ISPEC 10 th INTERNATIONAL CONFERENCE ON AGRICULTURE, ANIMAL SCIENCE & RURAL DEVELOPMENT





July 18-19, 2022
Sivas University of Science & Technology

CONFERENCE PROCEEDINGS BOOK

Editors:
Prof. Dr. Tolga KARAKOY
Assoc. Prof. Dr. Seyithan SEYDOSOGLU

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CONFERENCE ID

CONGRESS TITLE

10th INTERNATIONAL CONFERENCE ON AGRICULTURE, ANIMAL SCIENCES AND RURAL DEVELOPMENT

DATE–PLACE

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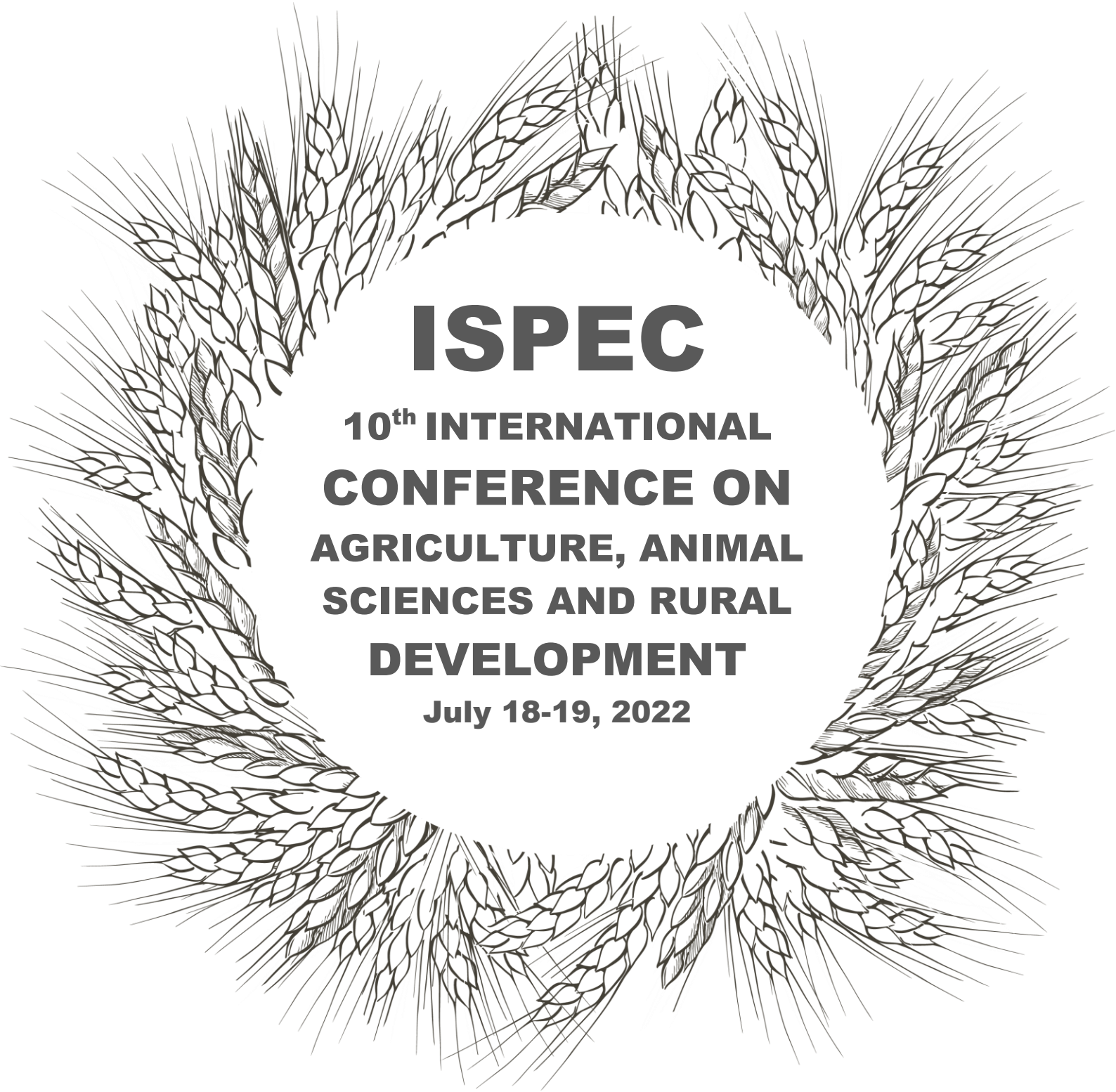
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Opening Speech	Zoom Meeting ID: 826 4455 7267 Zoom Passcode: 123456
18.07.2022	Zoom Meeting ID: 826 4455 7267 Zoom Passcode: 123456
19.07.2022	Zoom Meeting ID: 840 6352 5104 Zoom Passcode: 101010

-Opening Speech-

Date: 18.07.2022
Ankara Time: 09.00 - 09.45

***

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18.07.2022

Ankara Local Time: 10:^{00}-12:^{30}

Sivas University Of Science and Technology

HEAD OF SESSION: Prof. Dr. Tolga KARAKOY

Authors	Affiliation	Presentation title
Rabiya Koyuncu Mehmet Ali Avci	Selcuk University	The Effect Of Organic Fertilizers Used in Mixtures Created For Artificial Grassland And Pasture Areas On Quality
Serdar Karadaş Ercan Ceyhan	Selcuk University	Determination Of Some Agricultural Characteristics Of The New Lines Of Peas Developed
Yaşar Kahraman Ercan Ceyhan	Selcuk University	Determination Of Chemical Fertilizer And Various Organic Fertilizers On Some Agricultural Characteristics Of Dry Bean (*Phaseolus vulgaris* L.)
Semih Taşyürek Ercan Ceyhan	Selcuk University	Development Of The Pea Lines That Are Big-Grained And High Yielded For Canned
Ömer Faruk Şahin Ufuk Erol Kürşat Altay	Sivas Cumhuriyet University	Investigation Of Chalkbrood in Honey Bees in Sivas Province
Ömer Faruk Şahin Tülin Güven Gökmen Kürşat Altay Ufuk Erol Armağan Erdem Ütük	Sivas Cumhuriyet University	Investigation Of The Presence Of Toxoplasma Gondii In Different Types Of Wild Animals In Osmaniye Province
Bahar Koçak Asude Çavuş	Van Yuzuncu Yıl University	Evaluation Of Water Resources In Turkey With Water Quality Indices
Yasin Ahmed Yusuf Musab Abdukadir Isak Huma Majeed Özhan Şimşek	Erciyes University	Comparıson Of Classical And Next-Generation Plant Tissue Culture Techniques In Strawberry Hybrids
Amjad Ali Hajra Azeem Fatih Ölmez Muhammad Tanveer Altaf	Sivas University of Science and Technology	Incidence Percentage Of Fungal Infestation On Seeds Of Different Spinach Verities And Chemical Management Of Spinach Fusarium Wilt
Muhammad Tanveer Altaf Amjad Ali Waqas liaquat Amna Jamil	Sivas University of Science and Technology	A Climate Change Perspective On Multi-Omics Techniques For Strategic Enhancement Of Stress Tolerance in Underutilized Crop Species
Ahmet Konuk Tuba Uzun Saliha Mutlu Rifat Kepildek Nursel Çöl Keskin Rahim Ada	Selçuk University	Determination Of Sunflower Hybrid (F1) Genotypes Seed Yield And Quality Characteristics

(All speakers required to be connected to the session 10 min before the session starts)
Moderator is responsible for ensuring the smooth running of the presentation, managing the group discussion and dynamics.

