second part of the growth. The superior growth performance of the experimental group II, compared to control and experimental group I, shows that the combined use of infrared lamps in the 0 - 3 week growth period and incandescent lamps during the 4 - 6 week period has positive effect on growth parameters, especially on the live weight of the chicks at the age of 42 days.

Keywords: quail, meat, youth, growth, infrared

P23. THE INFLUENCE OF SHEEP AGE AT FIRST CALVING ON THE PRODUCTIVE PERFORMANCE OF LAMBS FROM TSIGAI BREED

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Abstract
The aim of this study was to determine the effects of age on reproductive indices and on growth performances, carcass and meat quality of Tsigai lambs coming from young females (8 months age), in order to improve meat quality and meat sensory characteristics of lambs. 222 adult ewes and 51 young females were pursued in the breeding and calving season 2020-2021. The fecundity, prolificacy and weaning rate was 78.43%, 105% and 78.57% to young females and 94.60%, 105.24% and 91.40% to adult ewes, respectively. Thirty lambs (L1, n = 14 heads coming from young females and L2, n = 16 heads from adult ewes) were used in the experiment from birth up to end of intensive fattening of 100 days. No significant differences ($p > 0.05$) were found between the two lots with regard at final weight and average daily gain during fattening period, but significant differences ($p < 0.001$) were found for average daily gain from birth to the end of fattening. Significant differences ($p <0.001$) were also recorded between meat from the two groups with regard to juiciness and overall difference. The meat of lambs from L1 has showed improved eating qualities, resulting in a more juicy and tender meat, in which the specific lamb taste was attenuated.

Key words: age, fecundity, lambs, prolificacy,Tsigai, weaning rate

P24. COMPARATIVE STUDY ON THE AVERAGE DAILY GAIN OF TELEORMAN BLACK HEAD SHEEP LAMBS REARED ON TWO FARMS IN THE NE OF ROMANIA

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Sheep flocks of the Teleorman Black Head breed started to grow and spread almost all over Romania since 2010 when this breed was homologated and a breeding programme was implemented to improve the productive traits of the animals within the breed, especially milk production. However, the animals of this breed have a large body size, a high growth gain for lambs and good carcass weights at slaughter. On the Romanian market, lambs that are not kept for fattening and reproduction are destined for export mainly to Arab countries or for slaughter and own consumption in the period around Easter. Given that the average daily gain is a medium heritability trait, the environment in which the animals are reared needs to be studied and optimised. The aim of this study is to identify the environmental factors that influenced the performance of young sheep from two farms in different areas in the NE of Romania. The biological material taken in the study was the lambs from the two farms obtained from the 2021 lambing campaign. The lambs were weighed according to the COP (Official Performance Control) procedure, both at birth and at weaning. The average daily gain of lambs on farm A ranged from 229.5 g to 319.8 g for females and from 280.7 g to 405.7 g for males, and on farm B from 243.2 g to 275.2 g for females and from 307.2 g to 408.5 g for males.

Key words: Teleorman Black Head Sheep; Lambs; Daily gain

OP3. GROWTH PERFORMANCE AND EGG'S CHARACTERISTICS OF SOME PHENOTYPES OF QUAIL RAISED IN CAMEROON

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Abstract
The present study was conducted from July to August 2020 in the city of Ngaoundéré to evaluate the effect of quail phenotype on the growth performance and egg characteristics. For this purpose, 144 quail (48 birds) of each of the white, grey and spotted white phenotypes were used. For this suppose 144 quail (48 animals for each of the white, grey and spotted white phenotypes) aged 4 weeks and with an average live weight of 65,18 ±12,34g were used. For each phenotype, birds were grouped into 3 groups of 16 (8 males and 8 females). Water and feed were served ad libitum during the 4 weeks of the trial. 15 eggs per phenotype were randomly selected and individually broken, from which internal parameters were assessed. Data were collected on growth performance, carcass characteristics and some reproductive traits. Main results show that independently of sex feed intake, live weight and weight gain were significantly lowest feed intake and live weight were noted in the white (472,32 ± 37,66 and 179,64 ± 14,24 g respectiv ely) compared to the spotted white and grey phenotypes which were otherwise comparable. Carcass yield was not significantly affected by phenotype, regardless of sex. However, the highest carcass yields were recorded in the grey phenotype compared to spotted white phenotype which had lowest values. Although egg weight and volume were not significantly affected by phenotype, shape index was significantly affected and the highest values were found in white quails (78,82±2,8%). Spotted white quails had thicker eggshells than the other phenotypes. The spotted white quails laid eggs with a higher Haugh index and the grey quails with a higher edible matter content. Based on the results obtained, it can be concluded that the spotted white quail phenotype is more suitable for growth as il showed the best weight gain and shell quality although grey quails showed high proportions of edible matter.

Key words: Quail, phenotypes, growth, carcass, egg characteristics, Sudano-Guinean zone.

P25. STUDY OF TIME INTERVALS OF EGG FORMATION IN ORAVKA HENS

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Abstract
In this study, we analysed daily the time intervals of egg formation in pure chicken breed Oravka in the second half of egg production on 66 hens for 30 days, from 6 a.m. to 8 p.m. Experiment was realised in deep litter system in pens with automatic egg nest. Feeding of hens was providing by feed mixture for laying hens (crude protein 158.06 g/kg, metabolic energy 11.32 MJ/kg). Feeding and watering were ad libitum. Birds were exposed to natural light as a practiced in rural areas of South-West Slovakia. There were observed that in Oravka chickens the egg forming on average 25.78±0.39 hours, while the range was from 17 to 32 hours. Intervals between successively laid eggs were shortened by the clutch length. Time intervals of egg formation were 26.92 hours in short clutches (1 to 3 eggs), 25.31 hours in mean clutches (1 to 8 eggs) and 24.67 hours in long clutches (more than 9 eggs).Time intervals of egg formation were shortened by prolonging the clutch.

Key words: Oravka, hen, egg formation, clutch length, time interval

P26. EFFECT OF TIME INTERVALS OF EGG FORMATION ON SOME QUALITY CHARACTERISTICS OF ORAVKA CHICKEN EGGS

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Abstract
In this study, we studied the influence of time intervals of egg formation on some egg quality parameters in descending part of laying curve in pure Oravka chicken breed. We studied the daily dynamics of egg production from 6 a.m. to 8 p.m. for 30 days on 66 hens. Experiment was realised in deep litter system in pens with automatic egg nest. Feeding of hens was providing by feed mixture for laying hens (crude protein 158.06 g/kg, metabolic energy 11.32 MJ/kg). Feeding and watering were ad libitum. Birds were exposed to natural light as a practiced in rural areas of South-West Slovakia. The results showed that prolonging the time intervals of egg formation increased of egg weight, albumen weight, eggshell weight, eggshell proportion, eggshell thickness and eggshell strength. At the same time, yolk proportion and albumen proportion decreased to egg weight.

