ABSTRACT BOOK

Second Mediterranean Natural Sciences
and
Engineering Congress

MENSEC 2018

Developments in Science and Engineering Education

June 26-29, 2018

Podgorica, Montenegro

ABSTRACT BOOK

Second Mediterranean Natural Sciences and Engineering Congress

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FOREWORD

The Second Mediterranean Natural Sciences and Engineering Congress is organized by the University of Donja Gorica (UDG) with the theme of "Developments in Science and Engineering Education" also supported by Bandirma Onyedi Eylul University, Istanbul Zaim University, International University of Sarajevo and Komsija-Association of Balkan Intellectuals will be held in June 26-29, 2018 in Podgorica, Montenegro.

The congress aims at bringing together international scholars and researchers in the areas of mathematics, physics, chemistry, biology, bioengineering, earth sciences, civil engineering, computer science, electrical engineering, environmental science, architecture, health sciences, information technology and all other areas of natural sciences and engineering sciences. The congress aims to provide an international platform for the countries in Mediterranean Basin in order to increase scientific cooperation and also improve political dialouge through science diplomacy. The Scientific and Organization Committees are formed from different universities worldwide. We received a large number of applications that has given us the opportunity to choose the best ones to reach the higher scientific level.

I would like to thank to all participants for their enthusiasm to contribute to this project and their willingness both to keep to tight deadlines and to accept editorial recommendations; to all the Scientific and Organization Committee members, for their patience, support and tolerance. Special thanks are for the rectors of our partner universities for their enormous and valuable support. We have been fortunate to have the support of the excellent scholars and authors. We hope to see you in our next congress.

Sincerely Yours,

Prof. Dr. Veselin Vukotic, Rector

University of Donja Gorica

Mediterranean Natural Sciences and Engineering Congress

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Evaluation of the Primary Students about the School Milk Program

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Milk production in Turkey is 18.5 million tons and 9 million of this milk is used in the dairy industry. School milk program is implemented in many countries to increase milk consumption rate. School milk program has also been applied in Turkey for seven years. There are 32000 schools in Turkey that 6 million of these students continue to primary school. Milk is given to primary school students together with dried grape for three days during the week and 1.5 billion tons of milk have been distributed up to now. This study was designed to examine the level of milk consumption and perception of the school milk programs among primary school students of Pozantı district of Adana. The data obtained by using a self-administered questionnaire survey were used from 410 students who were in 1st, 2nd, 3th and 4th grades. The collected data was analyzed by SPSS package and interpreted according to chi-squared test. The results showed that 68.8% of the students were consumed school milk. 74.6% of the milk is consumed by male students and 64.7% is consumed by female students. 80.4% of first-year students, 73.7% of second-year students, 64.4% of third-year students and 59.7% of fourth-year students drank the distributed school milk. However, school milk consumption was not affected by gender and grade variables ($p>0.05$). Furthermore, the majority of the students (74.1%) preferred flavored milk (strawberry, banana and chocolate) instead of white milk. It is suggested that students and their families should be informed about the benefits of milk and school milk program to develop the habit of drinking milk.

Keywords: Drinking Milk, Nutrition, Primary Student, School Milk Program, Questionnaire.

Presentation Type: Oral Presentation

Effect of TIH_2 Addition on Pressureless Sintering of Aluminum

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In the present study, TiH2 was added in powder form into Al, Cu (4 wt. %) powders in at ratios of 0.2, 0.5, 1 and 3 wt %. Mixing was performed in dry formafter weighing the appropriate amounts of powders.600 MPa pressure was applied in order to compact the mixed powders in a tool steel die. After pressing, the samples were sintered in high purity nitrogen atmosphere. Sintering was performed at 610 oC for 30 minutes. Density and hardness measurements were conducted on the sintered samples. After cutting, grinding and polishing of the samples, for microstructure examinations an optical microscope was utilized. A Shimadzu universal testing unit was used for three point bending tests of the samples. Percent theoretical density values were about 99% for the samples containing no TiH2 and for samples containing TiH2 up to 1%. On the other hand, increasing the TiH2 amount to 3 % resulted in a significant decrease in the density of the sintered aluminum samples, down to values of about 90%. These values were consistent with the macrostructure of the samples, since samples having 3 % TiH2 contained gas porosity and cracks. The microstructure of the sintered samples contained particles. These are believed to be undissolved titanium particles, which were formed as a result of decomposition of TiH2, or intermetallic compounds comprised of Al, Ti or Cu. The amount of these particles was seen to rise with the increase in the amount of TiH2 addition to the starting materials. Hardness values of the aluminum 4% Cu alloy samples were about 47 HB10, without TiH2 addition. TiH2 addition increased the hardness of the sintered samples. Hardness values of samples containing 1% TiH2 wereabout 57 HB10. 3% TiH2 addition resulted in a decrease in hardness. Hardness of this sample was about 40 HB10. Three point bending strength values of the aluminum alloy samples were 370 MPa without TiH2 addition. Addition of 1 % TiH2 increased the bending strength. Bending strength values were 427 and 385 MPa with 1 and 3% TiH2 addition.

Keywords: Powder Metallurgy, Aluminum, Sintering, TIH_2.

Presentation Type: Oral Presentation

Utilization of PEDOT Nanofibers in Glucose Biosensors*

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This study provides information about a simple, low-cost (without using gold, Pd nanoparticles etc.), robust approach for production of PEDOT nanofiber biosensors with simple techniques such as electrospinning and chemical vapour polymerization. The nanofibers were produced by chemical vapour polymerization of EDOT on FeCl3 containing PAN nanofiber mats. Later, the amperometric biosensors were constructed by entrapment of GOx (with five different units) on the nanofibers with the help of gluteraldehyde. The biosensors were operated under oxygen consumption conditions. For each biosensor the current response versus glucose concentrations calibration curves were plotted. Sensitivity, line arrange, LOD, Km and Imax values were determined and the stabilities of all the sensors were investigated. The sensors generally revealed good sensitivity (~250 μA/mM.cm2), LOD (19.2μM) and moderate operational stability that make the seinterference-free sensors as viable candidates for commercialization.

Keywords: Amperometric Biosensor; Glucose Oxidase; Nanofiber; PEDOT.

Presentation Type: Oral Presentation

* We are grateful to Akdeniz University Research Funds (FBA-2017-2516) for the support of this study.

Andrological and Spermatological Examination in Fresh and Frozen-Thawed Semen of Aksaray Malakli Dog

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Introduction and aim: The Malakli breed is an important local breed of Turkey and conservation of its genetic material is very substantial; since, there might be a necessity of recovering the lost genetic diversity and possessing important genetic information (1).The objective of the study was to determine andrological and spermatological examinations according to their semen characteristicsand age groups in Aksaray Malakli Shepherd dog which is a local breed belongs to Turkey. Besides, theeffect of cholesterol-loaded cyclodextrin (CLC) was investigated in frozen-thawed dog semen.

Materials and methods: A total of forty-eight animals from three different age groups (young ages (Y) ≤ 3 age, n: 20; middle ages (M) 4-6 age, n: 20 and old ages (O) ≥7 age, n: 8) were used in this study. The andrological examination was

performed on each animal and measurements of the testis and scrotum (testis diameter, testis circumference, testis length, scrotal circumference and scrotal thickness) were recorded. Semen samples were collected with digital manipulationfrom each animal and motility (%), concentration (spermatozoa/ml), abnormal spermatozoa rate (%) and deadspermatozoa rate (%) were recorded as fresh semen characteristics. Afterwards, each ejaculate was divided into four aliquots and extended with either Tris as a control group (C) or Tris loaded with 0.5, 1.0 and 1.5 mg/120x106 CLC as low (L), intermediate (I) and high (H) doses respectively. Semen samples wereloaded intoFrenchstraws for cryopreservation and stored in liquid nitrogen. Following the thawing process, in vitro spermatological evaluation (CASA motility (%), DNA damage (%), viability (%), mitochondrial activity (%), morphological and acrosomal integrity (%)) were performed.

Results: As a result, scrotal circumference and total abnormal spermatozoa rate in fresh semen were significantly differentbetween the age groups ($p<0.05$).Akcay and Tekin (2) worked with the same age groups and they were seen an increase in testicular size with age in Kangal Shepherd dogs. These results were found to be similar to our study. Moreover, significant differences were obtained among the age groups in terms of in vitro spermatological parameters of thawed semen ($p<0.05$).Similar to our findings, some researchers stated that the quality of semen decreases as the age of the animals increases (3,4).

Conclusions: In conclusion, it is suggestedthat while evaluating the andrological and spermatological parameters, differences in the breed, age andenvironmental conditions should also be taking into account. Increased age was associated with poor in-vitro spermatological parameters and CLC was able to protect the acrosomal integrity from cryo-damage. Better semen freezability characteristics were obtained in Y group when overall parameters were considered in Aksaray Malakli Shepherd dog.

Acknowledgements: This reseach was supported by the Scientific and Technological Research Council of Turkey (TUBITAK - Project No: 114O636).

Presentation Type: Poster Presentation

Evaluation of the Women's Attitudes Toward Prevention and Early Diagnosis of Cervical Cancer

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Aim: This study was conducted to determine the attitudes concerning prevention and early diagnosis of cervical cancer of married women who working at a university.

Method: The universe of research that was a discriptive study was composed of 842 women who worked at a university. The selection of sample wasn't made. The sample of study was formed with 343 women who met the inclusion criteria. The data were collected by using Personal Information Form, The Attitudes Towards Prevention of Cervical Cancer Scale (APCCS) and The Attitudes Toward Early Diagnosis of Cervical Cancer Scale (AEDCCS). Statistical analysis was performed using percentage, frequency analysis, Mann Whitney U test Kruskal Wallis test and Pearson Correlation Analysis.

Results: The mean age of women was 37,36±0.4 years, 42.6 % were academician, 95.3% have a gynecological examination, 27.4% protected by preservative, 65.9% didn't have a cancer story of family. The means of APCCS and AEDCCS women' were 84.28±12.9; 77.49±11.2. When evaluating the correlations of the two scales; there was determened a negative and significant diffirence between the means of APCCS and AEDCCS ($p<0.005$).