18.07.2022 | SESSION-1 | HALL-1

Ankara Local Time: 10:^{00}-12:^{30}

Meeting ID: 826 4455 7267 | Passcode: 123456

HEAD OF SESSION: Prof. Dr. Kağan KÖKTEN

Authors	Affiliation	Presentation title
Zeeshan Asghar	National University of Technology	Mathematical Modelling of Undulating Motion of Spermatozoa in the Bounded Region
Aynur Bilmez Özçinar	Siirt University	Nutrient Deficiency in Soybean (*Glycine max* L.)
Dino Davosir Ivana Šola Martina Šeruga Musić	University of Zagreb	Flavescence Dorée Phytoplasma Heavily Affects Photosynthetic Pigment Content In Grapevine (*Vitis vinifera*) var. 'Pinot Gris' Leaves
Irfan Baytar	Muş Alparslan University	The Role Of Women In Rural Activities Of Muş Province And Its Impact On Rural Development
Salar Haji Hassan Shawkat Abdulrazaq M'sadeq Abdullah Can	Harran University	Response Of Broiler Chickens To In-Ovo Inject And Dietary Supplementation Powder Of Boswellia Carrterri
Şemal Tenha Erol Oral	Van Yuzuncu Yıl University	The Effects Of Global Climate Change On Turkish Agriculture
Omar Mardenli	University of Aleppo	A Review Of Some New Concepts In Controlling The Functions Of The Corpus Luteum In Farm Animals
Selim Özdemir Kağan Kökten	Bingol University	The Effect Of Different Planting Density And Row Spacing On Seed Yield And Yield Components Of Buckwheat Varieties
Olaitan A.J Banjo, T.T Ogunmade, T.O Ogunlusi, R.O Idowu A.A Olaleye, B.O Olajuwon M.O	Lagos State University Ojo	Microbial Quality And Physicochemical Properties Of Some Carbonated Commercial Fruit Juices
Zeynep Dumanoğlu Kağan Kökten Selim Özdemir	Bingol University	Investigation Of Some Physical Properties Of Turf (*Lolium* L.) Species
Kiran Kumbhar Pramod Khairnar	Nowrosjee Wadia College	Use of Artificial Neural Network for Assessment and Prediction of Water Level Fluctuation in TE 121 and TE 133 Watersheds of Tapi River Basin in Maharashtra, India

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18.07.2022 | SESSION-1 | HALL-2

Ankara Local Time: 10:^{00}-12:^{30}

Meeting ID: 826 4455 7267 | Passcode: 123456

HEAD OF SESSION: Prof. Dr. Pınar AYVAZOĞLU DEMİR

Authors	Affiliation	Presentation title
Şerife Sertkaya Kürşat Alkoyak Yusuf Kaplan Özden Sarikaya Süleyman Aslan	Republic of Türkiye Ministry of Agriculture and Forestry	Cattle Breeding Studies in Turkey And Tagem's Approach
Muhammad Sarfraz Aslam Muhammad Waqar Hassan	The Islamia University of Bahawalpur	Effect of Variety and Cracked Kernels on Damage caused by Trogoderma granarium Everts to Wheat and its Control by Phosphine Fumigation
Nüvit Coşkun	Kafkas University	Ovıne Pulmoner Adenocarcınoma And Dıfficultıes In Dıagnosıs Of The Dısease
Aijaz margay Ajjaz Maqbool	Devi Ahiliaya University	Transmission of Protocol in wireless communication system using Newly Designed DB ford Shortest-Path-Algorithm
Abdullahi Mohamed Hussein Zahid Tevfik Ağaoğlu	Sivas Cumhuriyet University	Socio-Economic Impact Of Brucellos In Cattle At Banadır Region, Somalıa
Nader Ghaffari Khaligha	Universiti Malaya	How important is the Knoevenagel Reaction in Medicinal Chemistry: An Updated Overview
Erdem Taçyildiz Buket Boğa Kuru Mushap Kuru	Kafkas University	The Effect Of Short-Term Or Long-Term Progesterone-Based Estrus Synchronization On Pregnancy Rate In Tuj Ewes During The Non-Breeding Season
M. Y. Sani M. Abubakar Y. Abdulwahab M. J. Kauna A. Hassan A. A. Chilo	Ahmadu Bello University	Analysis of the Effects of Farmer-Herder Conflicts on Rural Households Food Security in Gombe State, Nigeria
Ismail Aytekin Birol Güngör	Balıkesir University	The Analysis Of The Correlations Between Acetylcholinesterase, Haptoglobin, Tumor Necrosis Factor, Serum Amyloid A And Paraoxonase in Saanen Goats With Pregnancy Toxemia
Aijaz margay Ajjaz Maqbool	Devi Ahiliaya University	Hybridization of Metaheuristic Optimization Algorithms Optimal Solution for The Search Space
Soleen Mustafa Salman Shawkat Abdulrazaq M'sadeq Abdullah Can	Harran University	Effect Of In-Ovo Injected Of Lavender (*Lavandula angustifolia*) Essential Oil Or Dietary Supplementation Powder On Growth Performance, Gut Health And Serum Biochemical Of Broiler

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18.07.2022 | SESSION-1 | HALL-3

Ankara Local Time: 10:^{00}-12:^{30}

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HEAD OF SESSION: Assist. Prof. Dr. Fatih ÖLMEZ

Authors	Affiliation	Presentation title
Ece Evliyaoğlu Ibrahim Demirkale Suat Dikel	Çukurova University	How Can Aquaculture Help The United Nations Sustainable Development Goals?
Mourad Keddam	Faculty of Mechanical Engineering and Chemical Processes	Computer Simulation Of Boronizing Kinetics Of Tb2 Alloy Using The Integral Diffusion Model
Ece Evliyaoğlu Ibrahim Demirkale Suat Dikel	Çukurova University	The Effects Of Climate Change On Aquaculture
Nikita Dobhal	Advocate in District Court Dehradun	Flood Lights Pollution In India: The Environmental And Human Rights Perspective
Burak Özkan	Gaziantep University	Design, Prototype Manufacturing And Performance Tests Of Mobile Scale System For Small Bale Machines
Aqsa Rehman Mamoona Mushtaq	Govt MAO College	The Characterization of Mental Health in Transgenders Across Life Span
Suat Dikel Mustafa Öz	Çukurova University	The Future Of Aquatic Protein And Aquaculture Industry
Mohammadhiwa Abdekhoda Fatemeh Ranjbaran Saber Azami-Aghdash	University of Technology and Applied Sciences	Adopting Mobile Health Applications by Nurses: A Scoping Review
Mustafa Kemal Soylu	Republic of Türkiye Ministry of Agriculture and Forestry	Organic Exotic Mushroom Culture On Logs Wihin The Scope Of Food Foresty
Yahaya Shagaiya Daniel	Kaduna State University	Effect of Mixed Convection on EMHD Nanofluid Flow Toward A Media
Deniz Karakçı	Tekirdağ Namık Kemal University	Adipokins Effective In Metabolic Syndrome And Diabetes Mellitus

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18.07.2022 | SESSION-1 | HALL-4

Ankara Local Time: 10:^{00}-12:^{30}

Meeting ID: 826 4455 7267 | Passcode: 123456

HEAD OF SESSION: Assist. Prof. Dr. Muhammad Azhar Nadeem

Authors	Affiliation	Presentation title
Moses Adeolu Agoi Oluwadamilola Peace Agoi	Lagos State University of Education	Artificial Intelligence And Machine Learning: The Technological Approaches To Solving Health Challenges
Asena Ertürk Gülistan Erdal	Tokat Gaziosmanpaşa University	The Effects Of The Covid-19 Pandemic Process On Agriculture
Yessy Kurniati Tri Addya Karini Rindi Dwi Cantika	Universitas Islam Negeri Alauddin	The Effectiveness of Family Health Education in Improving Covid-19 Prevention Behavior in Elementary School Children
Osman Doğan	Selcuk University	Morphological And Cytological Effects Of Oryzalin And Trifluralin Applications On Ekşi Kara And Antep Karasi Grape Cultivars
Olena Budiakova	National University of Technologies and Design	Bioeconomy: Innovative Direction Of Economic Development Of Countries
Osman Sedat Subaşi	Republic of Türkiye Ministry of Agriculture and Forestry	The Development Of The Turkish Banana Sector And Its Future Trends
Sabitu, Kamoru Abiodun	Federal College of Education	Activity-Based Learning Strategies in the Mathematics Classrooms
Şükran Aşgin Nihal Türkmen Erol	Uludağ University	Black Fruits And Its Usage In Functional Food Production
Nirmine Ezzouine Imane Kasmi Siham Esserti Lalla Aicha Rifai Abdellah Maissour Malika Belfaiza Tayeb Koussa Kacem Makroum Mohamed Faize	Chouaib Doukkali University	Thiadiazols Activities in The Protection Of Tomato (*Solanum lycopersicum*) Against Pepino Mosaic Virus (PepMV)
Cenk Burak Şahin Mustafa Yilmaz	Hatay Mustafa Kemal University	Effects Of Microbial Fertilizers On Oil Content And Quality Properties Of Peanut (*Arachis hypogaea* L.)
Andi Susilawaty Yessy Kurniati Munawir Amansyah Syahrul Basri Abdul Majid Hr Lagu Muhammad Rusmin Tri Addya Karini Muhammad Fais Satrianegara	Universitas Islam Negeri Alauddin	Effectiveness Of Family-Based Education On Knowledge About Waste Management For Mothers And Children In Mountainous Areas

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18.07.2022 | SESSION-2 | HALL-1