Key words: Oravka, hen, egg formation, time interval, egg quality

P27. CROSSBREEDING LOW PERFORMING DAIRY COWS WITH BEEF SIRES TO IMPROVE CALVES GROWTH AND FARM RETURNS

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Abstract
The elimination of milk quotas at EU level has resulted in significant restructuring of the dairy sector, with intense cross-border milk commerce, increased volatility in prices, coupled with a decrease in milk consumption per capita. Furthermore, male dairy calves are generally regarded as a by-product, considering their reduced growth rates and carcass yields. The current paper is presenting results of the project ADER 8.1.12, funded by the Ministry of Agriculture and Rural Development, set-up to evaluate different crossbreeding schemes between Romanian Black and White Spotted (RBWS) dairy breed and the main European beef breeds. For this reason, 5 different genotypes (5 calves/genotype) were evaluated for growth performance between 7 and 90 days of age, with the following breed structure: R1 Belgian Blue50% x (F1 Belgian Blue25% x RBWS25%); R1 Charolais50% x (F1 Charolais25% x RBWS25%); R1 Limousin50% x (F1 Limousin25% x RBWS25%); R1 Angus50% x (F1 Angus25% x RBWS25%) and RBWS purebred calves (control group). At the age of weaning, the Belgian Blue sired calves had an average growth rate of 1173,3±96,6 g/day, Charolaise sired calves had 1520,1±88,3 g/day, Limousin sired calves had 1307,7±64,1 g/day, Angus sired calves had 960,3±86,4 g/day, while the control group had 760,1±110,8 g/day. When compared to the RBWS purebred calves, managed under identical semi-intensive feeding and housing conditions, the beef sired calves had significant ($P \leq 0.05$) higher growth rates up to weaning. Based on the current preliminary results, the French Limousin and Charolais sires are recommended for farms which are looking to improve beef production under semi-intensive dairy systems. The introduction and use of beef sire specialised breeds for crossbreeding with dairy cows could represent a viable alternative for farmers to diversify their production, in order to produce fattening calves with higher growth attributes that meet consumers and market demands for high quality beef.

Key words: beef production, crossbreeding, dairy farming, growth rates

P28.EVALUATING CATTLE WELFARE THROUGHOUT THE USE OF BEHAVIOURAL AND VOCAL INDICATORS: A REVIEW

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Abstract
In highly gregarious species such as cattle, the social environment is an important determinant of their welfare status and health fitness. With a strong body of literature demonstrating recently that cattle (Bos taurus) are able to make sophisticated discriminations between conspecifics and humans, possess emotional capacities, such as emotional contagion, have distinct personalities, exhibit dimensions of social complexity, including social learning. This review was intended to investigate up-to-date knowledge on vocal communication in cattle, and to evaluate the feasibility of using vocal indicators as tools for objectively assessing animal welfare and wellbeing. Considering that under commercial farming, cattle are exposed to numerous painful and stressful procedures in which they emit vocalisations, however, knowledge of their information content is limited. Vocalizations in cattle have a significant higher frequency during oestrus, separation from calf, isolation from conspecifics and in anticipation of feed, and was showed to encode information on sender identity and emotional state. Cattle have highly developed auditory abilities, their hearing ranging from 23 Hz to 37 kHz, far exciding the human hearing range, with vocalizations being an integral part of their intraspecific communication (e.g. signalling danger, reproduction status, dominance), while maintaining individuality throughout life. Moreover, there is scientific evidence that calves recognize recorded samples of their dam's calls, and that the playback of recorded calls of calves significantly improved the milk production and milk ejection in dairy cows, while lowering their heart rates. Future efforts should be made towards: i) determining whether vocal parameters of cattle can be deciphered in order to be used for stress biology studies; ii) to produce new knowledge and insights on communication biology of cattle, taking advantage of the newly developed sound recording and analysis hardware and software.

Key words: animal welfare, behaviour, communication, vocal parameters

P29. STRATEGIES FOR IDENTIFYING AND PREVENTING FUNGAL MASTITIS IN DAIRY COWS

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Abstract
Mastitis is one of the most important diseases with a multifactorial etiology that causes high economic losses in dairy industry, having a direct negative impact on the profitability of the farm and animal welfare. Fungal mastitis is widespread in dairy cows, and in recent years, fungal agents have been frequently reported as being responsible for mastitis. The aim of this study is to identify the species of fungi in various milk samples collected from cows diagnosed with clinical mastitis, in order to monitor the total number of germs and the number of somatic cells. A total number of 30 samples of milk collected from cows diagnosed with mastitis were studied to determine if the disease was caused by the presence of fungal species or other etiological agents. In the analyzed milk samples, a number of species of fungi belonging to the genera: Fusarium, Penicillium, Cladosporium and Aspergillus were identified. The presence of fungal contamination in the environment is almost ubiquitous, thereby strategies to prevent fungal mastitis in dairy farms, have become the main goal for most farmers, in order to increase the quality of raw milk.

Key words: dairy cows, fungal species, somatic cells, prevention strategies.

P30. INVESTIGATION OF HEAVY METALS CONTENT IN RAW MILK SAMPLES FROM DAIRY COWS – A SYSTEMATIC REVIEW

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Abstract
Heavy metals toxicity, as well as the cumulative effects on the human body, require regular monitoring of their concentration in cow's milk. In dairy cows, heavy metals can cause loss of appetite, reproductive imbalances, and long-term consequences on milk production, among other concerns. Cow feed quality is directly related to environmental quality and agricultural aspects such as plant type, soil quality, fertilization processes, harvesting, processing, and storage. This literature review highlights various sources of heavy metals in raw milk, methods of decontamination and prevention, as well as classical and innovative techniques for determining the presence of heavy metals in milk. Due to the high concentrations of heavy metals in milk samples, particularly lead and cadmium, health and environmental protection organizations should conduct rigorous assessment. The relevant regulatory agencies should establish and implement more precisely the permitted levels of cadmium, nickel, cobalt, and copper in milk, and each unit that processes milk should be required to adhere to practices and a food safety management program.

Key words: milk, heavy metals, rapid methods, prevention, decontamination.

P31. MICROBIOLOGICAL QUALITY ASSESSMENT IN RAW MILK EVALUATION USING SOLERIS SYSTEM AS A RAPID ALTERNATIVE METHOD

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Abstract
Defined as the mammary glands/udder inflammation, mastitis caused by various infectious etiological agents, is still considered a debilitating condition in dairy cows, influencing both animal welfare and the dairy industry through decreased production performance and increased culling rates.
The consumption of raw milk or other milk products is related to the microbiological quality of raw milk. The main disadvantages in applying laboratory microbiological culture are related to logistical limitations and the expense of shipping samples, as well as the time required for analysis to receive interpretations, which can range from three to five days. The aim of this study is to validate the Soleris System as a rapid alternative method to the plate-count method in order to assess the microbiological quality of raw milk.
Thus, this study establishes the reliability of this alternative method for determining the total viable count in raw milk from samples from cows. In conclusion, raw milk evaluation using the Soleris System demonstrates its promise as a valid tool for accurate testing in the dairy industry.

Key words: mastitis, total viable count, raw milk, Soleris System.

P32. LAMENESS DETECTION AND FOOT LESIONS IDENTIFIED DURING HOOF TRIMMING IN DAIRY COWS

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Abstract
The present descriptive study was designed to identify the type of foot lesions found in lame dairy cows and to describe the distribution of foot lesions between front and hind limbs and lateral and medial claws. A total of 379 lactating Holstein Friesian cows were included in this study. All cows were scored for locomotion using a scale from1 (normal) to 5 (severely lame) based on gait and posture. Lame cows were defined as having locomotion score (LS) of 34 or 5. Each lame cow was properly restrained in trimming chute and each foot was examined for any lesion using Dutch 5 steps method. Lesions were identified in 231 cows. Infection type lesions were diagnosed in 52 cows (22.5%) and non-infection type lesions were diagnosed in 179 cows (77.5%). A total of 377 lesions were identified and the number of lesions recorded per cow ranged from 1 to 2 (median 1.6). Sole haemorrhage (SH), white line disease (WLD) and digital dermatitis (DD) made the majority of lesions. A higher mean number of DD, interdigital necrobacillosis (IN), WLD, and toe ulcer (TU) per cow was found in the ≥ 3 lactation cows compared with 1st or 2nd lactation cows. Increasing parity was associated with a increasing trend in mean number of infections diagnosed per cow. A higher proportion of cows was diagnosed with lesions on the hind limbs compared with front limbs (198 vs. 33 cows). Fifty three lesions were found on the front limbs and 324 lezins were on the hind limbs. The hind lateral and medial claws were affected by 234 and 50 lesions respectively (72.2% vs 15.4%). Inspection of foot lesions as a routine management practice facilitates earlier identification and treatment of lesions enhancing herd productivity and welfare.

