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Üniversitesi



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MUS ALPASLAN UNIVERSITY, TÜRKİYE
March 3-5, 2023



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CONTENTS

| | | |
|----------------------|--------------|--------------------|
| CONGRESS ID | | |
| PROGRAM | | |
| PHOTO GALLERY | | |
| CONTENTS | | |
| Authors | TITLE | Page Number |

ABSTRACTS

| | | |
|--|---|----|
| Serap Kızıl Aydemir Ali Devlet | Determination of the effect of growth regulators on germination properties of silage sorghum | 1 |
| Ekundare Olugbemi Victor Fagbuaro, Omotayo | Karyotypes of the wild and hatchery-bred parentals and the intraspecific hybrids of <i>clarias gariepinus</i> | 3 |
| Şükrü Önalın Ebru Avcı | Production and use of alternative natural substances instead of antibiotics in bacterial disease causes | 4 |
| Edwin John Clemente Ronel S. De Guzman Myla G. Santiago | Seed germination and seedling growth of papaya in different concentrations of colchicine | 6 |
| Banu Kadiođlu | Plant growing in solid/liquid media (Soilless Farming) | 7 |
| Banu Kadiođlu | Unknown value of ecological agriculture vermicompost | 9 |
| Dilfuza Jabborova Mekhrigul Dustova | Improvement of growth and root morphological traits of okra under drought stress by co-inoculation of arbuscular mycorrhizal fungi and biochar application | 11 |
| Vidya Padmakumar Murugan Shanthakumar | Fragmentation in herpetofaunal habitats along the coast of Kozhikode, Kerala, India - A review | 12 |
| Ibrahim Maouhoubi Izeddine Zorkani | Effects of applied magnetic field and pressure on the diamagnetic susceptibility and binding energy of donor impurity in a circular quantum disk made out of GaAs | 13 |
| Shakhzod Saitjanov Abdulahad Azimov Zafar Ziyayev | Peroxidase enzyme activity in varieties of mungbean (<i>Vigna radiata</i> L.) under different conditions of water availability | 14 |
| Neil John N. Fariñas Diosdado C. Garcia Ronel S. De Guzman | Rooting response of air-layered clementine (<i>Citrus × Clementina hort.</i>) on different lahar-based rooting media | 15 |
| Kave Koorehpaz | Protective effects of varaity concentrations of trehalose and carboxymethyl cellulose as cryoprotectant during cryopreservation of ram semen | 16 |
| Gheorghe Giurgiu Manole Cojocaru SciRes I, Eusplm | Microbiota modulation as therapeutic approach in the neuropathic pain in dog with spinal cord injury: impact of polenoplasmin | 17 |
| Syed Makhdoom Hussain | Role of different supplements in fish feed formulation | 18 |
| Ibrahim Maouhoubi | The action of electromagnetic fields on the interaction electron-impurity: the binding energy as an example | 19 |

| | | |
|--|--|----|
| Ibrahim Maouhoubi | Effect of external contributions on the electronics properties of semiconductors | 20 |
| Muhammad Azhar Nadeem Nurettin Baran | Exploring the nutritional potential of common bean | 21 |
| Salma Elamiri Soumia Aboul-Hrouz Achraf Chakir Mohamed Zahouily | Elaboration and characterization of bionanocomposite films for application in fertilizer coating | 22 |
| Hiba Shahid Syed Ali Raza Naqvi | Antioxidant, enzyme inhibition and toxicology studies of methanol extracts of selected medicinal plants | 23 |
| Mahnoor Syed Wafa Majeed Muhammad Saad Tariq | Understanding the hypoglycemic activity of different solvent extracts of <i>tabernaemontana divaricata</i> in alloxan induced diabetic rat model | 24 |
| Batoul Essalimi Siham Esserti Lalla Aicha Rifai Tayeb Koussa Kacem Makroum Malika Belfaiza Mohamed Faize | Enhancement of plant growth, using plant growth promoting rhizobacteria (pgpr) associated with plum trees (<i>Prunus domestica</i>) | 25 |
| Mourad Derra | Monitoring milk adulteration using ultrasound technique | 26 |
| Süreyya Yiğit | Reform of the common agricultural policy: a perennial challenge for the European Union | 27 |
| Irum Shaheena Khuram Shahzad Ahmada | Phyto-template assisted facile synthesis of comoo4 nanocomposite as environmentally benign photocatalyst for water remediation | 29 |
| Pamphile Houndji | Agriculture périurbaine dans le contexte du développement durable dans l'arrondissement de Iokossa (Benin) | 30 |
| Ogundeji, A.A James, Tolulope. O Onwuka G.I Babyemi, A.W B. Shehu SU Okeleke Ekele S.J | Modelling the prediction of nigerian insurances data | 31 |
| Radouane En-Nadir | Low-dimensional systems: promising candidates for energy conversion, lighting, and optoelectronics applications | 32 |
| Mücahit Yüngül Önder Aksu Başar Altinterim | Age and some growth characteristics of colchic khramulya (<i>Capoeta Sieboldii Steindachner, 1864</i>) In Gölova Dam Lake (Sivas-Turkey) | 33 |
| Dnoop K Sim Joseph | Food security system in India: a comparative analysis | 35 |
| Ahmet Kinay Selçuk Kalander | Determining the performance of some hybrid and standard confectionery sunflower genotypes in middle black sea transitional zone | 36 |
| Deghiche-Diab Nacima Bettiche Farida Bengouga Khalila Fadhlaoui Haroun | Auxillary diversity under greenhouses in the Ziban Region | 38 |