Ankara Local Time: 13:^{00}-15:^{30}

Meeting ID: 826 4455 7267 | Passcode: 123456

HEAD OF SESSION: Yeter CİLESİZ

Authors	Affiliation	Presentation title
En-Nadir Redouane El-Ghazi Haddou	Hassan II University	Linear and nonlinear optical absorption in InGaN/GaN multiple quantum wells for optoelectronic and energy harvesting applications
Kağan Kökten Erdal Çaçan Selim Özdemir	Bingol University	The Effect Of Fertilization On Botanical Composition In Meadow And Rangelands
Oleksandr Katashov	Kharkiv Secondary School 37	Creative Writing As A Way To Prepare Ukrainian High School Students For Writing Section Of External Independent Testing (Eit) In English
Suat Dikel Mustafa Öz	Çukurova University	Artificial Intelligence (Ai) Application In Aquaculture
Aishat A. Yusuf Saheed BusayoAkanni	University of Ilorin	Insight Of Food Physics And Modeling Of Post-Covid – 19 Food Production Index In Nigeria
Cengiz Karaca	Hatay Mustafa Kemal University	Biomass Energy Potential Of Agricultural Residues In Sivas Province
Oluwaseun, Oyewole Olusoga Rasheed, Otelaja	School of Arts and Social Sciences	Knowledge Of Solid Waste Management As Correlate Senior Secondary School Students' Attitude To Waste Management In Ona-Ara Local Government, Oyo State, Nigeria
Cengiz Karaca	Hatay Mustafa Kemal University	Biogas Production Potential From Animal Manure And Environmental Effect In Sivas Province
Shehu Usman Abdulmalik Asiya Onozasi Abubakar Oluwafemi Adebayo Oyewole	Federal University of Technology	Isolation And Screening Of Polyhydroxylalkanoate Producing Bacteria From Industrial Wastewater
Sedef Koçak	Kafkas University	Diagnostic Approach To Eye Diseases In Cat And Dogs
Milonjyoti Borgohain Upala Barua	Cotton University	A Comparative Study of Infant Mortality Among the Deoris and Mishing Tribes of Dhemaji District, Assam, India

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18.07.2022 | SESSION-2 | HALL-2

Ankara Local Time: 13:^{00}-15:^{30}

Meeting ID: 826 4455 7267 | Passcode: 123456

HEAD OF SESSION: Ecem KARA

Authors	Affiliation	Presentation title
M. Yusha'u A.M. Abubakar	Bayero University Kano	Bacteriological Contamination of Frozen and Fresh Chicken Meats sold in Kano Metropolis, Kano State - Nigeria
Yeter Çilesiz Ilker Yüce Meliha Feryal Sarikaya Muhammed Tatar Ecem Kara Tolga Karaköy	Sivas University of Science and Technology	Evaluation Of The Performances Of Different Forage Pea Genotypes (*Pisum arvense* L.) In Terms Of Some Quality Traits
Suleman M. Ngaram Ibrahim G. Buba	Federal University Gashua	Experimental Analysis on Thermal Conductivity of Adobe Brick Incorporated with Natural reinforcement
Ilker Yüce Yeter Çilesiz Meliha Feryal Sarikaya Muhammed Tatar Ecem Kara Tolga Karaköy	Sivas University of Science and Technology	Evaluation Of The Performances Of Different Common Bean (*Phaseolus vulgaris* L.) Genotypes In Terms Of Morphological Traits
Mohammed Alhaji Dauda Mohammed Sani Galadima Ibrahim Mohammed Dibal	University of Maiduguri	New Strategy To Control The Rate Of Mathematics Failure In Secondary Schools
Mustafa Altin Mevlüt Akçura	Çanakkale Onsekiz Mart University	The Effect Of Plant Density On Grain Yield And Dry Matter Accumulation Of Mung Bean Genotypes
Adewale, A. N Iortsuun, D. N Alonge, S. O Sambo, G. Y	Ahmadu Bello University	The Herbicidal Potential Of Sweet Orange Peel Extracts (*Citrus sinensis* L.) On The Germination And Seedling Growth Of Senna Occidentalis (Coffee Senna)
Dürdane Mart Meltem Türkeri	Republic of Türkiye Ministry of Agriculture and Forestry	Investigation Of Winter Chickpea (*Cicer aritinum* L.) Genotypes And Yield Companies In The Eastern Mediterranean Region
Misbahu Said Ahmad	Sule Lamido University	Deep Eutectic Solvents Based And Binary Solvents Based Microwave Assisted Extraction Of Lichen Dirinaria Applanata
Mustafa Demirkaya Sinan Gerçek Doğan Işik	Kayseri University	Impact Of Blue And Black Mulch On Yield And Water Productivity Of Cucumber Under Greenhouse Conditions

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18.07.2022 | SESSION-2 | HALL-3

Ankara Local Time: 13:^{00}-15:^{30}

Meeting ID: 826 4455 7267 | Passcode: 123456

HEAD OF SESSION: Assist. Prof. Dr. Zemran Mustafa

Authors	Affiliation	Presentation title
Vahid Gholami Mohammad Reza Khaleghi	University of Guilan	A Comparative Study On The Performance Of Multivariate Regression And Artificial Neural Network (ANN) in Predicting Groundwater
Hasan Maral Ömer Çeçen Musa Türkmen	Karamanoğlu Mehmetbey University	Determination Of Chemical Components Of Sideritis Bilgerana P.H. Davis And Sideritis Congesta P.H. Davis & Hub Essential Oils
Vahid Gholami Mohammad Reza Khaleghi	University of Guilan	River Bed Point Bars Removing Effects On The Flood Hazard And Bank Erosion
Asuman Kaplan Evlice Hazım Özkaya	Sivas University of Science and Technology	Effects Of Genotype And Environment On Some Quality Characterıstıcs Of Wheat
Vahid Gholami Mohammad Reza Khaleghi	University of Guilan	Effects of Urban Development On Run Off Generation And Flood Hazard
Melek Demirel Birhan Kunter	Sivas University of Science and Technology	Ankara University Kalecik Viticulture Research And Application Station Introduction Of The Vines Of The Rootstock Collection
Ayham T. Al-Rawi Ibraheem M. Aliyas Kaiwan O. Rashid	Northern Technical University	Acid Rainwater Causes & Consequences in Sulaymaniyah Province of Iraq
Kemal Demirci Köksal Yağdi	Uludağ University	Investigation Of The Effect Of Different Types Of Salt In Irrigation Water On Radicle And Plumula Development In Some Wheat Genotypes
Isa Ahmadzadeh Mohammadhiwa Abdekhoda Mahmud Bejani	Tabriz University of Medical Sciences	Improving Self-Care Management In Patients With Breast Cancer By Health Literacy Promotion

(All speakers required to be connected to the session 10 min before the session starts)
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18.07.2022 | SESSION-2 | HALL-4

Ankara Local Time: 13:^{00}-15:^{30}

Meeting ID: 826 4455 7267 | Passcode: 123456

HEAD OF SESSION: Prof. Dr. Mehmet SÜTYEMEZ

Authors	Affiliation	Presentation title
Oluwafemi Adebayo Oyewole Evans Chidi Egwim Taye Adejumo Omeiza Haruna Ibrahim Emmanuel Oche Agbese Feoluwa Adebayo-Anwo	Federal University of Technology	Concretes Biocalcification with Carbonic Anhydrase Produced by A Novel Bacterium Alcaligenes faecalis G (Mn847723.1) Isolated from Concrete Construction Site
Deniz Aydoğan Gülcan Demiroğlu Topçu	Ege University	Effect Of Different Harvest Times On The Yields And Some Yield Components Of Common Reed (*Phragmites australis* (Cav.) Trin. Ex Steud)
Muhamad Amirulhakim Amir Bohtar Aimi Athifah Suhaimy Sharifah Norkhadijah Syed Ismail Emilia Zainal Abidin Nor Eliani Ezani Aida Soraya Shamsuddin Nazri Che Dom	Universiti Putra Malaysia	Overview of the use of Polyethylene Terephthalate (PET) and Low Density Polyethylene (LDPE) plastic wastes in brick construction materials as an environmental sustainability strategy
Ebubekir Paşazade	Republic of Türkiye Ministry of Agriculture and Forestry	Determination Of Phenological And Pomological Characteristics Of Some Local Apple (*Malus* sp. L.) Cultivars Grown in Gürün Township (Sivas)
Mostapha Maach Mustapha Akodad Abdelmajid Moumen Ali Skalli Kees Venema María Pilar Rodriguez-Rosales Mourad Baghour	Mohammed 1st University	Coexpression Of Lenhx2 And Slsos2 Antiporters Improved Germination And Growth Of Tomato Under Saline Conditions
Sema Uslu	Sivas Cumhuriyet University	Distribution Of Mast Cells In The Small Intestine In Different Trimesters Of Pregnancy
Anwar Mallongi Annisa Utami Rauf Ratna Dwi Puji Astuti	Hasanuddin University	Analysis of Particulate Matter from Cement Industry and the Potential Health Disturbance to Human
Mehmet Sütyemez	Kahramanmaraş Sütçü İmam University	Developments In Türkiye Sweet Cherry Seedling Production
Mehmet Sütyemez	Kahramanmaraş Sütçü İmam University	Pistachio Sapling Production in Türkiye
Oyedum, U.M.	Federal University of Technology	Comparative Studies Of Multi Drug Resistant Bacteria Isolated From Various Sources Of Water In Two (2) Tertiary Institutions In North Central, Nigeria
Sinan Kivrak Muhammet Yiğiter Emre Turan Gonca Uslu Özküçük	OSTİM Teknik University	The System To Protect Trees From Wild Animals