Key words: Lameness, foot lesions, Dairy cows, foot trimming.

P33. THE NOTCH2 AND NOTCH4 GENES ARE ASSOCIATED WITH REPRODUCTIVE TRAITS IN ROMANIAN SIMMENTAL CATTLE

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Abstract
The Notch signaling pathway is very important for reproduction, being an active player in both the embryonic and postnatal ovary. In this study, we aimed to investigate the relationship between SNPs in NOTCH2 and NOTCH4 genes and reproductive traits (CI-calving interval, GL-gestation length, A2C-artificial inseminations to conception, AFC-age at first calving, TW-twinning, AB-abortions) of Romanian Simmental cattle. 580 animals and four potential SNPs were analyzed, from which, two markers (NOTCH2 g.23343692G>A/rs41570774 and NOTCH2 g.23376289T>G/rs518458194) were found to be monomorphic. Therefore, we conducted association analyses between the genotypes of NOTCH2 g.23409559A>G/rs109344787 and NOTCH4 g.26995067C>A/rs110062892 and reproductive traits. The chi-square (X2) test showed that the population was in Hardy–Weinberg equilibrium for both polymorphic markers. Associations between the two markers and the first four phenotypes (CI, GL, A2C and AFC) were tested via Poisson regression, whereas logistic regression was used for the last two traits (TW and AB). The glm function in R was employed in all cases. The results point out that the NOTCH2 g.23409559A>G had significant effects on CI, A2C and AFC, and NOTCH4 g.26995067C>A was significantly associated with CI. In conclusion, our results suggest that the two SNPs are useful genetic markers for reproductive traits in dairy cattle.

Key words: cattle, NOTCH2, NOTCH4, reproductive traits.

P34. IS FORAGE CHICORY A VIABLE LIVESTOCK FEED OPTION?

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Abstract
The aim of the current study was to test the viability of including chicory in cows' diet. A total of 2250 data were recorded from 150 Romanian Spotted cows related to 6 forage structures: alfalfa (αα), chicory (C), mixed alfalfa and chicory (αC), mixed gramineous (G), mixed gramineous and alfalfa (Gα), mixed gramineous and chicory (GC). Data aimed total daily duration of forage consumption (TDD), daily round frequency (DRF) and average consumption round (ACR) according to forage structures. The effects of chicory were assessed based on ANOVA protocol with categorical factor "chicory". Chicory significantly influenced ($p \leq 0.05$) TDD and ACR. No significant influence ($p > 0.05$) was recorded related to DRF. Chicory significantly increased TDD and DRF compared to G (294 vs. 190.8 min./day, 12.1 vs. 9.37 rounds/day, $p \leq 0.001$), being superior compared to αα (264 min./day, 11.3 rounds/day, $p \leq 0.05$). Also, chicory improved the forage consumption in mixed GC compared to Gα (243.6 vs. 224.4 min./day, 10.1 vs. 9.8 rounds/day, $p \leq 0.01$). In mixed αC, chicory increased TDD and DRF compared to αα (283.8 vs. 264 min./day, 12.6 vs. 11.3 rounds/day, $p \leq 0.05$). In conclusion, the use of chicory in cows' diet could improve the feeding behavioural traits with economically benefits.

Key words: chicory, feeding behavior, Romanian Spotted

OP4. STUDY ON THE LACTATION ORDER INFLUENCE ON MILK PRODUCTION IN ROMANIAN SPOTTED COWS FROM TIMIŞ COUNTY

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Abstract
Studies were carried out on 2090 lactations from Romanian Spotted cows, from Timiş County farms during 2019/2020. Average milk performance per ME lactation was 5255.77±32.34 kg milk with 3.972±0.0119% milkfat and 3.417±0.0053% protein. Maximum total milk production was observed in the third lactation, 5627.8 kg milk with 4.120% milkfat and 3.520% protein. Total milk production increased from 5139.0 kg milk with 4.085% milkfat and 3.502% protein in the first lactation to 5404.9 kg milk with 4.166% milkfat and 3.534% protein in the second lactation. Milk, fat and protein yields obtained in lactation 1, 2, 3, and 4 were significantly higher compared to those obtained in the successive lactations, i.e., 5, 6, 7, 8 and 9+. Although the milk production decreased steadily after the fifth lactation, there were no significant differences between lactations after this age. The highest normal milk production was obtained in the third lactation, as well, being 5216.9 kg milk with 4.051% milkfat and 3.495% protein. Evolution of normal milk production from one lactation to another was similar to that of total milk production. We could state that cow age, expressed as lactation order, had a significant effect on milk production performance both on total and normal lactation. Thus, milk production reached the maximum in the third lactation, and performance in the first four lactations (younger cows) was significantly higher than in higher lactations (older cows).

Key words: cow, lactation order, milk production, Romanian Spotted

P35. EFFECT OF THE SUPPLEMENTATION WITH PROTECTED FATS IN THE DIET OF DAIRY COWS ON THE QUANTITY AND QUALITY OF MILK - REVIEW

Adela Marcu, Stef Lavinia, Julean Calin, Pet Ioan, Gherasim Voichita, Pacala Nicolae, Caraba Ion Valer, Dorel Dronca, Nicula Negu Marioara, Rus Vasile, Stef Ducu Sandu*

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Abstract:
The objectives of this paper were to analyze studies on the effects of supplementation with protected fats in the diet of dairy cows on milk production and its chemical composition. Many fats can be used in the diet of dairy cows as sources of protected fatty acids. Adding of protected fats in the diet of dairy cows were significant effect on milk production and were influenced by some factors such as supplemental fat sources, the stage of lactation, dry matter intake. We also reviewed the studies on the effects of dietary fatty acids on milk chemical composition and milk fatty acids composition. In some studies, positive effects of supplementation with protected fats in the diet of dairy cows on the fat, protein and lactose content of milk have been observed. However, some authors reported an insignificant effect on milk production and the chemical composition of milk (fat, protein and lactose) as a result of supplementing the diet with protected fats. In other studies, have shown that the use of unsaturated fatty acids in the diet of dairy cows had effect on the biohydrogenation process in rumen and reduction of the total content of saturated fatty acids in milk. In this review, based on the works analyzed we can conclude that the diet supplemented with protected fats in dairy cows had effect on the quantity and quality of milk.

Key words: dairy cow, fatty acids, milk, protected fats

P36. THE EFFECT OF NUTRIENTS ON THE REPRODUCTIVE PERFORMANCE OF DAIRY COWS

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The aim of this paper is to review the effects of the quality of nutrients in the ration on the reproductive function of dairy cows. Protein supplementation is one of the most important nutrients in milk production. However, an excess of protein over the requirements of cows affects reproductive function. Protein is needed to meet the nitrogen requirements of rumen microorganisms, as well as a direct source of protein for lactating cows.
The excess of degradable proteins in the rumen also results in large amounts of ammonia in the blood of the dairy cow, when there is not enough energy to turn ammonia into microbial proteins. In addition, the ammonia excess conversion requires energy, which can lead to a negative energy balance. This ammonia excess and negative energy balance result in reduced reproductive performance in dairy cows.
Minerals and vitamins are the most important nutrients for breastfeeding women, which are needed in very small quantities, but play an important role in metabolism, milk production, reproductive function and even for microbial fermentation in the rumen. Shaking seeds from plants is normally responsible for the loss of many nutrients, so the remaining material, such as straw, is a poor source of food.