| | | |
|---|---|----|
| Subhashish Dey | Biomaterials applications for complete removal of nitrite from water | 39 |
| Ali Küçük Yakup Yildirim | Investigation Of Bovine Parainfluenzavirus 3 In Cattle With Clinical Signs Of Respiratory System Infection Using Direct Immunofluorescence Test | 40 |
| Pajtim Bytyçi Ferdije Zhushi-Etemi Edona Kabashi-Kastrati Toni Koren | First record of agrotis bigramma (esper, 1790) (lepidoptera: noctuidae), from republic of Kosovo | 42 |
| Balasubramani G.L Rinky Rajput Manish Gupta Pradeep Dahiya Jitendra K Thakur Rakesh Bhatnagar Abhinav Grover | Structure-based drug repurposing to inhibit the DNA gyrase of Mycobacterium tuberculosis | 43 |
| Abraham U.S Abioye O.P | Production and partial purification of protease from bacillus subtilis for dehairing of animal skin | 44 |
| Behlül Sevim | The use of dried mushroom (<i>Agaricus bisporus</i>) powder in the nutrition of broiler chickens | 45 |
| Waheed Ullah Usman Haider Wania Nasir Momna Mehmood Wafa Majeed Najeeb Ullah Khan Muhammad Saad Tariq Bilal Aslam Muhammad Naeem Faisal | Analyzing the impact of complete newly produced wheat-based feed on gut health of commercial broiler birds (Benin) | 47 |
| Aslı Akyel Ahmet Eşitken | Selection and determination of steel reproduction characteristics of rosehip genotypes naturally growing in başyayla (Karaman) region | 49 |
| Ali Taimoor Chishti Muhammad Saad Tariq Usman Haider Wania Nasir Najeeb Ullah Khan Muhammad Rehan Sajid Wafa Majeed Muhammad Naeem Faisal | Amelioration of chemotherapeutic agent-induced toxicity on vital organs with biodegradable poly lactic-co-glycolic acid-modified nanoparticles | 51 |
| Melisa Önel Okan Erken | How the rural population is affected by climate change | 53 |
| Pajtim Bytyçi Ferdije Zhushi-Etemi Edona Kabashi-Kastrati Toni Koren | First record of agrotis bigramma (esper, 1790) (lepidoptera: noctuidae), from republic of Kosovo | 55 |

| | | |
|--|--|----|
| Filiz Baysal | Recent advances in carob (<i>Ceratonia siliqua</i> L.) cultivation and breeding | 56 |
| Emine Topuz | Detection of artichoke pests in antalya and biotechnical control of the widely detected snail | 58 |
| Balasubramani G L Rinky Rajput Manish Gupta Pradeep Dahiya Jitendra K Thakur Rakesh Bhatnagar Abhinav Grover | Structure-based drug repurposing to inhibit the DNA gyrase of <i>Mycobacterium tuberculosis</i> | 60 |
| Yasmine Chennai Assma Fetteh | Antibacterial and anti- oxidant activities of extracts from medicinal plants | 61 |
| Mebarka Ouassaf Yasmine Chennai | Contribution to drug discovery through computational analysis of several series of heterocyclic molecules | 62 |
| Syed Mohsan Raza Shah Mansoor Hameed Muhammad Sajid Aqeel Ahmad Farooq Ahmad Sana Fatima Muhammad Ashraf Jazab Shafqat Muhammad Irshad Sana Basharat Ansa Asghar Muhammad Kaleem Ummar Iqbal Iftikhar Ahmad | Structural modifications of root in <i>ipomoea carnea</i> jacq. colonizing different saline habitats | 63 |
| Salah Belaidi Yasmine Chennai | Qsar modeling using gaussian process applied for a series of flavonoids as potential antioxidants | 65 |
| Nurşen Aksu Kalmuk | Investigation of the antimutagenic effects of propolis against zinc oxide toxicity in <i>Allium cepa</i> L. meristatic cells | 66 |
| Salah Belaidi Yasmine Chennai | In silico investigation of several series of heterocyclic molecules for drug discovery | 68 |
| Mebarka Ouassaf Yasmine Chennai | Quantitative structure activity relationship (qsar) investigations and molecular docking analysis of plasmodium protein farnesyltransferase inhibitors as potent antimalarial agents | 69 |
| Onur Şahin Isa Yilmaz Ali Kaygisiz | A study on type defects in simmental cows raised in Turkey | 70 |
| Onur Şahin Isa Yilmaz Önder Bayram Çoban | Evaluation of udder purity in simmental cattle breeds reared in Turkey | 72 |
| Ejaz Ahmad Waraich | Attenuating drought and nickel stress by application of silicon in maize (<i>Zea mays</i> L.) | 74 |