(All speakers required to be connected to the session 10 min before the session starts)
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18.07.2022 | SESSION-3 | HALL-1

Ankara Local Time: 16:^{00}-18:^{30}

Meeting ID: 826 4455 7267 | Passcode: 123456

HEAD OF SESSION: Prof. Dr. Muhammad Asım

Authors	Affiliation	Presentation title
Ibrahim Maouhoubi Izeddine Zorkani	Sidi Mohamed Ben Abdellah University	Non-Parabolicity Effect On The Diamagnetic Susceptibility For A Donor Confined In A Homogeneous Cylindrical Quantum Dot And Quantum Disk : Applied Magnetic Field Influence Is Considered
Tahsin Beycioğlu Mualla Keten Fatih Killi Hasan Değirmenci Tülay Kan	Kahramanmaraş Sütçü İmam University	The Effect Of Different Irrigation Levels On Production And Quality Of Peanut Varieties
Fouzia Benoudjit Lyna Maameri Kahina Ouared	M'hamed Bougara University	Identification Of Bioactive Molecules From A Local Rutaceae Species Extract
Zemran Mustafa Aslihan Esra Bildirici Muhammed Tatar Tolga Karakoy Fatih Olmez Muhammad Asim Pervin Erdogan Muhammad Azhar Nadeem	Sivas University of Science and Technology	Comparison Of Different Protocols For Dna Isolation From Pea Plant
Sakibu Olajide Saibu Taiwo Oludare Ogunmade Oluwakemi Juliana Akande	Lagos State University of Education	Effect of Indigenous-Based Entrepreneurial Skill Acquisition on Basic Science Students' Performance in Junior Secondary Schools in Lagos State, Nigeria
Ali Bayram Nazlı Aybar Yalinkiliç Şilan Çiçek	Muş Alparslan University	Identification Of Beet Fly (Pegomya Hyoscyami) (Diptera: Anthomyidae) In Sugar Beet And Evaluation Of Control Methods
Adegboyega S. Oyewole Anu K. Toriola Adesola O. Bello Adekunle A. Olojede	Olabisi Onabajo University	The Adoption of Mobile Technology for Learning in Public Universities in Ogun State, Nigeria
Merve Ider	Selçuk University	Investigation Of Hematological Changes In Dairy Cattle With Left Abomasum Displacement
Lawal Idris Sada	Department of Geography UMYU Katsina	Analyses of Generation and Composition of Municipal Solid Waste in Malumfashi Katsina State, Nigeria.
Yusuf Çakir	Bingöl University	An Overview Of Dairy Farming In Bingol Province

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18.07.2022 | SESSION-3 | HALL-2

Ankara Local Time: 16:^{00}-18:^{30}

Meeting ID: 826 4455 7267 | Passcode: 123456

HEAD OF SESSION: Assist. Prof. Dr. Fatih Ölmez

Authors	Affiliation	Presentation title
Vignesh K Meenatchi S	Annamalai University	Rna Interference And Its Applications In Plant Pathology
Fikret Saygin Orhan Dengiz Pelin Alaboz Serkan Iç	Sivas University of Science and Technology	Relationship Of Soil Physico-Chemical Properties With Satellite Image Indices And Reflectances
Sellami Wafae Mohammed Ibriz Khalid Daoui El Houssain Bouichou Abderrazzak Bendidi	Ibn Tofaïl University	Effect Of Tillage And Nitrogen Management On Wheat Productivity In Morocco
Mustafa Öz Suat Dikel	Aksaray University	The Importance Of Trout Aquaculture In Turkey's Fisheries
Akanksha kumari	Banasthali Vidyapith University	Epigenetic , it’s type , effect of epigenetic change and it’s current situation
Mustafa Öz Suat Dikel	Aksaray University	The Effect Of The Covid-19 Pandemic On Turkey’s Aquaculture
Rachelle F. Davalos Ronel S. De Guzman	President Ramon Magsaysay State University	Tuber Yield Of Radish As Influenced By Potassium Residue From Recently Applied Chicken Manure Bokashi
Füsun Erhan Bayçumendur Levent Ergün	Sivas Cumhuriyet University	Light Microscopic Investigation Of Connective Tissue Fibers In Chicken Liver
Ryan F. De Los Reyes Ronel S. De Guzman	President Ramon Magsaysay State University	Performance Of Sweet Corn Applied With Different Amount Of Chicken Manure Bokashi
Bünyamin Irehan	Fırat University	The Rate Of Cystic Echinococcosis In Intermediate Host Animals And Its Importance For Public Health

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18.07.2022 | SESSION-3 | HALL-3

Ankara Local Time: 16:^{00}-18:^{30}

Meeting ID: 826 4455 7267 | Passcode: 123456

HEAD OF SESSION: Assist. Prof. Dr. Muhammad Azhar Nadeem

Authors	Affiliation	Presentation title
Joel D. Luna Ronel S. De Guzman	President Ramon Magsaysay State University	Performance Of Yellow-Fleshed Watermelon Applied With Different Amount Of Chicken Manure Bokashi
Ayşe Merve Köse	Hatay Mustafa Kemal University	Early Pregnancy Diagnosis In Small Ruminants
Joyce Anne L. Ubana Ronel S. De Guzman	President Ramon Magsaysay State University	Performance Of Bell Pepper Applied With Different Amount Of Chicken Manure Bokashi
Levent Değirmenci Özge Kaygusuz Izgördü Cihan Darcan	Bilecik Şeyh Edebali University	Isolation And Characterization Of Microorganisms Suitable For Use In Accordance With Manure And Chemical Fertilizers
Glora May F. Aldea Ronel S. De Guzman	President Ramon Magsaysay State University	Rooting Response Of Air-Layered Miracle Fruit Tree In Different Rooting Media With Carbonized Rice Hull
Sena Pacci Muhammet Emin Safli Orhan Dengiz Inci Demirağ Turan	Ondokuz Mayıs University	Determination Of Desertification Risk For Agricultural Areas Under Semi-Arid Ecological Conditions Using Dis4me Model And Estimation With Artificial Intelligence
Michaela S. Macedo Ronel S. De Guzman	President Ramon Magsaysay State University	Performance Of Eggplant Applied With Different Amount Of Cattle Manure Bokashi
Ömer Faruk Gecesefa Kamil Mencik Kenan Ercan	Gaziantep University	Comparıson Of Some Agrıcultural Characterıstıcs And Qualıty Values Of Sugar Beet (Beta vulgaris Subsp. Vulgaris Altissima Group) Growed In Dıfferent Applıcatıons In Nurdağı
Shafa'atu Giwa Ibrahim Roselina Karim	Usmanu Danfodiyo University	Development Of A Novel Kenaf Seed-Based Tofu Using Microbial Transglutaminase
Kenan Ercan Ömer Faruk Gecesefa Kamil Mencik Alihan Çokkizgin Muhammet Ali Gündeşli	Gaziantep University	Some Agrıcultural Characterıstıcs And Qualıty Values Of Wheat (*Triticum aestivum*) Cultivars Cultivated In Nurdagı Vocatıonal School Applıcatıon Land

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18.07.2022 | SESSION-3 | HALL-4