Key words: proteins, energy, minerals, vitamins, reproductive performance, cows

P37. THE EFFECT OF GNRH AND PGF2A ADMINISTRATION ON ESTRUS ONSET AND DAIRY BUFFALOES CONCEPTION RATE

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Abstract
The aim of this study was to investigate the effect of GnRH and PGF2α administration on the manifestation of estrus and on the conception rate in Romanian buffalo dairy buffaloes. Twenty-eight dairy buffaloes from the Şercaia Buffalo Breeding Research and Development Station, aged between 5 and 12, in the postpartum period, were divided into four batches of seven heads each, as follows: Lot I (between 25 and 30 postpartum days), Lot II (40 to 45 days postpartum), Lot III (55 to 60 days postpartum) and Lot IV (75 days postpartum). Dairy buffaloes were given intramuscularly GnRH (2.5 ml Receptal) on day 0, followed by intramuscular injection of PGF2α (2.5 ml Alfabedyl) on day 7 after GnRH injection. Estrus was observed 24-48 hours after PGF2α injection. Artificial insemination was performed 12-18 hours after visible signs of estrus. The results of the study showed that there were no differences ($p > 0.05$) between estrus treatments (100%), estrus onset (35.8 to 36.4 hours), estrus duration (17 to 18 hours) and conception rate (100%). In conclusion, in Romanian buffalo dairy buffaloes, estrus can be synchronized from 25-30 days after calving using a combination of GnRH and PGF2α.
Key words: Romanian buffalo, postpartum, dairy buffaloes, estrus, calving.

P38. RESEARCH ON THE DIFFERENCES IN THE AVERAGE DAILY GAIN RECORDED IN AUBRAC BULLS

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Abstract
The purpose of this paper is to highlight the difference in the average daily gain recorded in the bulls of the Aubrac breed, exploited in the conditions of our country. The database was made up of data recorded in 2 fattening bull farms of the Aubrac breed. The average daily gain of the animals recorded at the age of 12 months was followed, respectively the average daily gain at the age of 18 months, in total being studied a number of 30 animals (15 animals from farm 1, respectively 15 from farm 2). The results were interpreted statistically, which showed that there were no significant differences between the animals from the two farms studied, but there are statistically significant differences between the average daily increase recorded at 12 months compared to the average daily increase recorded at 18 months.

Key words: age, beef cattle, performance

P39. BODY MEASUREMENTS ON THE AUBRAC CATTLE BREED: A REVIEW

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Abstract
The Aubrac is a French breed of domestic beef cattle, becoming a major interest for cattle breeders in our country. Being a large breed of cattle, cows weigh are between 650-800 kilograms and bulls between 1,000-1200 kg. Body conformation is one of the main criteria for assessing bovine animals from a zootechnical and economic point of view. The notion of body conformation in cattle means the overall external appearance of the examined bovine, with reference to the development of each body region separately. The method of body measurements consists in the direct measurement, on the animal, of the different body and mass dimensions. With the help of these measurements we can appreciate the development and connection of different body regions or segments that make up the whole body and the general development of the animal.

Keywords: body regions, cattle, measurements, performance

P40.PROTOSAN INFECTION IN FLOCKS OF SMALL RUMINANTS IN BELGRADE AREA DURING 2020

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Abstract
Breeding of sheep and goats were increased during last decade on Belgrade area. Today, small flocks of sheep and goats play an important role in providing animal protein for diet, especially for those people who live in village in the surrounding environment of Belgrade. Both, sheep and goats are milked and they produce the bulk milk supply, together with a large proportion of the meat that is consumed. During earlier research on their parasitic fauna, the emphasis was on gastrointestinal and lung parasites and ticks. Studies of the prevalence of protozoan infections have not been fully addressed. therefore, the aim of our study was to determine the prevalence and types of protozoan infections of small ruminants in Belgrade area.
During our examination we examined flocks of small ruminant originated from 23 vilages from city districts Mladenovac, Lazarevac, Obrenovac, Grocka, Zemun, Surčin, Palilula, Vozdovac and Zvezdara. In more than 80 percent of the flock, sheep and goats were kept together. Using standart coprological methods we examined 273 faecal samples from 41 flocks. Determination of parasites we performed by morphological characterist. Molecular detection of Cryptosporidium sp. and Giardia sp. we not performed.
Coccidiosis were found at 27 flocks. We usally occured mixed infection with 2-3 coccidia species. At sheep most abundant coccidia were E faurei, followed by E.ovinoidalis, E. pallida and E.ahsata. At goats most abundant species were E.arlongy, folwed by E.nina-kohl-yakimovae, E. hirci and E. caprina. Clinical sign of disease were present only at young animals but oocyst were found at both, adult ant young animals. Cryptospoidium spp. was found at 19 flocks Clinical sign of cryptosporidiosis were established only at young animals. They has moderate morbidity and mortality rate. Infection with Giardia duodenalis was found only at 2 flocks. Giardia-infected animals generally had no clinical symptoms.

Key words: small ruminants, eimeria, cryptospora, giardia, Belgrade

The study was funded by the Serbian Ministry of Education, Science and Technological Development (Contract No 451- 03-68/2022- 14/200030).

P41. MATHEMATICAL MODEL FOR ENERGO-PROTEIN METABOLISM IN DAIRY COWS

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Abstract
The paper presents empirical equations for the mathematical modeling of energy and protein metabolism in dairy cows. The model evaluates milk production by estimating digestible protein, taking into account the protein synthesized in the rumen, by energy level. The model also estimates accessible protein and maintenance protein. On the other hand, the model takes into account the amount of raw energy and digestible energy of the diet, as well as energy losses through ruminal and intestinal fermentation and energy consumption for maintenance, protein and lipid synthesis, thermal regulation and physical activity.

OP5. EFFECT OF 2 TYPES OF YEAST ON RUMEN FERMENTATION IN CARPATINA CROSSBRED GOATS - SHORT TERM STUDY

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Abstract
This study investigated the effects of introducing brewer's spent yeast (BSY) and viable yeast (VY) in the concentrate diets of Carpatina crossbred goats (18 months old, after 2-nd lactation, body weight of 34.08 ± 5.97 kg) on feed intake and rumen fermentation parameters. Three concentrate diets were formulated to contain no yeast (diet C), 3.0% VY (diet D-a) and 1.5% BSY (diet D-i), respectively, in a complete randomized design with eight animals per diet. After feeding for 21-days period, we determined digestibility and nitrogen retention rate. Afterwards, rumen samples were taken on 2 consecutive days and analysed for volatile fatty acids, pH and ammonia. Digestibility and nitrogen balance were not affected by yeast treatment, as well the rumen pH. The rumen ammonia increased for both yeast diets. The total volatile fatty acids production was increased only for D-a diet, but the relative proportions of these acids were similar between the diets, as well the acetate:propionate ratio.

Key words: yeast, rumen volatile fatty acids, goat

P42. ANALYSIS OF LONGEVITY IN ROMANIAN SPOTTED, SIMMENTAL TYPE CATTLE BREED

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Abstract
The aim of this study was to estimate the genetic parameters for productive life in Romanian Spotted, Simmental type cattle breed using a survival model. The Weibull proportional hazard model was used in this study. The data of productive life of cattle were obtained from Romanian Breeding Association Romanian Spotted, Simmental type. The data consisted of records of 1064 Romanian Spotted, Simmental cows. The average productive longevity was 1020.9 days for Romanian Spotted, Simmental type cattle breed. The heritability values for productive longevity in this population was 0.097. The breeding values for productive longevity of cattle ranged from -0.827 to 0.478 months. Longevity is a important trait in breeding program.