Conclusion: It was found in the study that the attitudes towards prevention of cervical cancer of the women were slightly above and the attitudes toward early

diagnosis of cervical cancer of the women were moderate. Besides, As the attitudes towards the protection of women from cervical cancer increased, their attitudes towards early diagnosis decreased.

Keywords: Women, Cervical Cancer, Attitude**.**

Presentation Type: Oral Presentation

The Relationship between Daily Consumption of Tea, Coffee, Butter and Angiography Results in Patients with Coronary Angiography

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Objective: The American diet guide recommendations published in 2015 have created discussions about nutrition, especially consumption of fat and cholesterol. When you look at the innovations in the 2015 dietary Guidelines Committee report, it is important to "consume sugar-free coffee / tea as part of a healthy diet," "type of fats rather than total fat above the upper limit," "saturated fat consumption should be protected at the upper limit of 10%" expressions were used. It completely excludes the strategy that reduces total oil intake. The aim is to prevent the development of chronic diseases, especially heart disease, stroke, cancer, diabetes and obesity, by reducing the increased carbohydrate consumption directed by low-fat diets. It is stated that moderate consumption of coffee (3-5 cups per day or up to 400 mg/day) does not increase the risk of long-term health and reduces the risk of cardiovascular disease. The literature suggests that consuming tea and coffee in a moderate amount in healthy people can have a positive effect on cardiovascular health due to flavonoids in their content. In this study, we aimed to determine the relationship between daily consumption of tea, coffee and butter consumption and angiography results and some other variables in patients undergoing coronary angiography.

Materials and Methods: The aim of this prospective and descriptive study was to determine the frequency of coronary angiography in patients undergoing elective coronary angiography in a private hospital. With the power analysis, the sample was

identified as 273 people. 300 patients were sampled considering the data loss during the study. The data were collected from questionnaires and patient files created by the researchers. Data were evaluated using computer statistical program. The mean, cross-table and anova analysis were used as methods of analysis.

Results: 67% of the patients included in the study were maleand 69.7% were non-smoker and 33% were diagnosed with diabetes. Coronary angiography revealed that 32.3% of patients had normal coronary arteriesand 14.3% had three vessels. It was determined that 37.2% of those with three vessel diseases consumed 1-2 glasses of tea per day, 34.8% consumed no coffee, 2.3% consumed 7 and more teaspoons of butter. It was determined that 32.9% of those with normal coronary arteries consumed 7 or more cups of tea per day, 36% consumed no coffee, 9.2% consumed 7 or more tea spoons of butter ($p>0.05$). There was a statistically significant difference between the two groups ($p<0.05$).

Conclusion: The level of consumption of tea, coffee and butter did not significantly affect the outcome of coronary angiography, but it was determined that some blood values were statistically significant.

Keywords: Tea, Coffee, Butter, Angiography.

Presentation Type: Oral Presentation

1+3 Covariant Approach to *f(G,T)* Modified Gravity

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In this study, we apply the 1+3 covariant approach to the *f(G,T)* gravity, where the gravitational action includes function of the Gauss–Bonnet invariant and the trace of the energy-momentum tensor. We hold the covariant expressions all of the effective dynamical quantities of the cosmic fluid; such as the matter-energy density, the isotropic pressure, the heat flux and the anisotropic pressure. Then by using these expressions we write the propogation equations and constraint equations of this modified gravity theory.

Keywords: Modified Gravity, Gauss-bonnet, Covariant Approach, Propogation Equations, Constraint Equations.

Presentation Type: Oral Presentation

Power-Law Solution of Bianchi-Type I Model in *f(G,T)* Gravity Theory

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In the context of recently proposed modified *f(G,T)* gravity, where *f* is an arbitrary function of the Gauss–Bonnet invariant *G* and of the trace *T* of the energy-momentum tensor, we consider spatially homogeneous and anisotropic Bianchi-type I cosmological model. Starting from the propogation and constraint equations of this theory, and adopting the barotropic equation of state of the ordinary matter we study the power-law solution of the model and obtain the functional form of *f(G,T)*.

Keywords: Bianchi-type, Modified Gravity, Gauss-bonnet, Propogation Equations, Constraint Equations

Presentation Type: Oral Presentation

Structural Analysis of N-Terminal Region (1-53) of Human Chemokine Receptor CXCR3 by Computational Studies

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Chemokines play major roles in different patho-physiological conditions like cancer and HIV-infection. Studies in literature showed that the extracellular N-terminal domain of these receptors plays critical roles in determining binding affinity and receptor selectivity, and also in regulating signaling activities. Although there are many studies about the interaction with natural ligands of this region, the folding mechanism and structural properties of CXCR3 N-terminal region due to highly flexible nature has not yet been analyzed. Therefore, modeling of this region is of great importance in order to examine the dynamic behavior of this region. We modeled its amino acid composition computationally by MD simulation technique and investigate its stability and dynamic behavior in explicit water at 300 K.

Keywords: CXCR3, Stability, Secondary Structure, Folding, Molecular Dynamic, Simulation.

Presentation Type: Oral Presentation

The Evaluation of the Effect of Somatic Cell Count on Raw Milk Composition

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Introduction

Somatic cell count (SCC) is an indicatorof the quality of milk. There is general agreement on the values of less than 100.000 cells/ml for uninfected cows. A threshold SCC of 200.000 would determine whether acow is infected with mastitis. Cows with a result of greaterthan 200.000 are highly likely to be infected on at leastone quarter and those greater than 300.000 are infectedwith signifi cant pathogens.Milk from mastitic cows may have off-fl avors and mayundergo deterioration of the milk fat and protein morequickly than milk from healthy cows. The aim of thisstudy was to evaluate the relationships between SCC andsome raw milk parameters (total dry matter, fat, protein, lactose and urea nitrogen).

Material and methods

Raw milk samples were collectedfrom Brown Swiss cattle (n=30) in two different dairycompanies, in Bandirma District of BalikesirProvince ofTurkey. Totally 360 (180 in Farm-1 and 180 in Farm-2)raw milk samples divided into two groups, accordingto the mean levels of SCC in farms (Group-1: low SCC ≤ 107.000 cells/ml and Group-2: high SCC > 107.000 cells/ml in Farm-1, and, Group-1: low SCC ≤ 172.512cells/ml and Group-2: high SCC > 172.512 cells/ml inFarm-2. AlltheanalysiswereperformedbyBentley FTSCombi 400 analyzer, uses laser-based flow cytometry method to determine SCC, is an AOAC-approved measuring device conforming to the IDF 148A standard and meeting ICAR requirements. Statistical analysiswasperformedbySPSS 16.0 package program.

Results

The mean levels of SCC were determined as41.944 ± 28.184 cells/ml for the first group and 211.358± 205.279 cells/ml for the second group in the Farm-1, respectively. In the first group, mean levels of dry matter, fat, protein, lactose and urea nitrogen were determined as11.89 ± 0.96%, 3.28 ± 0.83%, 2.96 ± 0.29%, 4.81

± 0.23%and 14.05 ± 5.31%, respectively. In the second group, same parameters were calculated as 11.99 ± 0.97%, 3.3 ±

0.63%, 3.01 ± 0.43%, 4.75 ± 0.39% and 14.86 ± 5.14%, respectively. The mean levels of SCC were determined as55.117 ± 38.229 cells/ml for the fi rst group and 507.929± 429.385 cells/ml for the second group in the Farm-2, respectively. In the fi rst group, mean levels of dry matter, fat, protein, lactose and urea nitrogen were determined as11.93 ± 1.38%, 3.39 ± 1.21%, 3.02 ± 0.36%, 4.67 ± 0.33%and 10.11 ± 4.05%, respectively. In the second group, sameparameters were calculated as 11.97 ± 1.45%, 3.53 ± 1.17%, 3.1 ± 0.49%, 4.58 ± 0.32% and 12.71 ± 5.08%,respectively.

Conclusion

It was concluded that, by the increase ofSCC, milk dry matter, milk fat and urea nitrogen contentswere determined to be affected, significantly ($p<0.05$)in Farm-1 (Group-1: low SCC ≤ 107.000 cells/ml andGroup-2 : high SCC > 107.000 cells/ml), while milklactose, and urea nitrogen contents were determined tobe affected, significantly ($p<0.05$) in Farm-2 (Group-1:low SCC ≤ 172.512 cells/ml and Group-2: high SCC >172.512 cells/ml).

Presentation Type: Oral Presentation

Probe of Large Extra Dimensions via Photoproduction Processes at the LHC

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Standard Model which is most successful theory of particle physics has some problems about of thenature of particle interaction. Therefore, in recently particle physicists put forward new theories beyond the Standard Model to address deficiencies of the Standard Model. One of these deficiencies is Hierarchy problem which telling us that among the electro weak and Planck scales are huge magnitude difference. In theoretical physics studies, various high-dimensional space time models have been proposed to solve Hierarchy problem. Large extra dimensions model (ADD) which of having observable effects at the TeV scale is one of the high-dimensional space time models. LHC with 14 TeV centre of mass energy has very high potential for discovering large extra dimensions. In literature, phenomological studies at the LHC mostly have focused on usual deep inelastic scattering (DIS) processes such as quark-quark, gluon-gluon and quark-gluon interaction. Although the photo production processes of extra dimensions such as photon-photon and photon-quark have been studied less than (DIS) processes, they have been recently an increasing interest. In this study, we have examined $\gamma\ \gamma \rightarrow ZZ$ photo production process within the framework of the ADD. We have obtained the cross section of the process for various values of detector acceptances. Sensitivity limits on the MD parameter of the ADD model have been obtained at the 95% confidence level by using poisson distributed events.

Keywords: Large Extra Dimensions, LHC, Photo production Processes.

Presentation Type: Oral Presentation

Traditional Practices Used in Children Care Which May Lead to Infection: An Overview to Turkey

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Background and Objective: The aim of this review is to evaluate the traditional practices used in children care in Turkey which may lead to infection.