Ankara Local Time: 16:^{00}-18:^{30}

Meeting ID: 826 4455 7267 | Passcode: 123456

HEAD OF SESSION: Assist. Prof. Dr. Zemran Mustafa

Authors	Affiliation	Presentation title
Arunkumar R Balamurugan V	Tamil Nadu Agricultural University	Strenthening Of Women Towards Sustainable Agriculture
Siyami Karaca Bulut Sarğin	Van Yüzüncü Yıl University	Çok Kriterli Karar Verme Yöntemleri Ve Arazi Uygunluk Çalişmalarinda Kullanimi
Kirti Dorshetwar	Indian Institute of Information Technology	Economic Ramification Due To Covid-19
Emre Evlice Esmeray Ayhan Deniz Akpinar Gökhan Yatkin Mehmet Özbayrak Ersin Baş	Sivas University of Science and Technology	Determination Of Resistance To Meloidogyne Incognita On Some Peach And Nectarine Genotypes
D.S.Pathania	Guru Nanak Dev Engg.College	Temperture Rate Dendent Thermoelastic Waves In Transversely Isotropic Medium
Gürkan Sezmiş Ali Kaya Büşra Dumlu	Yozgat Bozok University	Determination Of The Anti-Methanogenic Effect Of Cover Dried (*Medico sativa* L.) With The Addition Of The Rare Soil Element Lantanium By In Vitro Gas Production Method
Edwin Andrew Ofudje Ezekiel F. Sodiya Fatai Akinwunmi Abimbola Aina Ogundiran	Federal University of Agriculture	Adsorption Of Congo Red Dye Onto Nano-Rod Polycrystalline Calcium Phosphate: Isotherms, Kinetics, Thermodynamics And Desorption Studies
Ugur Bilge Abdullah Eren	Republic of Türkiye Ministry of Agriculture and Forestry	Determination Of Soil Properties And Nutritional Element Content Of Rangeland Fields Of Diyarbakir Province Karacadağ Region
Major Gheorghe Giurgiu Manole Cojocaru Scires I, Eusplm	Titu Maiorescu University	Clinical Benefits Of Polenoplasmin For Management Of Spinal Cord Injury In Dogs
Nermin Yaraşır Osman Erekul Yakup Onur Koca	Aydın Adnan Menderes University	Effects Of Abiotic Stress Sources On Legumes

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19.07.2022 | SESSION-1 | HALL-1

Ankara Local Time: 10:^{00}-12:^{30}

Meeting ID: 840 6352 5104 | Passcode: 101010

HEAD OF SESSION: Prof. Dr. Pınar AYVAZOĞLU DEMİR

Authors	Affiliation	Presentation title
Erol Aydin Pınar Ayvazoğlu Demir	Kafkas University	An Overview Of Turkish Livestock
Cemalettin Ayvazoğlu Pınar Ayvazoğlu Demir	Kafkas University	Possible Effects Of Global Warming On Cattle Health
Ponchang Apollos Wuyep Alice Njolke Mafe Longchi Satkat Zacheaus Dogun Ojochogu Dabot Ayuba Yakubu	University of Jos	The In vitro and In vivo Antifungal Activity of Terminalia Mantaly on Aspergillus Species Using Drosophila melanogaster (UAS-Diptericin) as a Model
Hülya Doğan Levent Yazici	Yozgat Bozok University	Herbal Properties Of Some Medical And Aromatic Plant Varieties Registered In Turkey
Auwal Abdulkadir Mohd Zamir Pakhuruddin	Umaru Musa Yar'adua University	Effect of hydrofluoric acid concentration towards surface morphological and optical properties of black silicon fabricated by two-step silver-assisted wet chemical etching for photovoltaics
Feride Öncan Sümer	Aydın Adnan Menderes University	Carbon Footprint In Agricultural Products
Sadia Malik	Aligarh Muslim University	Mechanistic insight into inhibition of amyloid fibrillation of human serum albumin by Vildagliptin
Feride Öncan Sümer	Aydın Adnan Menderes University	The Effects Of Faba Bean (*Vicia faba* L.) With Pea (*Pisum sativum* L.) Intercropping And Foliar Zinc Application On Grain Yield
Marcus Balah Ryal-Net Yohana Chanle Sati Erekpitan Omoikhefe Ola-Adisa Muhammad Abdulwaheed	University of Jos- Nigeria	Desegregated Categorisation Of Architectural Heritage In Selected Cultural Landscapes Of North-West Nigeria
Hayrettin Kendir Cansu Telci Kahramanoğulları	Ankara University	Effects Of Cutting Frequency And Heights On The Herbage Yield And Root Development Of Russian Wild Rye (Psathyrostachys Juncea=Elymus Junceus)

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19.07.2022 | SESSION-1 | HALL-2

Ankara Local Time: 10:^{00}-12:^{30}

Meeting ID: 840 6352 5104 | Passcode: 101010

HEAD OF SESSION: Prof. Dr. Muhammad Asım

Authors	Affiliation	Presentation title
Sankalp Mirani	MNLU Mumbai	Mediation in consumer Protection mechanism
Vildan Erci	Selçuk University	Bentonite Application On Soils Of Konya-Ereğli Region: Determination Of Effects On Wind Erosion Using A Lab-Scale Wind Tunnel
Mohammed Shehu Shagari	Ahmadu Bello University	Fixed Points of Soft Set-Valued Maps
Muhammad Azhar Nadeem Nurettin Baran	Sivas University of Science and Technology	Recent Studies For The Identification Of Genomic Regions Associated With Drought Tolerance In Common Bean
Shehu Usman Abdulamlik Hadiza Ibrahim Ruqayyah Abubakar	Federal University of Technology	Assessment Of Domestic Watsewater Discharge, Its Health Effects And The Solution Among Residents Of Bosso Local Government Area, Niger State, Nigeria.
Nurettin Baran Muhammad Azhar Nadeem Mehtap Andirman	Mus Alparslan University	Exploring The Potential Of Legumes For Human And Ecosystem
Dennis Amaechi	Veritas university	The Effects Of Aqueous Extract Of Tamarindus Indica Fruit Extract On Body Weight, Blood Glucose And Hematological Parameters On Wistar Rat
Fatma Akbay Tuğba Günaydin Seda Arikan Hamit Açikgöz Mustafa Kizilşimşek	Kahramanmaraş Sütçü İmam University	Effects Of Co-Cultıvatıon Of Fodder Peas + Wınter Cereals On Grass Yıeld And Sılage Qualıty Wıthın The Scope Of Sustaınable Agrıculture Prıncıples
Zouidi Mohamed Keddari Dounia Hadjout Salah Allam Ayoub	Territory Planning Research Center, CRAT	Expansion Assessment of the Aleppo pine processionary in a forest reforestation
Feyza Döndü Bilgin Atalay Ergül Mustafa Avci	Republic of Türkiye Ministry of Agriculture and Forestry	The Evaluatıon For Yıeld And Some Quality Properties of Rhodes Grass (Chloris Gayana Kunth.) variety and candidate varieties suitable for the Mediterranean Climate Conditions

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19.07.2022 | SESSION-1 | HALL-3

Ankara Local Time: 10:^{00}-12:^{30}

Meeting ID: 840 6352 5104 | Passcode: 101010

HEAD OF SESSION: Assist. Prof. Dr. Muhammad Azhar Nadeem

Authors	Affiliation	Presentation title
Wabenzy LAN	Ahmadu Bello university Zaria	Prevalence and Antimicrobial Profile of Salmonella Isolated from cattle in Ilorin Central Abattoir
Nafisatu A. Muhammad	Yusuf Maitama Sule University	Phytochemical Screening And Larvicidal Activity From Leaves Extracts Of Ocimum basilicum (Lamiaceae) against Aedes aegypti
Yakup Polat Esra Ekşi Burak Özgören Ebru Kafkas Salih Kafkas	Van Yuzuncu Yıl University	Determination Of Some Phytochemical Properties Of Sarilop And Fethiye Kayasi Fig (*Ficus carica* L.) Cultivars
Ogunde A.A Oseghale O.I Akomolafe A.A	University of Ibadan	Gamma Extended Inverse Exponential distribution: A novel distribution in modeling Covid-19 Cases in Nigerian.
Melek Yavaş Serap Kızıl Aydemir	Bilecik Şeyh Edebali University	Determination Of Forage Yield Of Mixed Cultures Of Different Narbonnevetch Varieties And Italian Grass Varieties
Ibrahim Salisu Nainna Buhari Ganiyat Fumilayo	National Commission for Colleges of Education	Developing The Reading Habits Of Primary School Pupils In Nigeria: The Way Forward
Serap Kızıl Aydemir	Bilecik Şeyh Edebali University	Determination Of Herbal Feature Of Mixed Cultures Of Different Feed Peas Varieties And Italian Grass Varieties
Omiyale, A.D Ajibola, O.O.E Ogunwolu F.O.	University of Lagos	Smart Waste Management System in a Developing Economy
Meltem Türkeri Dürdane Mart	Republic of Türkiye Ministry of Agriculture and Forestry	Investigation Of Yield And Yield Components In Winter Pea Lines

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19.07.2022 | SESSION-1 | HALL-4