Key words: productive longevity, survival model, cattle

OP6.LIPOSOLUBLE VITAMINS IMPORTANCE INTO LAYING HENS NUTRITION

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Abstract
Liposoluble vitamins play an important role in poultry metabolism. Vitamin A assures a normal growth and development, reproduction performances, immune function. Vitamin D is requested for a proper calcium absorption, prevents the oxidative stress, and helps immunity system. Also, vitamin E, which cannot be synthetized by poultry, is crucial for growth and reproduction, improves immunity system, efficient against oxidative stability. Vitamin K is a key factor for blood clotting process, anti-inflammatory effects, improves bone quality and feed efficiency. Vitamin requirements in laying hens diets increased compared to the minimum levels published 28 years ago in National Research Council, therefore became vital to update it. Due to the poultry and feed industry increasingly challenges and demands the present requirements must sustain the development and productive potential of modern poultry strains. Therefore it is mandatory that experimental data with different inclusion levels of liposoluble vitamins and with positive effects on growth, production and health parameters to be taken into consideration. Certainly, updated information about liposoluble vitamin variability and efficiency transfer rate from diet to egg would help tremendously the farmers interested in foods biofortification by dietary vitamin supplementation. Overall, liposoluble vitamins are considered essential micronutrients very important to assure a balanced poultry nutrition that provides an optimized animal status health.

Key words: eggs, diet, laying hens, liposoluble, vitamin

OP7. FATTY ACIDS PROFILE FROM MUSCLE LONGISSIMUS DORSI IN LOCAL SWINE BREEDS BAZNA AND MANGALITSA

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Abstract
The Bazna and red Mangalitsa native swine breeds are known for their resistance to extensive farming. Worldwide, there is a high interest in analysing swine meat regarding the fatty acids profile for obtaining healthier food. Healthier meat has a higher ratio of polyunsaturated fatty acids to saturated fatty acids and a favourable balance between n-6 and n-3 PUFA (polyunsaturated fatty acids). The objective of this study is to determine the meat quality, more precisely the fatty acids composition content in muscle longissimus dorsi from two indigenous swine breeds, Bazna and red Mangalitsa. The biological material subjected to qualitative determination was represented by muscle longissimus dorsi samples collected from two experimental groups where we had both males and females with a body weight of over 90 kg, the difference between the groups consisted in breeds, the feed mixtures being the same. The samples obtained were analysed by gas chromatography. The concentration of polyunsaturated fatty acids is higher in the case of the red Mangalitsa breed. A higher distribution of monounsaturated fatty acids in Bazna breed was revealed. The main fatty acids were palmitic and stearic from the saturated category, respectively oleic from the unsaturated category. Our results suggest that the breed has a positive influence on the level of intramuscular fatty acids.

Key words: Bazna, fatty acids, longissimus dorsi, Mangalitsa, swine

P43. THE EFFECT OF FLAXSEED ON THE PORCINE UTERUS

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Abstract
Flaxseed is an important supplement in animal feed. It contains high concentrations of polyunsaturated fatty acids and lignans acting as phytoestrogens, which can alter cell functions in various organs. The aim of this work was to analyse the effect of supplemental flaxseed in fattening pigs on the morphophysiological properties of the uterus. The experiment included 30 Landras fattening pigs. The control group was fed with a standard feeding mixture for fattening pigs and the experimental group was fed a standard mixture with an addition of 10 % milled flaxseed. After six weeks of fattening, six animals of each group were slaughtered and samples of the uterine horns were taken for the routine histological (height of the endometrium and its compartments, number of endometrial glands, and myometrium height) and for immunohistochemical (expression of oestrogen and progesterone receptor markers) analyses. In the experimental group fed a flaxseed supplement, significant thickening of the superficial epithelium, endometrium, and *lamina propria* layer was found. The number of endometrial glands was higher than in the control uteri by about 1/3. Moreover, a flaxseed-enriched diet significantly increased the expression of oestrogen receptors α and β, as well as progesterone B receptors in all uterine compartments. The addition of flaxseed in the feed for six weeks had a stimulating effect on the monitored parameters of the uterus of fattening pigs.

Key words – uterus, flaxseed, progesterone receptor, oestrogen receptors, fattening pig

P44. THE EXPLOITATION OF GRAZING LANDS FROM SUCKLER COWS IN THE REGION OF CENTRAL MACEDONIA, GREECE

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Abstract
In this study, the potential use of available grazing land to suckler cow herds was examined and we determined their stocking rate in the Region of Central Macedonia, in 2019. Data were collected by field research and through interviews from a stratified sample of 66 breeders, in order to identify the livestock population and achieve the characterization of pastures. The pastures included public and private grazing lands that are used by suckler cows and their calves during the six-month summer grazing period that takes place in most cases by moving the animals from the farm's facilities. The survey revealed that the average stocking rate of the Region was 0.70 Livestock Units/ha with strong variability within the study area. Also, the relatively high unsafety of pastures and their seasonal use, on the one hand, do not help to achieve satisfactory productive yields and, on the other hand, pastures are at risk of direct deterioration due to over-grazing.

Keywords: Suckler cows, Grasslands, Stocking rate, Pastures safety.

OP8. SENIOR SPORT HORSE MANAGEMENT

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Abstract
It is important to know, that managing the senior equine ex-athlete, in good conditions, in nowadays, is not very easy, but so much possible. Of, course, this category of horses, need a plus of attention and care in report to the middle age one. In this sense, first of all, is a need in keeping the horse in activity, related to his sport background, but adjusting to his age's possibilities. The routine care must be made more frequently, the stabling conditions must offer at maximum fresh and clean air, the diet is a senior specific one and the regularly veterinary protocols need to be check more often. All of these may conduct to a long golden age period for them, preparing the riders and owners for the last moment, the planning of the euthanasia.

Key words: senior sport horse, equestrian management

P45. FROM DISCOMFORT TO GASTRIC SYNDROME IN HORSES

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Abstract
To own a horse sport, from a leisure to a high performance one, is a serious responsibility. Instead of this, a large number of people fail to understand the phenomenon on its scale. On the other hand, the present lifestyle of the horse is very different from the time when they lived in the wild. The equine species, change the insecurity of tomorrow with a secure box linked to the daily stress. Clients for riding lessons, competitions to be win, long transporting routs, only two-three feeding times a day, rations with high grain apport, lot of stall time, training injuries, everything can conduct to digestive disorders. As much as the stomach is empty a longer time, the discomfort, colic's and ulcers, are the results. Preventing these problems, means to understand the correct way to feed sport horses related to their effort, to work properly by discipline and take into account first of all, the welfare of our partner. Reducing the feed intake and weight loss, decreasing willingness for work, unusually lying down periods, even rolling, are the signs of a gastric problem.

Key words: equine gastric syndrome, feeding solutions, horse digestive problems

P46. EVALUATION OF *BRACHIARIA* GRASS CULTIVARS PRODUCTIVITY IN LOWLANDS OF EASTERN AMHARA

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Abstract
A study was conducted to evaluate the productivity of nine Brachiaria grass cultivars (Bracharia brizantha marandu(16550), B.brizantha lalibertad (16551), B.brizantha wild (13726), B.brizantha wild (12777), B.brizantha wild (13809), B.decumbens, B.mutica, B.hybrid mulatu I, and B.hybrid mulatu II) cultivars in North Eastern Ethiopia. Treatments were arranged in RCB design with three replications. The experiment was conducted at Jari. The area is situated at

11⁰21′00″N latitude and 39⁰38′00″E longitude located at about 435 km North of Addis Ababa Capital City of Ethiopia. It lies within an altitude of 1680 meter above sea level. The area receives an average annual rain fall of 1204.6mm and a mean range temperature of 11.2-25.6 ⁰c. The grasses were planted using vegetative root splits in rows. The spacing between rows and plants was 50 cm and 30 cm, respectively. The data were collected from the entire three rows from each plot. Dry matter estimation was done by taking 500g sample from each plot and the grass samples were dried at 65 °C for 72 h in an Oven. The data collected consisted of plant height (PH), number of tillers, plot cover, vigursity fresh and dry matter yield. All data were subjected to analysis of variance procedures, with significance tested at (P>0.05) in DM yield. There was significant difference (P>0.05) in DM yield among cultivars. Bracheria decumbens gave an average 35.3 t/ha and 11.12 t/ha fresh green biomass and dry matter yield per each cut, respectively. Thus, among the tested cultivars Bracheria decumbens grasses showed outstanding potential as forage plant especially in low and mid altitude area of eastern Amhara.