Methods: Traditions are collecting habits from society and society, habits, information, customs and behaviours cultural heritages that have been gathered from society and society. Sometimes those traditions may cause health problems involuntarily. Children are a vulnerable population. Infection in children is one of the important death causes in the developing countries. In the conducted studies, it is stated that salting, washing body with urined water and applying indigo may cause damages in the sensitive skin. Additionally, towing and lemon squeezing to eyes may lead to conjunctivitis; late breastfeeding, giving sugared water, using baby powder for curing rash may lead to aspiration and lung problems; applying mother's hair to moniliasis (in that case recovery of moniliasis delays and and both in baby's mouth and on mother's breast may cause infection); using breast milk and olive oil for umbilical cord care, putting under baby eart and wrapping the baby in this way (that case may cause tetanus), rubbing swollen breast to shrink it are stated as leading to infection. Those applications increases the tendency to infections by weakening the immune system. Although World Health Organisation recommends breastfeeding in the first six months, it could be seen delaying to start breastfeeding, interruption of breastfeeding and giving sugared water.

Learning Points Discussion: Nurses should plan the care for preventing children from infections originating from traditional practices. Mothers who have low education level and are at a young age should be given education about children care.

Keywords: Infections, Children, Nurses, Traditional Practices.

Presentation Type: Oral Presentation

Role of Health Care Providers in Preventing Nosocomial Infection in Neonatal Intensive Care Units

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Background and Objective: Aim of this literature review is to state the role of health care providers in preventing nosocomial infection in neonatal intensive care units (NICU).

Methods: World Health Organisation (WHO) defines nosocomial infection as infectious which is nonexistent in the patient when applied to the health unit or infectious that is not in the incubation period. Those infections increase mortality and morbidity of hospitalized individuals, extend the hospitalization period and they place significant burdens on the country's economy in terms of health expenditures. Nasocomial infections which 15% of them are preventable infections appear to be a serious health problem. Firstly, health care providers working in NICU should be knowledgeable and experienced about NICU to prevent infectious in this area. The skin, the first defense against infections, has not fully developed in newborns, particularly in preterms. Babies with low birth weight should only be wiped with warm water and cotton and staff should use gloves while contacting neonates. Umbilical cord should be kept clean and dried and just be wrapped with sterile sponge as reccommended by WHO. Risky patients should be defined, isolation methods should be applied carefully in every patient, guidelines both for antibiotic using and surveillance programs should be generated. Enteral probiotic using is regarding with decrease in morbidity rates of infection and Necrotizan Enterocolit (NEC). In a conducted study, it is stated that there is a decrease in incidence of nosocomial infections and NEC due to nutrition pattern combined with probiotic agents (Lactobacillus acidophilus ve Bifidobacterium infantis).

Learning Points Discussion: Health care providers especially nurses working in NICU should be conscious and educated for preventing nosocomial infections.

Keywords: Nosocomial Infection, Neonatal Intensive Care Unit, Nurses, Infection.

Presentation Type: Oral Presentation

Protective Effect of Amifostine on Sperm Quality against Radioiodine Toxicity in Rats

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This study was designed to investigate the potential radioprotective impact of amifostine on the testicular tissue and sperm quality in rat given radioactive iodine (RAI) therapy. In total, thirty-six male Wistar albino rats were randomly divided into three groups as untreated group, RAI group (oral 111 MBq Iodine-131), and RAI+amifostine group (oral 111 MBq Iodine-131 and a two dose of 300 mg/kg amifostine). Blood and epididymal sperm samples were taken for hormone analyses and the examined for spermatological parameters. Tissue samples taken from the rat testes were stained by TUNEL assay and with haematoxylin–eosin to detect apoptosis and histological alterations. It was demonstrated a significant decrease in epididymal spermatozoa viability and motility in all of the treatment groups, in comparison with the control group ($p<0.001$). A significant decrease was also detected in sperm DNA fragmentation, follicle-stimulating hormone (FSH) level and the index of apoptotic germ cells in the RAI+ amifostine group when compared to the radioiodine group. It was concluded that amifostine prevents the adverse affects of RAI on apoptosis and spermatological parameters.

Presentation Type: Oral Presentation

Examples of Extremal Principle in Different Areas of Mathematics

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The purpose of this article is to bring the attention of the reader to one of the shortest and most effcient methods in solving problems in various disciplines of Mathematics. Extremal Principle (It is also called the variational method) looking at objects that maximize or minimize some properties.This could be a distance, an angle, an area in geometry, a number that counts an appropriately-chosen quantity in combinatorics, or a smallest solution of an equation in number theory. This principle it not so easy to recognise and therefore we will reminde some well knoun facts.To be able to use this technique, we must have the minimum or maximum element. This is possible whenever there is an empty set of _nite integers, but this is also possible for endless but limited sets from above or below because would contain respectively the smallest upper bound supA and the largest lower bound inf A: By the end we will illustrate with examples from Number Theory, Discrete, Combinatorics, Graph Theory and Geometry using this principle.

Keywords: Extremal Principle, Closed Interval, Maximal Element, Minimal Element, Variational Method.

Presentation Type: Poster Presentation

Euler's Identity a Miraculous Ombination of the Special Concepts of Mathematics Accompanied by Very Interesting Proofs

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Euler's formula is one of the most celebrated and far-reaching equation in math and brings the exploration of the imaginary field and its relation to the real world. It is a relation between the ordinary trigonometric functions, imaginary numbers, the number e and the number π: Euler combines four independent results into a breathtaking formula. This equation has had a significant impact on the world of mathematics and science, changing many different areas of work and study, and should be noted as one of his greatest and most significant contributions. Euler's formula gives mathematicians and scientists the tools to dive into the complex arena. In this paper we will bring its interesting explications and applications in trigonometric identities, in derivatives of trigonometric functions, in Integrals of exponential and trigonometric functions.

Keywords: Euler's Identity, Trigonometric Functions, Complex Number, Differential Equation, Taylor Series.

Presentation Type: Poster Presentation

Evaluation of Daily Life Activities of Intensive Care Patients with Two Different Scales

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Introduction: In the physical and mental aspects of intensive care patients, as well as the inability to perform certain activities, social relations decrease and losses occur. In addition, daily life functions and quality of life are deteriorated in relation to cognitive dysfunction. Because with the loss of functional capacity and abilities, daily life activities of the individual in intensive care are restricted or prevented, independent functions become increasingly semidependent or fully dependent.

Aim: This study aim of was to evaluate daily life activities of intensive care patients with two different scales.

Materials and Methods: The sample of the study consisted of 75 intensive care patients in a hospital's intensive care units. The data, Katz et al. The Daily Life Activities (GIA) scale and the Instrumental daily activities activities scale, developed in 1963, were used to assess basic daily living activities. In the evaluation of the data using the statistical SPSS 21 package of the data, mean and percentage distributions were calculated.

Results: Of the patients participating in the study, 46.7% (n: 35) were female and 53.3% (n: 40) were male patients. The mean age of the patients was 56.94 ± 16.34.

If the scores of the daily living activities scale are; 9.94 ± 2.35. According to scale point calculation; In the GYA index, 0-6 points are dependent, 7-12 points are partially dependent, and 13-18 points are independent. In our study; it has been determined that intensive care patients are partially dependent on not performing their daily life activities. By examining the dependency status of patients according to EGYA scale; the average score of the students was found to be 12.54 ± 4.48. In EGYA scale calculation, 0-8 points are dependent, 9-16 points are semi-dependent and 17-24 points are independent. According to the results of our study, intensive care patients were semi-dependent, and intensive care patients were semi-dependent with the GYA scale, and they were consistent in both scales.

Conclusion: our study found that the alignment between the two scales in which we evaluate daily life activities of intensive care patients is very good. In the intensive care unit, it was determined that there is a measurement tool that can be used on both scales in evaluating daily life activities of patients.

Keywords: Daily Life Activities, Intensive Care.

Presentation Type: Oral Presentation

The Readability of the Construction Procedure as a Life Choice and an Option for Freedom

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Clear and essential expression of the construction procedure in architectural building represents an indispensable tool to formulate advanced cultural and social purposes. The legibility of construction method according to a choice that favours information on the construction process rather than exhibition of its result enhances the social role of architecture. The main characteristic connected with the theme of readability of the workmanship and materials is the tendency to express the search for a positive life based on rooted values, on ethics and on spirituality, because a special strength lies in the ordinary things. When the workmanship excludes all forms of sophistication so that the opportunity to exploit the visual and tactile values of the materials used is not compromised and neither is comprehension of the way in which these participate in the construction dimension emerges the awareness of ethical responsibility in the project and sensitivity to tradition and social requirements.

Presentation Type: Oral Presentation

Stability of Model Reaching Adaptive Control Law and its Verification on a Quarter Car

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The aim of this study is to investigate the stability of model reaching adaptive control law on a quarter-car active suspension system.Initially, the damping coefficient of the system is assumed to be negative in order to have unstable system.Afterward, the sprung mass is increased in the 4th s by 2260 kg (in total 2500 kg).Finally, the spring is chosen as non-linear to see the performance of the controller in case of non-linearity. For all these three cases, computer simulations are carried out and a comparison studies are given.Results are shown both in time and frequency domain. The most striking result is that the proposed adaptive controller works appropriately in non-linear systems even if the system is unstable. It is concluded that the controller make system more robust.

Keywords: Active Suspension, Non-linear Spring, Robustness, Model Reaching Adaptive Control.

Presentation Type: Oral Presentation

In Vitro Whole Plant Regeneration of Bacopa monnieri (L.) Pennel from Leaf Explants

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Medicinal plants are of great interest to the researchers in the field of biotechnology as most of the drug industries depend, in part, on plants for the production of pharmaceutical compounds. *Bacopa monnieri* (L.) Pennel (Scrophulariaceae) is an important medicinal plant used in ayurvedic formulations for the treatment of gastrointestinal and neurological diseases. The aim of this study is to investigate the multiple and rapid production of *B. mononeri* by tissue culture techniques. Adventitious shoot buds were induced from leaf explants of *B. monnieri* on Murashige and Skoog (MS) medium supplemented with 0.10-1.60 mg/L kinetin (KIN) for eight weeks. Within two weeks, shoot formation on the explant began to be observed. The number of shoots per explant was recorded between 14.50-21.27. The maximum number of shoots per explant (21.27) was obtained in the MS nutrient medium fortified with 0.40 mg/L KIN, followed by MS medium containing 0.20 mg/L KIN (16.83). On the other hand, the minimum number of shoots per explant was recorded with 14.50 in MS medium containing 0.10 mg/L KIN. Shoot lengths were recorded between 1.18 cm and 2.15 cm. The highest shoot length (2.15 cm) was recorded on 0.20 mg/L KIN contained MS medium. Whereas, minimum shoot length (1.18) was obtained on 1.60 mg/L KIN contained MS medium. The results show that as the KIN concentration increases, the number of shoots decreases. Regenerated shoots were rooted in MS medium containing 1.00 mg/L Indole-3-butyric acid (IBA), and then acclimatized to aquarium conditions.