Ankara Local Time: 10:^{00}-12:^{30}

Meeting ID: 840 6352 5104 | Passcode: 101010

HEAD OF SESSION: Assist. Prof. Dr. Fatih ÖLMEZ

Authors	Affiliation	Presentation title
Asmau Salahudeen Damisa Madya Fakhrul Anwar Bin Zainol I S Abdussalam Cherifi Noura	Universiti Sultan Zainal Abidin	Effect Of Organizational Culture And Psychological Empowerment On Employee Performance In Nigeria Manufacturing Firms
M. Zeki Karipçin	Siirt University	Seed Production In Parsley (*Petroselinum crispum* (Mill.) Nyman)
Sa'adatu Bello Ibrahim Salisu Nainna Ahmad Dauda Pali Dauda Abdullahi	Educational Support Services and International Partnership Department	The Impact Of Early Grade Reading To Nigeria Primary Schools Curriculum
M. Zeki Karipçin Merve Dirikolu	Siirt University	Seed Production In Vegetable
Salis Nuhu	Yusuf Maitama Sule University	Optimization of Quicklime Production from Eggshell Using Response Surface Methodology
Tolga İnan	Cankaya University	A Deep Learning Based Method For The Separation Of The Crop And The Weed
P.H.Najafgulieva	Azerbaijan Medical University	The importance of laparoscopic sleeve gastrectomy surgery in the treatment of obesity and metabolic syndrome
Fikret Yaşar Özlem Üzal	Van Yuzuncu Yıl University	Determination of the Effect of Different Nutrient Solutions Applied on Pepper Seedlings on Color, Chlorophyll and Photosynthesis Values in Leaves
Auwalu Sani	Kano state Polytechnic sch	Computer Network A Graphics Approach
Özlem Üzal Fikret Yaşar Halide Tuğa	Van Yuzuncu Yıl University	The Effect Of Chick Stress On The Development Performance Of Different Pepper Species And Varieties

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19.07.2022 | SESSION-2 | HALL-1

Ankara Local Time: 13:^{00}-15:^{30}

Meeting ID: 840 6352 5104 | Passcode: 101010

HEAD OF SESSION: Assist. Prof. Dr. Muhammad Azhar Nadeem

Authors	Affiliation	Presentation title
Mausul Umar Haliru Aivada Kadir Amina Doho Yoro Mela Muhammad Garba	Federal University of Kashere	Application of Date Stones on the Process of Removing Erythrosine Dye from Industrial Effluents
Bihter Çolak Esetlili Edanur Firat Hasan Toy Ayşenur Seçim	Ege University	Hemp Fiber Residues As Growing Media
Usman Abdullahi	Lake Chad Research Institute	Features And Constraints On Farmers Field School Training In Agricultural Extension At Lake Chad Research Institute Maiduguri Borno State, Nigeria
Arzu ÇIĞ Şevket ALP	Siirt University	Investigation of Flowering and Development Parameters of Tulip (*Tulipa* spp.) Bulbs Grown at Different Planting Times and Chilling Periods in Siirt Ecological Conditions
Onifade Yemi Sikiru Olaseni Victor Babasola Chukwusa Francis Onyemachi	Federal University of Petroleum Resources	Delineation Of Subsurface Lithology And Aquifers In Kajola Town, Ondo State Using Geoelectrical Resistivity Techniques
Şevket ALP Arzu ÇIĞ	Siirt University	Investigation of Oleaster (*Elaeagnus angustifolia* L.) as an Ornamental Plant in the Scope of Landscape Architecture Studies
Aribisala, Oluwadamilare Olufolarin Igweh, Ayokunle Ogonnaya	Federal College of Technical	Students' Competence And Attitude Towards Entrepreneurship Among Business Education Students In Federal College Of Education (Technical), Akoka, Lagos
Sunusi Sulaiman Hassan Haruna Fatima Muhammad Wada Abdulrahman Isa Hamza	Department of Science Laboratory Technology Kano State Polytechnic	A Study On The Detection Of Hepatitis B Virus Surface Antigen Among Men And Women Receiving ART At Abdullahi Wase Specialist Hospital Kano State, Nigeria

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19.07.2022 | SESSION-2 | HALL-2

Ankara Local Time: 13:^{00}-15:^{30}

Meeting ID: 840 6352 5104 | Passcode: 101010

HEAD OF SESSION: Prof. Dr. Muhammad Asım

Authors	Affiliation	Presentation title
Alhassan Muhammad Alhassan Oluwafemi Adebayo Oyewole Olalekan David Adeniyi Mngohol Akilah Hiangya Muhammad Saidu Muhammad Evans Chidi Egwim	Federal University of Technology	Isolation And Screening Of Aspergillus Niger OM510398 From Agro-Waste Dumpsite For Citric Acid Production
Usman Abdullahi B El-yaqub	College of Science and Technology	Extraction, Isolation And Characterization Of Ipolamiide From Methanolic Extract Of Millettia Thonningii.
Ajadi, A.A Agboola, W.O Dauda, A.B Atata, J.A Adam M Akanbi, O.B Emikpe, B.O	Federal University Dutsin-Ma, Katsina	Effects Of Different Anaesthetic Agents On Haematological Parameters Of Giant African Catfish
Oyewole Mojisola Fauziyah	University of Ibadan	Factors Influencing Eating Habit Of Rural Dwellers During Covid-19 Era In Delta State, Nigeria
Oluwaseun Aderonke, Adeleke Olufolake Eunice, Adelakun	Univeristy of Ibadan	Needs Assessment of Youths involved in Fish farming in Ibadan Metropolis, Oyo State, Nigeria
Ibrahim Mohammed Danmallam Dabai K.A Samaila Buda Yamusa A Yamusa	Ahmadu Bello University Zaria	Evaluation Of Optical Features And Refractive Index Of Rare Earth Doped Phosphate Glasses
A.Ahdoura Y.Naciria Ben Hamou A.Benlhachemia B. Bakiza L. Aneflousa Taoufyqa	Ibn Zohr university	Structural and morphological study of ZnO electrodeposited on FTO substrate
Serghey A. Shapovalov	V N. Karazin Kharkiv National University	Chemical Analysis Of Agricultural Soils: Application Of Dyes And Functionalized Reagents
Marvellous O. Oyebanjo	University of Ibadan	Models Of Aging And Their Importance In The Study Of The Physiology And Genetics Of Aging – A Review
Zakaria Amarouchi Essaïd Ait Barka Majida Hafidi Nathalie Vaillant-Gaveau	Université Moulay Ismail	Efficacy of Plant Growth Promoting Rhizobacteria for Biocontrol of Botrytis cinerea Causing Grey Mould in Grapevine

(All speakers required to be connected to the session 10 min before the session starts)
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19.07.2022 | SESSION-2 | HALL-3

Ankara Local Time: 13:^{00}-15:^{30}

Meeting ID: 840 6352 5104 | Passcode: 101010

HEAD OF SESSION: Ecem KARA

Authors	Affiliation	Presentation title
Wasiu O. Ajagbe John I. Braimah Abideen A. Ganiyu	University of Ibadan	Shear Performance Of Bamboo Reinforced Self Compacting Concrete Beams With Stirrups
A.Tijjani G.S.M. Galadanci T.H. Darma S.M. Gana S.M. Faiza	Bayero University	Effect Of Diameter Variation On Carbon-Nanotube Field Effect Transistor Based On Simulation Study
Myriam Louati Regaya Ksiksi Ines Elbini-Dhouib Saoussen Mlayah-Bellalouna Raoudha Doghri Najet Srairi-Abid Mohamed Faouzi Zid	University of Tunis El Manar	Synthesis, structure and characterization of a novel decavanadate, Mg(H2O)6(C4N2H7)4V10O28·4H2O, with a potential antitumor activity
Hassan Haruna Bala, S.S Sunusi Suleiman Abdurahman Hamza Isa Mustafa Ersin Pekdemir	Kano University of Science and Techonology	A study of PVC/Aminated MWCNTs Composites Doped with 5% Graphite
Babatunde, O.A Muhammad, L Umoru, P.E Abdullahi I	Nigerian Defence Academy	Kinetics And Mechanism Of Toluidine Blue With Nitrate Ion In Aqueous Acidic Medium
ISA, Ibrahim Mohammed	Kaduna State University	Effects Of Jigsaw Iv Cooperative Learning Strategy (J4cls) On Students' Retention In Organic Chemistry In Zaria Education Zone, Kaduna, Nigeria
Mbochi A.L.C Shanu M.A Suleiman R Iliya A Zamani P, A Aliyu F S Afiemo A R Labbo Z	School of Environmental Health Sciences	Fruit and Vegetables Consumption among Students of ShehuIdris College Of Health Sciences and Technology Makarfi,Kaduna State
Mbochi A.L.C Shanu M.A Zamani P, A Aliyu F S Afiemo A R Labbo Z	School of Environmental Health Sciences	Malnutrition: Impact Of Climate Change And Insecurity On Agriculture Productivity And Food Security In Nigeria
Mahmud, M.A Abdulsala Ahmad M.A Muazu B.A	Niger State College of Agriculture	Biometric Studies On The Eye Of Three Genotypes Of Chicken In Nigeria
Mahmud, M.A Shehu, S.A Umar, A.A Jibril, A Danmaigoro, A Abdulsalam, W Ahmed A.M Abdulsalam, W	Niger State College of Agriculture	Histomorphological Studies On The Isthmus And Accessory Structures Of Thyroid Gland In Red Sokoto And Sahel Goats