Keywords: Dry matter yield, Grass ecotypes, Plant height, Tiller number

P47. THE INFLUENCE OF SOIL FERTILITY AND PRECURSOR PLANT ON TRITICOSECALE CROP PRODUCTION

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Abstract
As a result of the intercross between wheat - Triticum and rye – Secale, Triticale - Triticosecale is a new variety of grains, used as fodder, which is cultivated on different soil types and in different climate conditions arround the world. By intergenetic crossing, the species has obtained both the rusticity of rye and the productivity of wheat. Through the studies and researches carried out in the last years, in the Mureş-Crişul Alb interfluve area, more specifically the Arad Plain landform, it has been persued the behavior of this species, on different soils, in terms of fertility and texture. Under the same cultivation conditions, two different genetic materials have been tested – the native Haiduc variety, as well as a variety from Hungary. Also, the precursor plants chosen for the two cultivation variants, one of the legumes, respectively lucerne and an oleaginous species commonly for the reference area - autumnal rape, proved to be representative for the cultivation of triticale. The main physical, hydrophysical and chemical properties of the two studied soils, combined with a balanced level of fertilization, significantly influenced the production of grains in the triticale crop and the differences were observed mainly due to soil texture and precursor plant. Still, it is important to highlight that the variations in production were determined by a complete series of factors such as soil fertility, the genetic material used, the precursor plant and the climate conditions of the agricultural year. The average harvest over the three years of cultivation, for all of the varieties was close to 6 t / ha. Among these agricultural years, the period between the years 2018-2019 stood out, as the production exceeded 6 t / ha, having, more precisely, a value of 6.021
kg / ha. Regarding the fertility of the two soils, it has been observed an excedent of about 5% in the productions obtained on the typical chernozem soil type.

Key words: Triticosecale, fertility, soil, variety, production

P48. BODY PROTEIN RESERVE AND POSSIBILITIES FOR IMPROVEMENT IN HONEY BEE COLONIES - REVIEW

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Abstract
The purpose of this review is to assess the body's protein reserve in honey bee colonies and the possibilities for improving it. Understanding the causes of changes in body proteinis important for the beekeeping sector, in order to improve bioproductive indices and ensure the health of bees.The body's protein reserves of bees are located in the fat body, hypopharyngeal glands and plasma proteins (vitellogenin). Its active role has been proven in the following aspects: the secretion of larval food (royal jelly), longevity, metamorphosis, the evolutionand behavior of adults, immunity and detoxification of bees. Body protein values ranges from 21 to 67% of the dry matter. The values considered physiologically normal are over 40%.The factors that reduce the protein content are: the quantity and quality of protein feed, overuse (enzymatic, immune, toxic or various diseases). Body protein deficient determines the beestofly at a youngerage; also, they become rapidly collecting bees and their longevity is shortened. Research has established the ideal protein for bees, which is close in value to the proportion of aminoacids in royal jelly. Pollen as a source of protein for bees was classified as follows: poor quality below 20% CP (crude protein), average quality between 20-25% CP (supports the development and health of bees) and high quality with over 25% CP (can protect bees from wear off if there is an abundant harvest of nectar or in case of abundant feeding on sugar). The quality of pollen protein is given by the presence of essential aminoacids. No deficiencies of essential aminoacids are reported in pollen produced by species of the family Rosaceae, Phacelia spp., Echium spp., nor in most species of the families Brasicaceae and Fabaceae. It is noted that the plants produce pollen with a low content of protein and essential aminoacids in summer and autumn. In conclusion, it is necessary to supplement the bee families with protein feed in order to ensure the body protein reserve according to the requirements.

Key words: aminoacids, pollen, additional feed, royal jelly, protein

P49. USE OF APICULTURE PRODUCTS IN AQUACULTURE - REVIEW

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Apiculture products are natural substances secreted or produced by bees, which can be used in aquaculture through food, intramuscular administration or direct in water, in order to improve health due to the antioxidant, antifungal and antimicrobial effect that these products have and also improve growth and reproductive performance of the fish species of economic interest. In this review, we aim to highlight the main studies conducted so far on the use of bee products in aquaculture in order to be able to present an overview of this topic of interest.

Key words: apiculture products, aquaculture, productive performance

P50. THE BIOTECHNOLOGICAL POTENTIAL OF BEE VENOM: REVIEW

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Abstract
Bee venom therapy has been used since the time of Hippocrates to relieve joint pain and arthritis. At first, it was widely used in traditional oriental medicine to treat inflammatory diseases and pain, but in recent years, studies have highlighted the therapeutic effects of bee venom in treating many diseases, including neurological and circulatory diseases. A growing number of studies have shown that bee venom has anti-inflammatory, anti-apoptosis, anti-fibrosis, and anti-arthrosclerosis effects. Most research is focused on understanding and testing its anti-inflammatory effects, mechanisms of action, and therapeutic potential in order to improve its use in medicine.

Key words: bee venom; biotechnological potential

P51. EFFECT OF DIETARY CORIANDER (CORIANDRUM SATIVUM) ON FISH - REVIEW

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Abstract
Phyto-additives have been used in fish diet with very promising results for sustainable aquaculture. Coriander or cilantro (Coriandrum sativum), is an annual herb, cultivated worldwide primarily as a spice and medicinal plant. It is well known for its healing properties for humans and animals as well. It was proved that coriander, have beneficial biological properties on fish. Other additional effects on fish health and their bioproductive performances have been reported. These results and potential use of coriander in fish diet are reviewed in this article.
Key words: phyto-additives, coriander, fish feed

P52. SEASONAL CHANGES IN BLOOD PARAMETERS IN JUVENILE CYPRINUS CARPIO

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Abstract
Temporal variations in the biochemical and haematological parameters of blood must be taken into account as it is a useful indicator for assessing the nutritional status, non-specific immunity and health of fish in general.
The aim of this study was to analyse changes in the biochemical and haematological profile of blood in common carp (Cyprinus carpio) depending on the environmental changes characteristic for each season. The lower mean haematocrit, identified in the spring, which correlates with the lower erythrocyte count, implies a more pronounced anaemia in carp after the winter period. The specimens analysed in spring and summer show an increase in the percentage of neutrophils by 60%, compared to the specimens analysed in autumn. Lower values for albumin in spring (0.65±0.22 g/dL) suggest a disruption of protein synthesis function in liver, which is not true for biological material during summer (0.90±0.60 g/dL), and autumn (0.95±0.25 g/dL). CK and CRE values are within normal limits throughout the study period, indicating no injury or muscle atrophy for the analysed specimens. These results suggest that seasonal changes in the environment cause temporary changes in the indicators of the biochemical and haematological profile of the blood of Cyprinus carpio.

Key words: Cypinus carpio; Haematological indices; Biochemical indices of blood plasma.