Keywords: KIN, *B. monnieri*, *in vitro* Propagation, Leaf Explant, Shoot Regeneration.

Presentation Type: Oral Presentation

Acknowledgments: This work was supported by the Scientific and Technological Research Council of Turkey (TUBITAK) (Project no: 2130190).

Effect of Thidiazuron on the in Vitro Propagation of a Medicinal Plant Lysimachia nummularia L.

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Lysimachia nummularia L. is a species of flowering plant in the family Primulaceae. It is native to temperate Asia and to Europe.Because this plant contains valuable pharmaceutical compounds, it is used in alternative medicine systems.The present study was designed for a rapid and efficient propagation of the medicinal plant L. nummulariaby tissue culture techniques. The nodal explants of L. nummularia were cultured on Murashige and Skoog (MS) nutrient medium containing 0.05-1.60 mg/L thidiazuron (TDZ) for eight weeks. In the medium containing TDZ doses, shoot formation on the 10th day and root formation on the 2nd week were observed.Shoot regeneration percentages were recorded between 44.44% and 100%. %100 shoot regeneration was obtained in MS medium containing 0.40 mg/L TDZ and 44.44% shoot regeneration was obtained in MS medium containing 0.05 mg/L TDZ. The number of shoots per explant and shoot lengths were ranged as 6.22-14.11 and 0.90 -1.93 cm, respectively.A maximum number of shoots per explant (14.11) was obtained on the MS medium containing 0.40 mg/L TDZ,and the highest shoot length (1.93 cm) was obtained on the MS medium containing 0.05 mg/L TDZ. The minimum number of shoots per explant was recorded with 6.22in MS medium containing 0.05 mg/L TDZ, and lowest shoot length was determined as 0.90 cm in MS medium containing 1.60 mg/L TDZ. As the TDZ concentration increased, the shoot length decreased. The regenerated shoots were rooted on MS medium containing 0.50 mg/L indole-3-butyric acid (IBA) and then the rooted plantlets were successfully acclimatized in an aquarium.

Keywords: L. Nsummularia, Micropropagation, Nodal Explant, Shoot Regeneration, TDZ.

Presentation Type: Oral Presentation

Acknowledgments: This work was supported by the Scientific and Technological Research Council of Turkey (TUBITAK) (Project no: 2130190).

Stabilization of Single Magnetic Bubble in a Spin-Valve Structure at Room Temperature*

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Skyrmions are one of the most promising magnetic configurations for future technologies due to having the potential to significantly widen the scope for recording and RF dynamics of existing spintronic devices in the last decade. These kinds of magnetic configurations were observed in system with perpendicularly anisotropy, i.e. bubbles and droplets. Our aim is to demonstrate high success rate in nucleating stable bubbles in Co/Ni circular dots by using Magnetic Force Microscopy. The magnetic bubble nucleation is a complicated process driven by the interplay between as the static energy of the bubble, which is a function of dot size, material thickness and intrinsic material parameters (e.g. anisotropy) and the

nucleation mechanism. We further explore the phase space of stable bubble region in patterned spin-valve circular dots. The bubble stabilization in a dot array is achieved through AC in-plane field demagnetization depending on the maximum field Hmax and dot diameter. For an optimum dot diameter of 1.5 μm and applied 6250 Oe max AC in-plane demagnetization field, a ratio as high as 70% has been achieved. A similar optimization study has been done on patterned spin-valve structures with a Co/Ni free layer, Co/Pt fixed layer and Cu spacer. For the Spin-Valve device, 1 μm dot diameter and 6950 Oe maximum AC in-plane demagnetization field yields an optimized bubble nucleation ratio of 55%. We studied the success rate of single magnetic bubble nucleation in an array of PMA Co/Ni multilayer circular dots and patterned Spin-Valve devices. We find that the AC in-plane demagnetization maximum field and the dot size are the key parameters that control the bubble stabilization process.

Keywords: Perpendicular Magnetic Anisotropy (PMA), Skyrmion, Magnetic Bubble, Spin-Valve, AC In-plane Demagnetization Maximum Field, Dot Size

Presentation Type: Oral Presentation

* This study was supported by TUBITAK (Grant No: 114F318) and TUBITAK 2214/A BIDEP Grant.

Multiple-Bit-Per-Cell in a Phase Change Memory as a Future Data Storage Media

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Phase Change Memory (PCM) is considered as a potentially revelation technology for future ultra-high density data storage applications. In addition to the other superior properties of PCM, high contrast between 0 and 1 logic states brought out the possible application of the idea of multiple logic levels in a single bit in an effort to boost data storage density. The potential stabilization of resistance levels in between the 0 polycrystalline and 1 amorphous states enables storage of several data in a single device cell (such as 00, 01,10,11 levels for a single phase change material in PCM). I report on my investigation of the role of the current injection site geometry (circular and square) in stabilizing such intermediate states within a nanoscale two-phase change materials system (GeTe/Ge2Sb2Te5) to obtain more intermediate states than a single-phase change layer PCM cell (such as 000, 001, 010, 100, 011, 101,110, 111, levels) for fabrication of a multiple-bit-per-cell. First, to visualize the complex nature of the switching dynamics in a PCM device, 3D finite element simulations were carried out in PCM cells having a two layers GeTe/Ge2Sb2Te5 (GT/GST) alloys incorporating phase change kinetics, electrical, thermal and percolation effects, all as a function of temperature, using an iterative approach with coupled differential equations as well as Seeback coefficient for the GT/GST materials to account for thermoelectric effect. The nature of switching dynamics appears highly sensitive to the exact programming current distribution and defect density such that a nanoscale square contact with effective current localization at the sharp corners facilitates the formation of stable intermediate phases as compared to a circular one. My model suggests that the physical origin of the formation of stable intermediate states in square top contact devices is mainly due to anisotropic heating during the application of a programming current pulse. Furthermore, the threshold current requirement and the width of the programing window are determined by crystallite nucleation and growth rates such that a higher crystallization rate leads to a narrower range of current pulses for switching to intermediate resistance level(s). My model successfully predicts the required programing conditions for such mixed-phase levels, which can be used to optimize memory cells for future ultra-high-density data storage applications.

Keywords: Phase Change Memory (PCM), Phase Change, Intermediate Levels, Multiple-bit-per-cell, Switching Dynamics.

Presentation Type: Oral Presentation

Bioprotective Efficacy of Astaxanthin against Zinc Oxide-induced Toxicity

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Nanomaterials with potential for improving quality of life and contributing to industrial competition have potential risks on human health or the environment. These risks are related to their usage area. One of the prominent nanoparticles in the cosmetics sector is the zinc oxide (ZnO). However, it is also possible that nano powders can be absorbed by the skin due to increased surface energy. For these reasons, compounds that inhibit the toxic effects of nanomaterials are emphasized. Antioxidant substances are important components in inhibiting the effects of toxic materials. Astaxanthin (ASX) is one of the strongest natural antioxidants that are free radical scavengers. In the present study, it was aimed to treat human pulmonary alveolar epithelial cells (HPAEpiC) induced by toxic effect by ZnO with astaxanthin. In this context, it was aimed to reduce the cytotoxicity and genotoxicity of the ZnO-induced cells with different concentrations of ASX. Application with ZnO alone caused 48.20% cell viability rate. It was detected that maximum concentration (20 mg/L) of ASX treatment significantly ($p < 0.05$) reduced ZnO-induced cytotoxicity and genotoxicity. In addition to these analyzes, the effect of ASX on total antioxidant capacity (TAC) of HPAEpiC was also examined. While the TAC in the cells exposed to ZnO was 1.12 mmol Trolox equivalent/L, RSV (20 mg/L)+ZnO treatment was 2.49 mmol Trolox equivalent/L. Overall, the obtained data indicated that ASX was a potent antioxidant that reduced the damage caused by ZnO nanoparticle.

Keywords: Antioxidant, Nanotoxicity, Astaxanthin, Zinc Oxide.

Presentation Type: Oral Presentation

Biosynthesis, Characterisation and Investigation of in Vitro Cyto-genotoxic Effect of Olivetoric Acid

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For years, people have gone to the protection themselves from diseases using natural products. While they use these products, they are also careful not to have any side effects of the products. Along with the development of science, it was detected that most of the components used for treatment and protection were antioxidant. The symbiotic organism called lichen is a living that has been used many times in this area. Lichens contain a large number of antioxidants in their structures. Many of the lichen compounds used in the medical field are acidic secondary metabolites. Based on these information, in this study, we investigated the protective properties of olivetoric acid that we isolated from Pseudevernia furfuracea (L.) Zopf. We used lymphocytes obtained from whole blood culture as the cell. We chose cytotoxicity and gonotoxicity activities of olivetoric acid for analysis. While the biosynthesis of olivetoric acid was carried out by column chromatography method, its characterization was performed out by proton nuclear magnetic resonance and carbon-13 nuclear magnetic resonance. It was used lactate dehydrogenase (LDH) and 8-hydroxy-2′-deoxyguanosine (8-OH-dG) tests, respectively for the cytotoxicity and gonotoxicity analyses. The highest concentration of the olivetoric acid tested at different concentrations (0.5, 1, 5, 10, 25, 50, and 100 mg/L) caused maximum LDH release and 8-OH-dG levels in the lymphocytes. It was measured that low concentrations did not significantly ($p > 0.05$) increase LDH and 8-OH-dG levels compared to negative control. However, all experiments of the metabolite were found to have significantly ($p < 0.05$) lower results than LDH (1241.33 µU/mL) and 8-OH-dG (13.91 pg/mL) values of positive control (mitomycin-C).