(All speakers required to be connected to the session 10 min before the session starts)
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19.07.2022 | SESSION-2 | HALL-4

Ankara Local Time: 13:^{00}-15:^{30}

Meeting ID: 840 6352 5104 | Passcode: 101010

HEAD OF SESSION: Yeter ÇİLESİZ

Authors	Affiliation	Presentation title
Okoro, John Chukwuma Aroh, Jacinta Amuche	University of Nigeria	Perceived Factors Influencing Farmers' Preference Of Rice Varieties Grown In Nsukka Agricultural Zone, Enugu State, Nigeria
Yeter Çilesiz Ecem Kara Gökhan Baktemur Tolga Karaköy	Sivas University Of Science and Technology	Plant Nutritional Elements And Methods Of Determination
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COVİD-19 PANDEMİSİNİN TÜRKİYE SU ÜRÜNLERİ YETİŞTİRİCİLİĞİNE ETKİSİ

THE EFFECT OF THE COVID-19 PANDEMIC ON TURKEY'S AQUACULTURE

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ÖZET

Covid-19 Pandemisi öncesinde Su ürünleri yetiştiricilik sektörü hem ülkemizde hem de Dünya genelinde en hızlı büyüyen gıda sektörlerinden biriydi. Bu çalışma da Covid-19 sürecinin Türkiyede ki su ürünleri yetiştiricilik sektörüne olan etkilerini özetlenmektir. Bu araştırmada TÜİK tarafından hazırlanan son 20 yılın (2002-2021) verileri kullanılmış ve son iki yıla ait üretim miktarıyla geçmiş yılların kıyaslaması yapılmıştır. Türkiye su ürünleri yetiştiricilik üretimi 2002 yılında 61.165 ton olarak gerçekleşirken 2019 yılında 373.356 ton'ulaşmıştır. Covid 19 pandemisinin başladığı zamana kadar yani 2019 yılı sonuna kadar olan döneme ait yetiştiricilik üretimi verileri incelendiğinde Türkiye su ürünleri yetiştiriciliğinin her yıl arttığı ve bu artışın %30 ile %0.7 arasında değiştiği görülmektedir. Son iki yıla ait yetiştiricilik verileri incelendiğinde 2020 yılında %12.9'luk 2021 yılında ise %11.9 luk bir artış olduğu görülmektedir.

Sonuç olarak; COVID-19 pandemisinin tedarik zinciri kesintileri, ulaşım kısıtlamaları, karantinalar ve sosyal mesafe kuralı gibi kısıtlamalara rağmen Türkiye su ürünleri yetiştiriciliği üzerine çok fazla etki etmediği değerlendirilmiştir.

Anahtar Kelimeler: Su ürünleri, Yetiştiricilik, Covid-19 pandemisi

ABSTRACT

Before the Covid-19 Pandemic, the Aquaculture sector was one of the fastest growing food sectors both in our country and in the world. This study summarizes the effects of the Covid-19 process on the aquaculture sector in Turkey. In this research, the data of the last 20 years (2002-2021) prepared by TUIK were used and the production amount of the last two years was compared with the previous years. While aquaculture production in Turkey was 61,165 tons in 2002, it reached 373,356 tons in 2019. When the aquaculture production data for the period until the beginning of the Covid 19 pandemic, that is, until the end of 2019, are examined, it is seen that the aquaculture production in Turkey increases every year and this increase varies

between 30% and 0.7%. When the aquaculture data of the last two years are examined, it is seen that there is an increase of 12.9% in 2020 and 11.9% in 2021.

As a result; Despite restrictions such as supply chain interruptions, transportation restrictions, quarantines and social distance rules, the COVID-19 pandemic did not have much impact on aquaculture in Turkey.

Keywords: Fisheries, Aquaculture, Covid-19 pandemic

GİRİŞ

COVID-19 salgını kıtaları ve ülkeleri kasıp kavurarak balıkçılık ve su ürünleri yetiştiriciliği de dahil olmak üzere benzeri görülmemiş sağlık, sosyal ve ekonomik zararlara neden oldu. Benzeri olmayan bir kriz olan COVID-19 pandemisi dünya çapında, pazarların, limanların ve sınırların kilitlenmesi ve kapatılmasına, ticaretin önemli ölçüde yavaşlamasına, su ürünleri üretimi ve dağıtımında aksamalara ve istihdam ve geçim kaynaklarının kaybına neden oldu. Küçük ve orta ölçekli işletmelerin hakim olduğu tedarik zincirleri, COVID-19 kısıtlamalarına karşı savunmasız kaldı. Hükümetler, ulusal önceliklere, kapasiteye ve kaynaklara bağlı olarak çeşitli ve karmaşık sağlık, sosyal, ekonomik, eğitim ve çevresel destek önlemleri benimsedi. İşleyen sosyal koruma sistemlerine sahip ülkeler, pandeminin etkilerini azaltmak için daha etkili bir şekilde müdahale etti. Pandemi, piyasaların ve tedarik zincirlerinin birbirine bağlılığını ve kapsayıcı ve şoka duyarlı ulusal sosyal koruma sistemlerine duyulan ihtiyacı ortaya çıkardı (FAO, 2022).

COVID-19 pandemisi, tüketici talebindeki değişiklikler, pazardaki bozulma ve sıkı denetim sağlamanın lojistik zorlukları nedeniyle küresel çapta balıkçılık ve su ürünleri yetiştiriciliği üzerinde derin bir etki oluşturdu. Bazı ülkelerde sokağa çıkma kısıtlamaları talepte düşüşe neden oldu ve bunun sonucunda balıkçılık ve su ürünleri fiyatlarında düşüş yaşandı. Birçok balıkçı filosu veya su ürünleri işletmesi, özellikle 2020 pandemi dalgaları sırasında işleri kârsız hale geldiğinden, faaliyetlerini durdurdu veya faaliyetlerini azalttı. Bazı durumlarda, düşük talep, pazarların kapanması ve/veya soğuk hava deposu kapasitesinin yetersizliği nedeniyle balıkçılık kotaları doldurulamadı. Hareket kısıtlamaları, deniz balıkçılığı gözlemcileri ve limanlardaki deniz personeli de dahil olmak üzere profesyonel denizcileri etkileyerek, mürettebat değişikliklerini ve denizcilerin ülkelerine geri gönderilmelerini engelledi. Su ürünleri yetiştiriciliğinde satılmayan ürünler, suda yaşayan hayvanlar arasında daha yüksek beslenme maliyetleri ve artan ölüm oranı ile sonuçlanmıştır. Pazarların kapanması, artan navlun

maliyetleri, uçuş iptalleri ve sınır kısıtlamaları nedeniyle ihracat pazarlarına dayalı balıkçılık ve su ürünleri üretimini etkiledi (FAO, 2020).

Küresel olarak etki, krizin ilk haftaları ve aylarında avcılık ve su ürünleri üretiminde keskin düşüşler bildiren birçok ülke ve ardından sektör adapte oldukça iyileştirmeler ile değişiklik gösterdi. Örneğin, Amerika Birleşik Devletleri'ndeki COVID-19 krizinin zirvesinde, ülke genelinde avların yüzde 40'a varan oranda düştüğü tahmin edilmektedir. Benzer şekilde, Afrika, Asya, Avrupa ve Okyanusya'da, özellikle ıstakoz veya ton balığı gibi daha yüksek değerli türlerin ihracat pazarlarına büyük ölçüde bağımlı olan filolar söz konusu olduğunda, balıkçılık çabalarında azalmalar kaydedilmiştir (White ve ark.,2020).