P53. THE INFLUENCE OF WINTERING ON MACRONUTRIENTS IN FISH MEAT, IN SPECIES FROM A WILD HABITAT

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Abstract
To determine the macronutrient variations in fish meat at the end of the winter period compared to the start of wintering, 7 species from the Danube River were fished (Abramis brama, Ballerus sapa, Barbus barbus, Blicca bjoerkna, Gymnocephalus schraetser, Sander lucioperca, Vimba vimba). Biochemical analyses of fish meat were performed for the winter of 2020-2021 and 2021-2022.
The biochemical profile followed the same trends for the 7 fish species as well as the 2 wintering periods considered.
At the start of the winter period, in the meat of all analysed species, the percentage of water was lower compared to the end of the winter period. Proteins and lipids varied inversely with the amount of water in the fish meat for both wintering periods.
In 2020-2021, the percentages of proteins and lipids were lower than in 2021-2022, for all 7 species analysed.
The variations of macronutrients between the start and the end of the winter period are explained by the hibernation behaviour of the fish, which is directly influenced and dependent on temperature variations. The thermal regime recorded higher values in the winter of 2020-2021, interrupting the hibernation of fish, which led to a higher consumption of energy reserves in the meat of the considered species.

Key words: macronutrients, fish meat biochemistry, wintering.

P54. INFLUENCE OF PHYTOGENIC ADDITIVES ON GROWTH PARAMETERS AND MEAT BIOCHEMISTRY IN CYPRINUS CARPIO

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Abstract
Over time, antibiotics have been used in aquaculture to control fish diseases. Improper and sometimes unjustified use of them has raised concerns about their effectiveness and the possibility of resistant bacterial strains development. One of the attempts to maintain a good health status of fish was to introduce botanical or phytogenic additives into the feeding diets. Phytogenic compounds are natural bioactive compounds, with beneficial effects on technological performance by stimulating growth, feed consumption and food recovery. The aim of this experiment was to determine how the growth parameters and composition of carp (Cyprinus carpio) meat are influenced by the introduction of phytogenic compounds in the diet, such as liquorice, echinacea and thyme. The inclusion of phytogenic additives in feeding diets has ensured a higher growth performance in the experimental groups, compared to the diet without the addition of phytogenic additives and a feed conversion ratio (FCR) with better values in the experimental groups (1.87 in the group fed with liquorice addition, 2.03 in the group with added echinacea, respectively 2.31 for the group with added thyme), compared to the control group, where a value of 2.40 was obtained. Phytogenic additives supplemented in feeding diets cause an accumulation of protein and lipids in carp meat, which increase the fish nutritional value.

Key words: biochemistry, Cyprinus carpio, growth parameters, phytogenic additives

P55. PRELIMINARY RESULTS REGARDING THE GROWTH OF CATFISH IN FLOATING CAGES ON THE IRRIGATION CANAL

Elena Sîrbu, Veta Nistor, Floricel Maricel Dima, Neculai Patriche, Liliana Blondina Athanasopoulos, Magdalena Tenciu

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Abstract
The selection of fish species that can be raised in floating cages took into account the physiological compatibility between them and the water supply to the irrigation canal, respectively of the Danube river. The european catfish is a predatory species with a positive growth rate and high-quality meat, which recommends it for use in aquaculture. This experiment aimed to adapt and evaluate the growth conditions of wels catfish (Silurus glanis, Linnaeus 1758) in floating cages located on the irrigation canal. The experimental period lasted 120 days. A number of 52 catfish specimens were distributed in two floating cages, the experimental variant V1 with 26 specimens and an average weight of 230 g and the experimental variant V2 with 26 specimens and an average weight of 440 g. The fish were fed three meals per day with extruded feed containing 53% crude protein and 18% fat. The analysis of the experimental data on the growth of catfish in floating cages located in irrigation canals shows that both, the survival of the biological material and its growth rate, registered a positive evolution in the experimental variant V2, where survival was 92% and gained weight 19.66 kg/m3, compared to 12.12 kg/m3 in the experimental variant V1. In conclusion, catfish may be a species of interest for the culture in floating cages on irrigation canals, but the study recommends future research to elucidate several aspects of growing and assessing of the environmental conditions.

Key words: catfish, floating cages, irrigation canal

P56.ENVIRONMENTAL CONDITIONS ASSESSMENT FOR THE CARP CULTURED IN FLOATING CAGES ON THE IRRIGATION CANALS

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Abstract
Aquaculture in floating cages is considered an alternative to fishing in natural waters, by increasing fish production and using new water resources. This production method confers efficiency for fish farming and varies according to the ecological quality of the body of water used, its depth, and its potential for renewal. Integrated aquaculture in irrigation canals is a relatively new technological concept, used to maximize water efficiency by designing and placing removable fish raising facilities and establishing floating cages fish farming technologies, located on small bodies of water such as irrigation canals. The experiment was conducted over 30 days. The biological material for the floating cages has been represented by common carp with a body mass average of 453 g. A number of 450 carp specimens were distributed in a floating cage with a size of 5m×3m×3m made of galvanized panels. Results from the analysis of the gained weight was the 56.88 kg, with an initial fish loading weight per cage cubic meter of 5.43 kg/m3 and a finally result of 6.95 kg/m3 carp. In conclusion, the Cyprinus carpio species is of great interest for raising in floating cages located on the irrigation canal, because it supports a high level of stocking densities for aquaculture.

Key words: carp, floating cages, irrigation canal

P57. POSSIBILITIES FOR CAPITALIZING ON ORGANIC MATTER FROM LIVESTOCK FARMS

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Abstract
Today, as global energy demand continues to grow and global warming measures tighten, renewable energy has come to the fore. Governments' support for renewable energy has also increased, mainly due to efforts to reduce CO2 emissions and diversify energy sources. These incentives, along with high fossil fuel prices, have persuaded many investors to turn to renewable energy. Biomass is the most abundant renewable resource on the planet, including absolutely all the organic matter produced by the metabolic processes of living organisms. This paper presents the possibilities for capitalizing on organic matter from livestock farms, with an emphasis on the production of biogas from biomass resulting from animal manure. An example of calculating the amount of biogas is also made.

Key words: livestock farms, animal manure, biogas production.

P58. WATER COURSE QUALITY EVOLUTION NEAR ANIMAL HUSBANDRY FARMS

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Abstract
The sum of the chemical, physical, biological, and radiological characteristics of water determine the water quality evolution in water courses. Animal husbandry is one of the main causes of water courses pollution, especially if it does not have a wastewater treatment plant and they are discharged directly into the water course. The water quality determine the treatment technology and costs of water treatment to meet the quality requirements of the users in downstream, and the measures necessary for the protection / improvement of the water quality. An important aspect of the activity of water specialists is to monitor, analyze and forecast the evolution of water quality, especially in sectors where there are significant sources of pollution. In this paper is realized the modeling of the evolution of the water quality of the Crasna River, situated in the north-west part of Romania, using the MIKEbyDHI software, an advanced hydroinformatic tool The evolution of Crasna River water quality is important because it is a cross-border river and is subject to the Romania - Hungary bilateral conventions and EU directives.

Key words: pig farm, wastewater, animal manure, water quality, pollution, modeling.

P59. ENTREPRENEURSHIP - AN OPPORTUNITY FOR YOUNG PEOPLE IN ROMANIA

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Abstract
Lately, there is more and more talk about the notion of entrepreneurship, which is the occupational and social impact of entrepreneurial activities and what are the benefits and risks of a person who decides to start a business on their own. Therefore, in this article we set out to present the importance and role of entrepreneurship for young people in Romania. Entrepreneurial activity has a major impact on the economy, because they are the ones who make the world move forward and things move in the right direction. According to our studies, one in two Romanians in urban areas would like to become an entrepreneur, even if they encounter several obstacles when they decide to open a business, regardless of their field of activity. In 2019, 134,220 companies were established, and in 2020, due to the pandemic, their number decreased to 109,939.