Keywords: 8-OH-dG, Cytotoxicity, Genotoxicity, LDH, Lymphocyte, Secondary Metabolite.

Presentation Type: Oral Presentation

Estimation of the In-place Strength of Komurhan Bridge by the Combination of Rebound Hammer and Maturity Methods

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Determination of the in-place strength of concrete is significant research that is required both in the existing structures and in the structures that are under construction. Non-destructive test methods are used to determine the compressive strength of concrete structures at the desired time and to reduce the amount of concrete samples. The most common of these test methods are rebound hammer and maturity methods.In the rebound hammer method, the concrete strength is tried to be estimated through the surface hardness. In the maturity method, the strength is calculated approximately through the concrete temperature and time parameters. Both methods have advantages and limitations.In the present study, rebound hammer and maturity methods are used in combination to obtain high-accuracy results. The aim of this research is to obtain the in-place strength of concrete using a combined non-destructive method which has more accurate and practical.For this purpose, this new combined method has been developed and also used in the ongoing project, which named as Komurhan Bridge, where is located in Elazig/Turkey.When comparing the results of the standard concrete cube specimens and the results of the combined method, appropriate results were obtained.As a result, it has been determined that this combined method can be used confidently especially in substantial volume concrete construction.

Keywords: Concrete, In-place Strength, Non-destructive, Rebound Hammer, Maturity Method.

Presentation Type: Oral Presentation

Assessment of Concrete Strength Combining Rebound Hammer and Windsor Pin Methods

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A significant challenge for civil engineers who need to feed structural computations with real data is to determine the compressive strength of concrete of existing buildings. Specifically, it is highly crucial to determine the in-situ strength of concrete to establish the safety of the concrete structures. Both nondestructive and destructive test (NDT) methods are used to determine the concrete strength of existing buildings. Among these, NDT techniques are sensitive first to physical properties and provide only an indirect way towards material mechanical performances. NDT is currently used in combination with the destructive test (core-drilled) or another nondestructive test, which provided more direct information. Rebound Hammer and Windsor Pin Tests are among the most widely used NDT methods regarding concrete strength assessment. In this paper, Rebound Hammer and Windsor Pin Test results were combined to estimate the compressive strength of concrete using response surface methodology (RSM). Consequently, a combined NDT method was achieved to estimate the strength of concrete. Besides, this combined method can be practical for urban regeneration studies, which include a lot of reinforced concrete buildings.

Keywords: Concrete, In-place Strength, Non-destructive, Rebound Hammer, Windsor Pin.

Presentation Type: Oral Presentation

Technology and Design Effects on Game Consoles

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Modern design models show that technology-based products are getting more and more important nowadays.When old and new systems are compared to each other, usage of technical elements, development in the hardware and software, smart applications and virtual and augmented-reality objects take the attraction in new products. The power of design and technology can easily be observed in the development of video game industry. Video game consoles have passed a big change from the beginning till modern times. Innovative products in gaming also changed the interaction type and the experience of playing.

Keywords: Technology, Design, Video Game Consoles, Nintendo Wii, Microsoft Xbox, Sony Play Station.

Presentation Type: Oral Presentation

Identification of Phenolic Compounds in Grape Must and Wine of Red Grape Varieties Grown in Montenegro

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Phenolic compounds are very important quality parameters of wine because of their impact on colour, taste and health properties. The composition of polyphenols in the grape must and wines of Montenegrin autochthonous grape varieties Vranac and Kratošija, as well as, in the Cabernet Sauvignon grape variety was analysed by liquid chromatography coupled with Micromass Quattro Micro mass spectrometer equipped with an electrospray ionizer source in negative mode. Wines were produced according to the traditional method using three different commercial starter cultures of wine yeasts for inoculation of alcoholic fermentation for each grape variety. Research was performed during 2013 vintage and 10 phenolic compounds, including four flavonols, four stilbenes, and two flavan-3-ols have been identified in grape must and produced wines after alcoholic fermentation completion. In the grape must of examined varieties, Vranac and Kratošija had higher content of flavonols and stilbenes, comparing to Cabernet Sauvignon grape must which had the highest content of flavan-3-ols. After alcoholic fermentation, Vranac wines had the highest average content of all stilbenes (10.51 mg/L) which contribute more than 50% of total phenolic compounds determined (20.27 mg/L). The content of individual stilbenes varied from 0.57 ± 0.02 mg/L for cis-resveratrol to 5.25 ± 0.08 mg/L for cis-piceid, while Cabernet Sauvignon wines had the lowest average content of these compounds (from 0.24 ± 0.06 mg/L for cis-piceid to 0.62 ± 0.03 mg/L for trans-resveratrol). The lower average content of flavan-3-ols was achieved in Vranac 8.01 mg/L) and Kratošija (19.75 mg/L) wines, and the highest average content (33.23 mg/L) of these compounds was determined in Cabernet

Sauvignon wines (10.03 ± 0.54 mg/L and 23.19 ± 1.1 mg/L for epicatehin and catehin, respectively). Besides, after alcoholic fermentation the highest average content of flavonols (1.04 ± 0.07 mg/L) was reached also in Cabernet Sauvignon wines. Results were evaluated statistically using the SAS (SAS/STAT, 1999). The statistical models included the main effects of the commercial yeast addition and grape variety, as well as their interaction.

Keywords: Phenolics, Vranac, Kratošija, Cabernet Sauvignon, LC-MS/MS.

Presentation Type: Oral Presentation

Retinal Nerve Fiber Assessment in Patients with Noise-Related Hearing Loss in Industrial Establishments

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Objective: Noise-related hearing loss [NRHL] has a significance place among cases of hearing loss. It is most frequently seen among industrial workers. This study aimed to assess and analyze the sight functions and the retina layer and the optical nerve in the eyes of individuals with and without noise-related hearing loss working in the iron and steel sector.

Material and Method: Our study included Group 1 consisting of 35 male patients with NRHL; Group 2 consisting of 30 male individuals without NRHL who had worked in the iron and steel industry and at the same establishment for at least five years and Group 3 consisting of 36 healthy individuals. There was no significant difference in the mean ages of the groups and there were no cases of diabetes or blood pressure issues.

Findings: No significant difference was found between the groups in terms of the thicknesses of their ganglion inner-cell plexiform layers [GICPL] and inferior retinal nerve fiber layers [IRNFL]. While the differences between the Groups 1 and 2 were not significant in terms of the thicknesses of their superior retinal nerve fiber layers [SRNFL], nasal retinal nerve fiber layers [NRNFL] and temporal retinal nerve fiber layers [TRNFL], the differences between the Groups 1 and 3 and the Groups 2 and 3 in terms of these variables were statistically significant. The retinal nerve fiber layers [RNFL] of the individuals working at the same workplace with and without NRHL were thinner than those of the healthy individuals.

Conclusion: The differences in the values of the retinal nerve fiber layers [RNFL] of the individuals working at the industrial workplace who were affected by noise and those at the same workplace who were not affected showed that the primary etiological reason for the findings on the eyes was not noise, but stress factors.

This makes one think that, in addition to usage of noise-reduction equipment, measures and medical treatments that will reduce stress factors will be useful in industrial workplaces.

Keywords: Noise-Related Hearing Loss, Optical Coherence Tomography.

Presentation Type: Oral Presentation

Extension of Finite Grid Solution for Annular Plates on Elastic Foundations

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In many engineering structures, such as structural foundation analysis of buildings, water tanks, reinforced concrete pavement transmission of vertical or horizontal forces to the foundation is a challenge to analyze. Foundations represent a complex medium. Development of an approximate but computationally manageable finite grid solution of plates on a two parameter elastic foundation is discussed as an extension of the discrete parameter approach. Since, the structural behavior of a beam resembles that of a strip in a plate, the framework method that replaces a continuous surface by an idealized discrete system can represent a two-dimensional plate. In the method a plate edge is subdivided into a number of strips and each strip is characterized with the lumped characteristics of the corresponding width and plate depth. The two-parameter elastic foundation model that provides a mechanical interaction between the individual spring elements shows a realistic behavior of the soil reaction. Since, the structural behavior of a beam resembles that of a strip in a plate, the framework method that replaces a continuous surface by an idealized discrete system can represent a two-dimensional plate. The plate is modeled as an assemblage of individual beam elements interconnected at their neighboring joints. In this study, the exact stiffness, geometric stiffness and mass matrices of the beam element on elastic foundation as an application of the finite element method, except that each discrete element utilized is equipped with solution for a one dimensional beam element. Therefore, the plate is modeled as an assemblage of individual beam elements interconnected at their neighboring joints. The effects of boundary

conditions, elastic foundation stiffness and thickness on bending values are examined and discussed in detail.

Keywords: Elastic Foundation, Finite Grid Solution, Stifness Matrices, Plate.

Presentation Type: Oral Presentation.

Tehnološki i zdravstveni aspekti primjene kuhinjske soli u pekarskoj proizvodnji

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Kuhinjska so, po hemijskom sastavu natrijum hlorid, jedno je od najrasprostranjenijih jedinjenja u prirodi. Koristi se u ishrani ljudi već hiljadama godina jer utiče na formiranje ukusa hrane ali i kao konzervans jer sprečava razvoj nepoželjnih mikroorganizama.Ta njena upotreba dovela je do toga da so maskira prirodni ukus hrane i zbog stvorene navike prirodna hrana čovjeku postaje bez soli neukusna. U pekarskoj proizvodnji so je jedna od osnovnih sirovina. Utiče na: formiranje ukusa proizvoda,pojačava aromu proizvoda,utiče i na boju sredine i kore hljeba, utiče na reološka svojstva tijesta i na izgled i zapreminu hljeba. Visok unos soli u organizam čovjeka se vezuje za poremećaje kao što su: hipertenzija kardiovaskularne bolesti, osteoporoza, karcinom želudca itd. So reguliše održavanje ravnoteže nivoa tečnosti u organizmu pa može da dovede do funkcionalnih poremećaja rada mišića ili do poremećaja u radu nervnog sistema. Takođe, prevelik unos soli u organizam utiče na nakupljanje vode i povećanje tjelesne težine. Svjetska zdravstvena organizacija preporučuje za odrasle dnevni unos soli do 5 grama. Nameće se potreba smanjenja sadržaja soli u hljebu kao osnovnoj životnoj namirnici. Smanjenje sadržaja soli u pekarskim proizvodima se najbolje može postići postepeno.To je neophodno zbog navikavanja potrošača na smanjeni sadržaj soli u hljebu.Takođe, svaki proizvođač svoj tehnološki postupak treba prilagoditi proizvodnji sa izmijenjenom recepturom u pogledu smanjenog doziranja soli.