Covid-19 salgınının başladığı dönemde su ürünleri ihracatı sekteye uğramış ve bu durum yetiştiricilik sektöründe ciddi endişe yaşanmasına neden olmuştur. Mevsim itibariyle su sıcaklığının artmasına bağlı olarak kafeslerde Türk somonu ve alabalık üretimi yapan işletmelerin hasat dönemine girilmesi sırasında ürünlerin taşınması ve pazarda tüketici ile buluşması konularında ciddi endişeler ortaya çıkmıştır. Buna karşın bakanlık, paydaşlar ve ilgili sivil toplum kuruluşları iç tüketimin arttırılmasına dönük kamusal farkındalık oluşturmak için büyük market zincirlerinin de dahil olduğu kampanyalar düzenlenmiştir. Yetiştiricilik ürünlerinin güvenle tüketilebileceğini gösteren kampanyalar sayesinde su ürünlerine olan ilgi artmış, bu sayede nitelikli gıdaya erişim sağlanmıştır. Takip eden dönemde su ürünleri pazarında işlenmiş ürünlerin tüketici ile buluşması adına uygun desteklemeler gerçekleştirilmiş neticede hem üreticilerin motivasyonu hem de tüketicinin farklı ürün yelpazesine kavuşması yolunda önemli ilerlemeler kaydedilmiştir (Genç ve ark., 2020).

Dünya Su Ürünleri Üretimi

Dünya su ürünleri üretimi, pandeminin başlangıcı olarak kabul edilen 2019 yılı sonunda 92.2 milyon tonu avcılık (%52), 85.21 milyon tonu yetiştiricilikten (%48) olmak üzere toplam 177,4 milyon ton olmuştur (Tablo 1). Dünya su ürünleri üretiminin pandemi döneminden nasıl etkilendiğini daha net görebilmemiz için 2021 ve 2022 yılı verilerine de ihtiyaç duyulmaktadır. 2021 yılı verileri henüz açıklanmamış olsa da 2020 yılı verileri ile değerlendirme yapacak olursak su ürünleri avcılığında yaklaşık 2 milyon (90.265.933) tonluk azalma söz konusudur. Su ürünleri yetiştiriciliği ise 2020 yılında da artmaya devam etmiş ve 87.502.609 ton a ulaşmıştır. Elimizdeki bu verilere göre avcılıktaki azalmanın tek sebebinin pandemi olduğu yorumunu yapamayız çünkü avcılık değerleri geçmişten günümüze sürekli dalgalanma göstermekte olup 90 milyon ton civarında olmuştur.

Tablo 1. Dünya Su Ürünleri Üretim Miktarı (BSGM, 2022).

Dünya Su Ürünleri Üretimi							
Yıllar	AVCILIK (ton)			YETİŞTİRİCİLİK (ton)			TOPLAM (ton)
	Deniz	İçsu	Toplam	Deniz	İçsu	Toplam	
2000	84.985.331	8.593.411	**93.578.742**	13.726.706	18.694.353	**32.421.059**	**125.999.800**
2001	82.253.168	8.552.035	**90.805.203**	14.843.795	19.773.860	**34.617.655**	**125.422.858**
2002	82.694.904	8.408.587	**91.103.491**	15.753.577	21.036.601	**36.790.178**	**127.893.668**
2003	79.735.550	8.612.224	**88.347.774**	16.616.746	22.305.464	**38.922.210**	**127.269.984**
2004	84.228.030	8.669.581	**92.897.611**	17.527.343	24.408.667	**41.936.010**	**134.833.621**
2005	83.097.538	9.435.438	**92.532.976**	18.369.380	25.960.003	**44.329.383**	**136.862.360**
2006	80.421.789	9.826.768	**90.248.557**	19.520.804	27.777.288	**47.298.092**	**137.546.650**
2007	80.490.671	10.074.425	**90.565.096**	20.271.792	29.711.612	**49.983.404**	**140.548.500**
2008	79.401.060	10.148.733	**89.549.793**	20.713.650	32.241.795	**52.955.446**	**142.505.239**
2009	78.737.114	10.310.243	**89.047.357**	21.430.579	33.759.120	**55.189.699**	**144.237.056**
2010	76.337.350	10.867.693	**87.205.043**	21.870.539	35.949.144	**57.819.683**	**145.024.725**
2011	81.086.707	10.500.798	**91.587.505**	22.746.375	37.108.660	**59.855.035**	**151.442.540**
2012	77.780.981	10.872.119	**88.653.099**	23.936.250	39.580.025	**63.516.275**	**152.169.375**
2013	78.800.858	10.899.792	**89.700.650**	24.889.518	42.069.856	**66.959.374**	**156.660.024**
2014	79.303.773	11.024.644	**90.328.417**	26.254.568	44.304.447	**70.559.016**	**160.887.433**
2015	80.438.718	11.134.146	**91.572.864**	27.068.357	45.861.641	**72.929.997**	**164.502.862**
2016	78.206.872	11.314.670	**89.521.542**	28.609.670	47.960.247	**76.569.918**	**166.091.460**
2017	81.491.055	11.877.368	**93.368.423**	30.083.077	49.545.170	**79.628.248**	**172.996.671**
2018	84.520.639	11.985.462	**96.506.101**	30.877.296	51.601.032	**82.478.328**	**178.984.429**
2019	80.105.137	12.090.295	**92.195.432**	31.862.628	53.349.551	**85.212.180**	**177.407.612**
2020	78.795.376	11.470.557	**90.265.933**	33.118.115	54.384.495	**87.502.609**	**177.768.543**

Türkiye su ürünleri yetiştiriciliği

Türkiye su ürünleri üretimindeki artışın son yıllardaki temel nedeni yetiştiriciliktir. Avcılık miktarı düzenli bir şekilde azalma göstermesine rağmen yetiştiricilik ise sürekli artmaktadır (Tablo 2). Su ürünleri yetiştiriciliği ülkemizde en hızlı büyüyen sektörlerden birisi olmuştur. 2001 yılındaki ekonomik krizden sonra sektör bir önceki yıla göre her zaman büyüme göstermiştir. Ancak bu büyüme hızı dünya piyasalarına göre değişiklik göstermekte olup ihracattan direkt olarak etkilenmektedir. Pandemi döneminde de yetiştiricilik sektöründeki büyüme devam etmiştir.

Tablo 2. Türkiye su ürünleri yetiştiriciliği (BSGM, 2022).

YILLAR	Yetiştiricilik Üretimi				TOPLAM (ton)	Önceki Yıla Göre Değişim (%)
	Deniz (ton)	Toplamdaki Payı (%)	İçsu (ton)	Toplamdaki Payı (%)		
2002	26.868	43,9	34.297	56,1	**61.165**	-9,0
2003	39.726	49,7	40.217	50,3	**79.943**	30,7
2004	49.895	53,1	44.115	46,9	**94.010**	17,6
2005	69.673	58,9	48.604	41,1	**118.277**	25,8
2006	72.249	56,0	56.694	44,0	**128.943**	9,0
2007	80.840	57,8	59.033	42,2	**139.873**	8,5
2008	85.629	56,3	66.557	43,7	**152.186**	8,8
2009	82.481	52,0	76.248	48,0	**158.729**	4,3
2010	88.573	53,0	78.568	47,0	**167.141**	5,3
2011	88.344	46,8	100.446	53,2	**188.790**	13,0
2012	100.853	47,5	111.557	52,5	**212.410**	12,5
2013	110.375	47,3	123.018	52,7	**233.393**	9,8
2014	126.894	54,0	108.239	46,0	**235.133**	0,7

2015	138.879	57,8	101.455	42,2	**240.334**	2,2
2016	151.794	59,9	101.601	40,1	**253.395**	5,4
2017	172.492	62,4	104.010	37,6	**276.502**	9,1
2018	209.370	66,6	105.167	33,4	**314.537**	13,8
2019	256.930	68,8	116.426	31,2	**373.356**	18,7
2020	293.175	69,6	128.236	30,4	**421.411**	12,9
2021	335.644	71,2	136.042	28,8	**471.686**	11,9

Sonuç

Covid 19 pandemisinin başladığı zamana kadar yani 2019 yılı sonuna kadar olan döneme ait yetiştiricilik üretimi verileri incelendiğinde Türkiye su ürünleri yetiştiriciliğinin her yıl arttığı ve bu artışın %30 ile %0.7 arasında değiştiği görülmektedir. Son iki yıla ait yetiştiricilik verileri incelendiğinde 2020 yılında %12.9'luk 2021 yılında ise %11.9 luk bir artış olduğu görülmektedir. Sonuç olarak; su ürünleri istatistiklerine bakılarak yapılan değerlendirmeye göre COVID-19 pandemisinin tedarik zinciri kesintileri, ulaşım kısıtlamaları, karantinalar ve sosyal mesafe kuralı gibi kısıtlamalara rağmen Türkiye su ürünleri yetiştiriciliği üzerine çok fazla etki etmediği değerlendirilmiştir. Ancak pandeminin kesin etkilerini belirleyebilmek için daha kapsamlı araştırmalara ihtiyaç duyulmaktadır.

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