Key words: entrepreneurship, entrepreneur, Romania, business, young people

P60. STUDIES ON THE EVOLUTION OF AGRICULTURAL PRODUCTION IN GORJ COUNTY

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Abstract
Agricultural production varies from season to season, so it requires current decisions in a constant effort to maximize profits and minimize the effort and resources used. In this article we will present the evolution of agricultural production in Gorj County. Gorj covers an area of 560,174 ha and has about 240,000 hectares of agricultural land, the rest being occupied by forests, urban areas, stretches of water, etc. Animal husbandry and forestry, as well as fruit growing, viticulture and beekeeping are specific activities for the north of the county, the cereal culture being present especially in the center and south. The livestock sector includes significant herds of cattle (30,883 heads), pigs (73,872 heads), sheep (122,336 heads), goats (25,354 heads), birds (108,6471 heads).

Key words: agriculture, agricultural production, Gorj county, zootechnical production

P61. IMPORTANCE OF EVALUATION FOR FINANCIAL REPORTING

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Abstract
In order to be able to make informed decisions, the managers of the economic entity must know in detail and at all times the real situation of the patrimony. The quality of financial accounting information is closely linked to the possibility of evaluating and knowing how to centralize and collect it.
Evaluation is the operation of appreciating, establishing value, price, number, calculating, counting, etc. Valuation is a process of the accounting method without which it would not be possible to achieve its objective. The evaluation is used to express the value of the existence and movement of the patrimonial elements. The exact knowledge of the volume and structure of the patrimonial elements can ensure at any moment, the obtaining of the information necessary for the decision-making by the managers of the patrimonial entities.
The competitiveness of economic entities is largely influenced by the quality of the decisions necessary to carry out the economic activity that are taken by their management.

Key words: evaluation, evaluation methods, patrimony, value

P62. TOURISM IN THE CONTEXT OF ECONOMIC GROWTH AND SUSTAINABLE DEVELOPMENT

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Abstract
Tourism is an important sector that has an impact on the development of a country's economy. Among the main benefits of tourism are income generation and job creation. It is the most important source of wealth in many parts of the country. The national economy can benefit from tourism as long as there is availability for investment to develop the infrastructure that will meet the needs of tourists.
Romania has tourist potential to develop coastal tourism and mountain tourism, but also other alternative forms of tourism.
The aim of the article is to present the impact of tourism on the economy, especially on income.
The paper presents tourism as an excellent potential, a catalyst for economic growth thus representing a key sector at the macro-economic level.
Key words: tourism, economic development, benefits, jobs, investments

P63. AFRICAN SWINE FEVER CONTINUES TO BE A PROBLEM IN ROMANIA AND TIMIŞ COUNTY

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Abstract
African swine fever continues to evolve in Europe and in our country, even in the last two years of the pandemic, and is currently the main threat to the global swine industry. It affects more than 50 countries on 5 continents, with several epidemiological scenarios. Even this year, Romania was not bypassed by this serious disease, which causes many economic damages: in the case of domestic pigs, in the EU Member States were registered, between 01.01-16.01.2022, 24 outbreaks, of which 22 in Romania. In the same period, 565 outbreaks of PPA were reported in wild boars. Most evolve in Poland (177), Bulgaria (120), Germany (78) and Romania (59). Europe is waiting for an effective vaccine against African swine fever (PPA) by 2024, the main risk to pig health worldwide, being the only way to eradicate the disease. Veterinary services continue their efforts to prevent the spread of the African swine fever virus (PPA), those for the management of disease outbreaks, with the aim of reducing outbreaks and spreading this disease, which already has a history in our country, evolving since 2017 almost constantly.

Key words: African swine fever, epidemiological, outbreaks, boars .

P64. SPECIFIC-PROTOCOL OF LABORATORY TECHNIQUES IN THE DIAGNOSIS OF RABIES

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Abstract
Many animal-to-human transmissible diseases have been known since ancient times, but the Pasteurian period, which was by far a turning point in the development of microbiology, is the hottest stage of accumulation, substantiation and detection of the causality and pathogenesis of many of these. Peat is an anthropozoosis spread all over the globe, and without being influenced by climate or season, it can have a sporadic, enzootic or epizootic character. The epidemiological aspect correlates with the biology of the species, the main vector. The existence of stray dogs in all regions of a country gives a very scattered character of cases of urban disturbance, with seasonal incidence, favored during the route. Rabies is an acute, sporadic-enzootic encephalomyelitis, found in all homeothermic animal species, transmissible to humans, and characterized by acute evolution with sensory and motor nervous manifestations, expressed by hyperexcitability and aggression, followed by paralysis and death. In all cases of rabies, an immediate diagnosis and urgent action is required, 32 both for animals that are disturbed or suspected of having the disease, and for those that are contaminated or suspected of being infected. As neither the clinical aspects of the macroscopic lesions are pathognomonic, the diagnosis of the disease is based on laboratory exam (virological, biological, histopathological and serological). As it is a major zoonosis, laboratory diagnostic techniques for rabies have been internationally standardized.

Key words: diagnosis of rabies, laboratory techniques, animal-to-human transmissible diseases.

P65. PREVALENCE OF LAMENESS IN CATTLE – ASSOCIATED HERD LEVEL RISK FACTORS –

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Abstract
Defined as a severe welfare problem, lameness in cattle is associated with impaired locomotion and lesions of the hind limb, affecting fertility, milk yield, and considerable economic losses. This study aims to determine the prevalence of lameness and to establish risk factors involved in herd lameness in cattle within a farm in the north-eastern part of Romania. A total of 370 animals were scored for lameness as well as for other information on individual cows (parity, body condition score, milk yield, days in milk). Additional information like nutrition, resting, cow comfort, social confrontation, and density were also collected. Thus, herd lameness prevalence ranged between 0 to 72%, with a mean of 23%. Higher milk production was associated with lower chances of being lame. Compared to first parity, multiparous cows had higher odds of being lame, which was also correlated with a low body condition score (<2.5). Overgrown claws, injured hocks, slippery floors, hygiene and care were also correlated with this condition, emphasizing the importance of housing conditions and welfare. Therefore, actions like improving management practices in order to improve cow welfare as well as detection and proper treatment of this disorder promptly are essential for dairy herds.

Key words: lameness, cattle, risk factors, welfare.

P66. COMPARATIVE ANALYSIS OF TWO DNA EXTRACTION METHODS USED IN GENOMIC RESEARCH IN CATTLE

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Abstract

DNA (deoxyribonucleic acid) extraction is the first key step in the success of a genetic analysis. This research aims to validate the optimal method of DNA extraction from a number of 30 blood samples collected from Holstein cattle breed. Two methods of DNA extraction were tested, manual method (using Wizard Genomic DNA extraction kit) and automatic method (with Maxwell equipment). The results were interpreted statistically, finding that the average DNA concentration extracted by automatic method was 27.82 ng/µl compared to the average value of 18.01 ng/µl, obtained by manual method, the difference between the two values being quite high, 9.81 ng/µl. Following the application of the T-student test, with unequal variances, a value P = 1.41E-08 < 0.05 resulted, which means that there are statistically significant differences regarding the concentration of the samples of DNA extracted by the two methods, the highest value of the concentration being obtained after the application of the automatic method. The accuracy of the results, the purity of the samples, the short analysis time and the lack of contamination of the samples are just some of the advantages of the automatic method of DNA extraction, which is recommended to be used in molecular genetics studies.

Key words: automatic extraction of DNA, deoxyribonucleic acid, genetic analysis, manual extraction of DNA

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