Ključne riječi: kuhinjska so, ukus, pekarska proizvodnja, smanjenje soli u ishrani.

Technological and Health Aspects of the Application of Kitchen Salt in the Production of Bread

The kitchen is, by chemical composition, sodium chloride, one of the most prevalent compounds in nature. It has been used in human nutrition for thousands of years because it affects the formation of food taste but also as a preservative because it prevents the development of undesirable microorganisms. This use has led to masking the natural taste of food and because of the natural habit, natural food becomes unsuccessful to a person without salt. In bakery production, it is one of the basic raw materials. It affects: the formation of flavor of the product, enhances the flavor of the product, affects the color of the middle and the bark of the bread, affects the rheological properties of the dough and the appearance and volume of bread. High salt intake in the human body is associated with disorders such as hypertension of cardiovascular disease, osteoporosis, stomach cancer, etc. It regulates maintaining the balance of fluid levels in the body and can lead to functional muscular disturbances or to disorders of the nervous system. Also, excessive intake of salt in the body affects the accumulation of water and the increase in body weight. The World Health Organization recommends for adults the daily intake of salt up to 5 grams. There is a need to reduce salt content in bread as a basic food. Reduction of salt content in bakery products can be best achieved gradually. This is necessary because of the habit of getting consumers to reduce the salt content of the bread. Also, each manufacturer should adapt its technological process to modified recipe production in terms of reduced salt dosage.

Keywords: Cuisine, Taste, Baking, Salt Reduction in Nutrition.

Presentation Type: Oral Presentation

Marmara Bölgesi'nin Dört İlindeki Sokak Köpeklerinde Ekto Parazitlerin Makroskobik Olarak Değerlendirilmesi

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Mehmet Murat Ekinci, Tarım ve Hayvancılık Bakanlığı

Mücahit Turgut Özdemir, Beykoz Belediyesi

Bu çalışma, halk ve hayvan sağlığı bakımından pek çok hastalığın naklinde rol oynayan sokak köpeklerinin oluşturduğu tehditin önemini vurgulamak amacı ile yapıldı. Marmara Bölgesi'ndeki İstanbul, Balıkesir, Bursa ve Yalova şehirlerinin bazı ilçelerindeki mahallelerin bir kısmı Ocak 2016 ve Aralık 2017 tarihleri arasında, belli aralıklarla, ziyaret edildi. Çalışma süresince toplam 5963 adet köpek, kendi doğal ortamlarında, ekto parazitler ve travmaya bağlı yaralanmalar bakımından makroskobik olarak muayene edildi. Köpeklerin 503 (%8.44)'ü makroskobik olarak sorunsuz görünürken, 5460 (%91.56)'ında çeşitli problemler mevcuttu. Çalışma sonunda 2940 (%49.30) köpekte kene, 1011(%16.95)'inde pire, 816(%13.68)'sında pire ve kene enfestasyonu, 356 (%5.97)'sinde uyuz/mantar enfestasyonu/enfeksiyonu, 41 (%0.69)'unda uyuz/mantar enfestasyonu/enfeksiyonu ile birlikte kene enfestasyonu gözlendi. Ayrıca 296 (%4.96) köpekte travmaya bağlı çeşitli derecelerde yaralanmalar belirlendi.

Anahtar kelimeler: Ektoparazit, Enfestasyon, Travma, Köpek, Marmara Bölgesi.

Sunum Şekli: Sözlü Sunum

Macroscopic Evaluations of Ectoparasites in the Street Dogs in Four Provinces of Marmara Region

This study was conducted to emphasize the importance of some important diseases transmitted to human from dogs such as toxoplasmosis, leishmaniasis, echinococcosis, dirofilariasis, toxocariasis and giardiasis which were seen in significant proportions in Turkey. Every season, the provinces of Istanbul, Balikesir, Bursa and Yalova were visited, including the city center and neighborhoods between January 2016 and December 2017. A total of 5963 street dogs were macroscopically examined for ectoparasites and trauma-related injuries in their natural environment. While in 503 (8.44%) of the street dogs could not be seemed any problem macroscopically, 5460 (91.56%) of their had various problems. At the end of the study, in 2940 (49.30%) of the dogs were observed to have ticks, 1011 (16.95%) fleas, 816 (13.68%) fleas and tick infestations, 397 (6.66%) scabies and/or fungi infestations/infections. In addition, 56 and 51 dogs were seen to have the infection in their eyes and serious problems in their legs respectively. In 237 (3.97%) of the dogs were detected various traumatic injuries

Keywords: Ectoparasite, Infestation, Trauma, Dog, Marmara Region.

Kedilerde İstenmeyen Gebeliklerin Sona Erdirilmesinde Kullanılan Aglepristonun Bazı Hematolojik ve Biyokimyasal Parametreler Üzerine Etkisi

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Bu çalışmada 22-30 günlük gebe kedilerde abort oluşturmak amacıyla kullanılan aglepristonun bazı hematolojik ve biyokimyasal parametreler üzerine etkisi araştırıldı. Gebelikleri ultrasonografi ile belirlenen 20 adet kedi rastgele iki gruba ayrıldı. 1. Gruba(n:15) 24 saat ara ile iki kez 15mg/kg dozda aglepriston subcutan uygulanarak deney grubu, 2. Gruba (n: 5) aynı anda aynı dozda serum fizyolojik uygulanarak kontrol grubu oluşturuldu. Her iki gruptaki hayvanların tamamı her gün klinik muayeneden geçirildi. 15 gün boyunca 2 günde bir kan örnekleri alınarak kan sayım cihazında hemoglobin miktarı(HGB), hematokrit oranı(HCT), akyuvar sayısı(WBC) belirlendi, üre, kreatin,Aspartat aminotransferaz(AST), Alanin aminotransferaz(ALT), blirubin, glukoz ölçümleri oto analizörde yapıldı. Çalışmamızda aglepriston uygulanan deney grubundaki 15 hayvandan 14 tanesinin abort yaptığı(%94.4), 1 tanesinin normal gebelik süresi sonunda sağlıklı doğum yaptığı gözlendi. Yapılan hemogram ve biyokimyasal tahlillerde, deney grubu ile kontrol grubu arasında istatistiksel bir fark bulunmadığı ve tüm değerlerin normal sınırlar içinde kaldığı gözlendi. Sonuç olarak, aglepriston 22-30 günlük gebe kedilerde istenmeyen gebeliklerin sona erdirilmesinde başarı ile kullanılabileceği, hematolojik ve biyokimyasal parametreler üzerinde olumsuz etki oluşturmadığı kanısına varıldı .

Anahtar Kelimeler: Aglepriston, Kedi, Hematolojik, Biyokimyasal, Parametre.

Sunum Şekli: Sözlü Sunum

The Effect on Some Haematological and Biochemical Parameters of Aglepristone Using for Terminated of Unwanted Pregnancies in Cats

In this study, the effect of aglepristone in order to create abortion was investigated on some haematological and biochemical parameters on 22-30 days of pregnant cats. Twenty cats that their pregnancy is determined by ultrasonography were randomly divided into two groups. The experimental group (n:15) was formed by giving aglepristone at a dose of 15 mg/kg subcutaneously twice, every 24 hours in the first group, and the control group (n: 5) was formed by giving the same dose of 0.9 % sodium chloride (NaCl) at the same time to the second group. All of the animals in both groups were examined as clinical every day. A complete blood count (CBC) on blood count device and biochemistry parameters (Blood urea nitrogen (BUN), creatinine, aspartate aminotransferase (AST) and alanine aminotransferase (ALT), bilirubin, glucose) on an auto analyzer were made every 2 days during 15 days. In our study, it was observed that 14 of the 15 animals (94.4 %) in the experimental group were aborted and 1 of them gave birth healthy at the end of the normal gestational period. There was no statistical difference between the experimental and the control group in the hemogram and biochemical analyses and all values were observed within the normal limits. Consequently, it was concluded that aglepristone can be used successfully for terminated of unwanted pregnancies on 22 - 30 days of pregnant cats and do not have negative effects on hematological and biochemical parameters.

Keywords : Aglepristone, Cat, Hematological, Biochemical, Parameter.

Repeat Breeder İneklerde Tohumlamadan Sonra GnRH ve Progesteron Uygulamalarının Gebe Kalma Üzerine Etkisi

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Çalışmada, repeatbreeder ineklerde tohumlama anında GnRH, tohumlamadan sonraki dört ve beşinci günlerde progesteron uygulamalarının gebe kalma üzerine etkisi araştırıldı. Bakım ve besleme koşulları yeterli, genital organ enfeksiyonu bulunmayan 40 adet repeatbreeder inek kullanıldı. Hayvanlar 4 gruba ayrıldı. 1.gruba tohumlamadan 15-20 dk. Sonra 0.0105 mg GnRH, 2. gruba tohumlamadan 15-20 dk. sonra 0.0105 mg GnRH ile tohumlamadan sonraki 4 ve 5. günlerde, günde 250 mg progesteron, 3.gruba tohumlamadan sonraki 4 ve 5. günlerde günde 250 mg progesteron uygulandı. 4.grup kontrol grubu olarak bırakıldı. Tohumlamadan sonraki 24. ve 36. saatlerde ovulasyonun kontrolü yapıldı. Çalışmaya alınan hayvanlara gebelik muayenesi tohumlamadan sonraki 45–60. günlerde yapıldı. Gebelik oranları 1, 2, 3, 4. gruplarda; %70, %80, %60 ve %30 olarak tespit edildi. Yirmidördüncü saatte ovulasyon oranları; %70, %90, %50 ve %50 olarak, otuzaltıncı saatte ovulasyon oranları; %30, %10, %50, % 50 olarak tespit edildi. Birinci grupta 3 hayvan gebe kalmayarak östrus gösterdi, bunların siklussüresi 21.0±1.0 gün olarak tespit edildi. İkinci grupta 2 hayvan gebe kalmayarak östrus gösterdi, bunların siklus süresi 37.5±10.60 gün olarak tespit edildi. Üçüncü grupta 4 hayvan gebe kalmayarak östrus gösterdi, bunların siklus süresi 39.0±12.0 gün olarak tespit edildi. Kontrol grubunda 7 hayvan gebe kalmayarak östrus gösterdi, bunların siklus süresi 22.85±3.18 gün olarak tespit edildi. Sonuç olarak, repeatbreeder ineklerde ovulasyonun beklenen zamanda uyarılması ve erken embriyonik ölümlerin önüne geçilebilmesi için tohumlamadan hemen sonra GnRH hormonu uygulanabileceği gibi, tohumlamadan sonraki 4 ve 5. günlerde progesteron hormonunun da uygulanabileceği, GnRH ve progesteronun birlikte kullanılarak daha yüksek gebelik oranı sağlanabileceği kanısına varıldı.

Anahtar Kelimeler: Repeat Breeder, İnek, GnRH , Progesteron, Gebe Kalma.

Sunum Şekli: Sözlü Sunum

The Effect of GnR Hand Progesterone Applications After Insemination on Pregnancy of "Repeat Breeder'' Cows

In this study the effect of GnRH at the insemination time and progesterone administraton on the 4 th and 5 th days after insemination on pregnancy rate of repeat breeder cows were investigated. Forty repeat breeder cows with adequate maintenance and feeding conditions and no genital organ infection were used. The animals were divided into four groups. In the first group 0.0105 mg GnRH was given in 15-20 minute after artificial insemination. In the second group 0.0105 mg GnRH was given in 15-20 minute after artificial insemination and 250 mg progesterone was applied on the 4th and 5th days after insemination. In the third group 250 mg progesterone was applied on the 4th and 5th days after insemination and the fourth group were considered as control. Ovulation control was performed 24 to 36 hours after insemination. Pregnancy examination at the 45-60th days after insemination, its rates were 70%, 80%, 60% and 30% on 1, 2, 3, 4 groups. Ovulation rates were 70%, 90%, 50%, 50% at 24 hour and 30%, 10%, 50%, 50% at 36 hours. In the first group 3, the second group 2, in the third group 4, in the control group 7 animals showed oestrus without conception and the cycle were 21.0 ± 1.0 days, 37.5 ± 10.60 days, 39.0 ± 12.0 days and 22.85 ± 3.18 days respectively. At the end of the study it is concluded that GnRH administrations can be used immediately after insemination or progesterone can be given on 4th and the 5th days after insemination to induce ovulation and avoid early embrionic loss. It is concluded that higher pregnancy rates can be achieved by using GnRH and progesterone together in repeat breeder cows.

Keywords : Repeat Breeder, Cow, GnRH, Progesteron, Pregnancy.

Yem / Gıda Güvenliğinde Toksin Bağlayıcı Ajanların Etkinliği

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Gıda güvenliğini sağlamak için bütünleşik bir yaklaşım, gıda ve yem güvenliğine birincil üretimden (tarla/çiftlik) itibaren sofraya gelene kadar mevcut olabilen dolaylı veya dolaysız tüm etkileri kapsamalıdır. Mikotoksinler, besin zincirine giren ve çıkarılması çok zor olan küçük, yüksek kararlı moleküllerdir. Beslenme biliminde, potansiyel yem/gıda kontaminantları olarak başlıca ilgi konusu olan mikotoksinler, Aflatoksin, Okratoksin A ve Fusarium toksinleridir (Deoksinivalenol, Diasetoksiscirpenol, Nivalenol, T2-toksin / HT2-toksin, Zearalenon ve Fumonisinler gibi Trikotesenler). Toksinojenik küfler, gıda maddelerinde nem (0.6'dan fazla su aktivitesi) mevcut olduğu sürece, tüm iklim koşullarında gelişebilir, dolayısıyla çok çeşitli kontamine gıda maddesi substratları bulunmaktadır. Mikotoksinlere maruz kalmanın azaltılmasındaki stratejilerden biri, bileşik beslemede çeşitli mikotoksinadsorbe edici ajanları içererek biyoyararlanımlarını azaltmaktır; bu da mikotoksin alımının azaltılmasına ve ayrıca kan ve hedef organlara dağıtılmamasına yol açar. Bir başka strateji ise, mikotoksinlerin toksik olmayan metabolitlere, bakteriler / mantarlar veya enzimler gibi biyotransformasyon ajanları kullanılarak bozunmasıdır. Bu makalenin özel amacı, mikotoksinleri detoksifiye edici maddeler hakkında kritik ve kapsamlı bir gözden geçirme sağlamaktır.

Anahtar Kelimeler: Mikotoksin, Biyotransformasyon Maddeleri, Mikotoksin Detoksifiye Edici/ Adsorbe Edici Ajanlar, Yem/Gıda Güvenliği**.**

Sunum Şekli: Poster Sunumu

Effectiveness of Toxin Binding Agents in Feed / Food Safety

An integrated approach to ensuring food safety should include all the indirect or direct effects that can be present to food and feed Safety from primary production (field/farm) to the table. Mycotoxins are small, highly stable molecules that enter the food chain and are very difficult to remove. Mycotoxins, mainly of interest as potential feed / food contaminants, are aflatoxin, okratoxin A and Fusarium toxins in nutrition science (Tricotesenes such as Deoxynivalenol, Diacetoxiscirpenol, Nivalenol, T2-toxin / HT2-toxin, Zearalenone and Fumonisins). Toxinogenic moulds can develop in all climatic conditions as long as moisture (more than 0.6 water activity) is available in foodstuffs, so there are a wide variety of contaminant foodstuff substrates. One of the strategies for reducing mycotoxin exposure is to reduce mycotoxin uptake and prevent it from spreading to blood and target organs by using various mycotoxin absorptive agents in the combined nutrient. Another strategy is the degradation of mycotoxins into nontoxic metabolites by using biotransforming agents such as bacteria/fungi or enzymes. The specific purpose of this article are to provide a critical and extensive review on mycotoxins detoxifying agents.

Keywords: Mycotoxin, Biotransforming Agents, Mycotoxin Detoxifying/Adsorbing Agents, Feed / Food Safety.

İntravitreal Aflibercept Uygulanan Hastalarda Topikal Antiglokomatöz Damlanın Göziçi Basıncı Değişimine Etkisi

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Amaç: İntravitreal aflibercept(IVA) uygulaması öncesi topikal dorzolamid-timolol(DT) damla kullanımının göziçi basıncı(GİB) değişimine etkisinin incelenmesidir.

Gereç-Yöntem: Diabetik retinopati ve makula ödemi nedeniyle IVA uygulamasından 1 saat önce DT damlatılan 45 hastanın 45 gözü grup 1, DT damlatılmayan 45 hastanın 45 gözü grup 2 olarak kabul edildi.Daha önceden intravitreal enjeksiyon yapılan,göziçi cerrahisi geçiren ve herhangi bir göz damlası kullanan hastalar çalışmaya alınmadı. Enjeksiyon öncesi blefarosta takılmadan önce (ÖGİB), blefarosta takıldıktan sonra (BGİB), enjeksiyon sonrası 1. dakikada(EGİB) Tonopen kontakt el tonometresi ile GİB değerleri ölçüldü.

Bulgular: Grup 1 de 23 erkek, 22 kadın, grup 2 de 22 erkek, 23 kadın mevcut olup (p=0.96) yaş ortalaması grup 1 de 55.23 ±7.53 yıl, grup 2 de 55.70 ±9.78 yıldı.(p=0.97) Grup 1 de ÖGİB 18.12 ±4.18 mmHg, BGİB 20.98 ±4.42 mmHg, EGİB 43.20 ±15.80 mmHg iken grup 2 de ÖGİB 18.65 ±3.52 mmHg, BGİB 22.80 ±3.90 mmHg, EGİB 39.08 ±13.18 mmHg bulundu. Grup 1 de EGİB-ÖGİB farkı 25.04 ±16.30 mmHg, grup 2 de EGİB-ÖGİB farkı 20.36 ±13.82 mmHg bulunurken aradaki fark istatistiksel olarak anlamlı değildi.(p=0.21) Grup 1 de EGİB-BGİB farkı 22.32 ±16.48 mmHg, grup 2 de EGİB-BGİB farkı 16.18 ±13.05 mmHg bulundu, aradaki fark istatistiksel anlamlıydı.(p=0.03)

Sonuç: IVA uygulaması öncesi topikal DT damla kullanılan grupta ÖGİB ve BGİB değerleri daha düşükken,EGİB değerleri daha yüksek bulunmuştur.

Sunum Şekli: Sözlü Sunum

Effects of Topical Antiglaucomatous on Intraocular Pressure Changes in Intravitreal Aflibercept

Purpose: The effect of topical dorzolamide-timolol (DT) drops on intraocular pressure (IOP) changes before intravitreal aflibercept (IVA) administration

Material-Methods: Forty five eyes of 45 patients who were treated with DT 1 hour before IVA treatment due to diabetic retinopathy and macular edema were divided into group 1 forty-five eyes of 45 patients without DT were considered as group 2. Patients who had previously undergone intravitreal injection, underwent intraocular surgery and used any eye drops were not included in the study. IOP values were measured before insertion of the eye speculum before the injection (BIOP), after eye speculum attachment (AIOP), and 1 minute after the injection (IIOP) with tonopen contact hand tonometry

Results: There were 23 males and 22 females in group 1, 22 males and 23 females in group 2 (p=0.96) and the mean age was 55.23±7.53 years in group 1, 55.70±9.78 years in group 2.(p=0.97) In Group 1 the mean BIOP was 18.12 ± 4.18 mmHg, the AIOP was 20.98 ± 4.42 mmHg, the IIOP was 43.20 ± 15.80 mmHg, In group 2, the mean BIOP was 18.65 ± 3.52 mmHg, the AIOP was 22.80 ± 3.90 mmHg and the IIOP was 39.08 ± 13.18 mmHg. In group 1, the difference in IIOP-BIOP was 25.04 ± 16.30 mmHg and in group 2 the difference in IIOP-BIOP was 20.36 ± 13.82 mmHg but the difference was not statistically significant (p = 0.21) In group 1, the IIOP-AIOP difference was 22.32 ± 16.48 mmHg and in group 2 the IIOP-AIOP difference was 16.18 ± 13.05 mmHg, the difference was statistically significant.(p=0.03)

Conclusion: In the group using topical DT drops prior to IVA application, the values of BIOP and AIOP were lower while the values of IIOP were found higher.

Sıcaklık Stresi Oluşturulan Broylerlerde Yeme Bitki Ekstraktı ve/veya Prebiyotik İlavesinin Performans ve Bazı Kan Parametreleri Üzerine Etkileri*

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Bu çalışmada sıcaklık stresi oluşturulan broylerlerde yeme antibakteriyel etkili bir bitki ekstraktı (sangrovit-SNG) ve/veya prebiyotik (Aktif-MOS) katkısının performans ve bazı kan parametreleri üzerine etkisinin araştırılması amaçlanmış ve bu amaçla broyler performansı, abdominal yağ düzeyi, organ ağırlıkları, lipit, karbonhidrat, protein ve mineral metabolizmaları ile hayvan sağlığı üzerine etkileri incelenmiştir. Araştırmada, 600 adet günlük yaşta broiler hibrid civciv, her biri 3 alt gruptan oluşan 8 deneme grubuna ayrılmıştır. Çalışmada, Deneme 1 bazal diyet, Deneme 2 bazal diyet + %0,1 SNG, Deneme 3 bazal diyet + %0,1 MOS, Deneme 4 bazal diyet + %0,1 SNG + %0,1 MOS, Deneme 5, 6, 7 ve 8 + 37 ^{0}C sıcaklık uygulanmıştır. Sıcaklık ve diyetin ayrı ayrı veya birlikte etkisi canlı ağırlık, yem tüketimi ve yemden yararlanma oranına önemli etki yaparken 42. gün itibarıyla sıcaklık ve diyetin etkisi önemli iken ($p<0,05$), sıcaklık x diyet interaksiyon etkisi 42. gün canlı ağırlıklarını önemli olarak etkilememiştir. Sıcaklık ve diyetin abdominal yağ ve karaciğer ağırlıklarına olan etkileri önemli ($p<0,05$) olmakla beraber sıcaklık x diyet interaksiyon etkisi sadece dalak ağırlıklarını önemli şekilde ($p<0,05$) etkilemiştir. Sıcaklık faktörünün oransal abdominal yağ, karaciğer ve dalak ağırlıklarına olan etkisi önemli ($p<0,05$) olurken diyetin önemli ($p<0,05$) etkisi sadece abdominal yağ ve dalak ağırlıkları üzerine olmuştur. Sıcaklık x diyet interaksiyon etkisi ise oransal karaciğer ağırlığı üzerine belirgindir ($p<0,05$). 42. gün serum ürik asit düzeyleri 21. gün serum ürik asit düzeylerinin aksine muamelelerle önemli şekilde etkilenmiştir ($p<0,05$). Çalışmada sıcaklık faktörünün serum glukoz, total protein, fosfor, ALP, ALT, total kolesterol düzeyine etkileri istatistiki olarak önemli ($p<0,05$) olmasına karşın kalsiyum düzeyi etkilenmemiştir.

Anahtar Kelimeler: Broyler, Sıcaklık Stresi, Sanguinaria canadensis, Mannanoligosakkarit, Performans.

Sunum Şekli: Sözlü Sunum

The Effects of the Dieatry Plant Extract and/or Prebiotic Supplementation on Performance and Some Blood Parameters in Briolers Under Heat Stress

In this study, it was aimed to investigate the effects of the supplementation of an antibacterial plant extract (sangrovit-SNG) and/or prebiotic (active-MOS) on performance and some blood parameters in broilers exposed to heat stress. With this aim, broiler performance, abdominal fat levels, organ weights, the metabolism of lipid, carbonhydrate, protein and mineral were determined and their effects on animal health were evaluated. In the study, a total of 600 one-day old hybrid broiler chicks were assigned to 8 experimental groups, each consisting of 3 subgroups. In the study, experimental groups were Group 1 (basal diet), Group 2 (basal diet + %0,1 SNG), Group 3 (basal diet + %0,1 MOS), Group 4 (basal diet + %0,1 SNG + %0,1 MOS), Group 5-6-7-8 (exposed to heat stress [+ 37 ^{0}C]). Separate and combined effects of heat stress and diet on live body weight, feed consumption and FCR were significant on day 42 ($p<0.05$), however, the interaction effect of heat x diet was not significant for live body weights on day 42. Although the effects of heat and diet on abdominal fat and liver weights were significant ($p<0.05$), the interaction effect of heat x diet was significant only for spleen weights ($p<0.05$). The effect of heat factor on the proportional weights of abdominal fat, liver and spleen was significant ($p<0.05$), however, the effect of diet was significant only for abdominal fat and spleen weights ($p<0.05$). The interaction effect of heat x diet on liver weight was also apparent ($p<0.05$). Unlike serum uric acid levels on day 21, serum uric acid levels on day 42 were significantly affected by treatments ($p<0.05$). Except for calcium, the effects of heat factor on serum glucose, total protein, phosphorus, ALP, ALT and total cholesterol levels were statistically significant ($p<0.05$).

Keywords: Broiler, Heat Stress, Sanguinaria canadensis, Mannan oligosaccharide, Performance.

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Yapay Tatlandırıcılar ve Sağlık Üzerine Etkileri

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Yapay tatlandırıcılar; gıda maddesine şeker tadı vermek amacıyla eklenen ve kan şekerini yükseltmeyen maddelerdir. 1965'te %3 oranında olan yapay tatlandırıcı kullanımı günümüzde artarak devam etmektedir. Sıkça kullanılanlar; aspartam, asesülfam- K, sakkarin, siklamat vb. tatlandırıcılardır. Yapay tatlandırıcılar insan vücudunda metabolize edilmedikleri için kalori sağlamazlar. Bu nedenle obezite ve diyabet yönetiminde önemli rol oynarlar. Özellikle diyabetik gıdalar hazırlanırken şeker yerine çoğunlukla yapay tatlandırıcılar kullanılmaktadır. Ayrıca ağız gargaraları, diş macunları, soslar ve dondurulmuş yemekler gibi birçok ürünün yapay tatlandırıcı içerdiğinden tüketiciler farkında olmayabilirler. Fazla şeker tüketimi metabolik sendrom gelişimini, karaciğer fonksiyon bozukluklarını, diş çürüklerini ve DNA hasarını artırmaktadır. Ayrıca Dünya Sağlık Örgütü' ne göre fazla şeker tüketimi beslenme bozuklukları ve kilo alımı ile ilişkilidir. Yutma olmasa bile yapay tatlandırıcılara maruz kalma karbonhidrat sindirim, emilim ve metabolizması ile ilişkili fizyolojik yanıtları etkilemektedir. Bu yanıtlar kan glukozunu düşürmek için insülin ve inkretin hormonlarının salınmasını da içerir. Bununla birlikte yapay tatlandırıcılar insülin sekresyonunu uyaran tat reseptörleri ile etkileşim içine girebilmektedir. Ancak kan glukozunu düşürme etkisi netlik kazanmamıştır. Asesülfam- K gibi yapay tatlandırıcıların uzun süreli kullanımının beyinde nörometabolik fonksiyonların bozulması ile ilişkili olduğunu gösteren çalışmalar bulunmaktadır. Ayrıca son zamanlarda yapay tatlandırıcıların bağırsak mikrobiyotasında negatif değişikliğe sebep olduğu ve böylece glukoz intoleransına neden olduğu gösterilmektedir. Yapılan çalışmalarda yapay tatlandırıcıların zararlarına yönelik görüşler sınırlıdır ve bu konu ile ilgili daha fazla çalışmaya gereksinim vardır.

Anahtar Kelimeler: Yapay Tatlandırıcı, Obezite, Diyabet, Beslenme Bozuklukları.

Sunum Şekli: Poster Sunumu

Artificial Sweeteners and Their Effects on Health

Artificial sweeteners; are added to the food to give a taste of sugar and do not raise blood sugar. The use of artificial sweeteners, which was 3% in 1965, continues to increase. Frequently used; aspartame, acesulfame-K, saccharin, cyclamate, and the like sweeteners. Artificial sweeteners do not provide calories because they are not metabolized in the human body. For this reason they play an important role in the management of obesity and diabetes. Especially when diabetic foods are prepared, artificial sweeteners are mostly used instead of sugar. In addition, many products such as mouthwashes, toothpastes, sauces and frozen meals contain artificial sweeteners, so consumers may not be aware of consumption. Excessive consumption of sugar increases metabolic syndrome development, liver dysfunctions, tooth decay and DNA damage. According to the World Health Organization, excessive consumption of sugar is associated with nutritional disorders and weight gain. Exposure to artificial sweeteners, even if not swallowing, affects physiological responses to carbohydrate digestion, absorption and metabolism. These responses include the release of insulin and incretin hormones to lower blood glucose. However, artificial sweeteners may interact with taste receptors that stimulate insulin secretion. But the effect of lowering blood glucose is not clear. There are studies showing that the long-term use of artificial sweeteners such as acesulfame-K is associated with impaired neurometabolic function in the brain. It has also recently been shown that artificial sweeteners cause a negative change in intestinal microbiota and thus cause glucose intolerance. There are limited views on the harms of artificial sweeteners in scientific studies and there is a need for further study on this subject.

Keywords: Artificial Sweetener, Obesity, Diabetes, Nutritional Disorders.