| | | |
|--|--|----|
| Samanda Gjoni Flavia Gjata Florida Hajderaj Emirjana Hasanaj Klodjana Lamaj Aurora Manaj Manjola Sala Megisa Sulenji Nertila Mucollari Spase Shumka | Assessing bio-diverse foods in dietary intake surveys-a case study considering random selected samples | 75 |
| Huma Ali Saba Zubair | Trends and role of pharmacist in community pharmacy services and facilitation protocol: challenges in real time practices | 77 |
| Yusuf Efteli Ismail Kirbaş Ömer Gürkan Dilek | Livestock weight estimation based on computer vision | 78 |
| Muhammad Ikram | Silver/Cellulose nanocrystal-doped CeO ₂ quantum dots served as industrial dye degrader | 80 |
| Saiqa Andleeb Anum Naseer Abdul Basit | Emerging issues, detection and remediation technologies of heavy metals from contaminated environmental sources | 81 |
| Sibel Bülbül Emine Burcu Turgay Merve Nur Ertaş Öz Öztekin Urla Ayten Salantur Selami Yazar Bayram Özdemir Mehmet Emin Alyamaç Gökhan Kiliç Muhsin Ibrahim Avci Fatma Betül Sade | Detection of reaction of some wheat genotypes to yellow rust (<i>Puccinia striiformis</i> f. sp. <i>triticici</i>) with artificial inoculation | 83 |
| Ahtesham. M. Shaikh Ganesh. D. Basarkar Atish. S. Mundada | Complexities involved in drug approval process by usfda | 86 |
| Séraphin Mouzoun Houesou G. Laurent Toussaint O. Lougbegnon | Etudes des services écosystémiques rendus par les différents écosystèmes de la Commune de Tori-Bossito | 87 |
| Nabila Sher Mohammad Gulnaz Begum Hafsa Zafar Kalsoom Tariq Mashal Zafar | Effects of lipid based Multiple Micronutrients Supplement on the birth outcome of underweight pre-eclamptic women: A randomized clinical trial | 88 |
| Edona Kabashi- Kastrati Ferdije Zhushi- Etemi Pajtim Bytyqi | Contribution to the knowledge of the butterfly fauna of some localities in the national park “Bjeshket E Nemuna” | 89 |

| | | |
|--|---|-----|
| Gilbert Kimlun Joye Elvanika Jaharin Marcella Ann Tetus AD Azwanwell Sabudin Anysia Marius Casey Neville Philemon | Eating green with vegetable-based pasta | 90 |
| Serdar Uğurlu Emre Bakkalbaşı | Extraction of phenolic substance from apple peel | 91 |
| Serdar Uğurlu Emre Bakkalbaşı | Evaluation of some quality characteristics of apple chips dried by vacuum assisted infrared drying | 93 |
| Ibrahim Zailani Abdullahi Dahiru | Knowledge and practice of personal hygiene among primary school pupils in paki community ikara local Government Area Of Kaduna State | 95 |
| Saber Abdelkader Saïdi | Evaluation of the administration of ephedra alata extract to obese rats on the lipase and α -amylase activities, insulin resistance, glycogen level, and type 2 diabetes induced various organs toxicities | 96 |
| Vildan Akdeniz | New trend in food industry: plant-based dairy alternatives | 97 |
| Nicholas Vicky Voon Mohd Farhan Nabil Bin Jasmizam Macarrance Alven Bin Melvin Hideo Dellfo Richard Awell Alfred Roddy | Power supply for emergency purpose | 99 |
| Grace Ann T. Ballesteros Ronel S. De Guzman Myla G. Santiago | Mycelial evaluation of milky mushroom on crack corn and sorghum subculture media | 100 |
| Selma Myslihaka | Geobotanical and comparative data on vegetation in sselected areas of central Albania, Elbasan Region | 101 |
| Srijani Dasgupta Gaurav Ranjan | Flavonoids: an important dietary supplement in prevention of cardiovascular diseases | 102 |
| Jan Alam Zaheer Abbas Shazia Kousar Nidaa Harun Muhammad Javed | Ecology, diversity and conservation of the flora of the hunza valley, central karakorum mountains, northern Pakistan | 103 |
| Sabri Erbaş Murat Mutlucan Ümit Erdoğan Meryem Çakmak | Immortelle (<i>Helichrysum italicum</i>) farming and future in the world and in turkey | 104 |
| Bisma Ashraf Nasir Rasool Shehla Khalid M Fakhar u Zaman Sumaira Zulfiqar | Synthesis of biological active amides and esters through various catalytic reactions | 106 |
| Kalsoom Tariq Sadia Fatima Nabila Sher Sikandar Ali | The short-term impact of high energy nutritional supplements on energy balance in underweight primi-gravidae; a randomized controlled trial | 107 |

| | | |
|--|---|-----|
| Mukhtar Yakubu Gajida Ahmad Sagiru Dauda Aliyu Hafsat Fadila Chamo Nuhu Uba Haruna Abdulbasid Musa Abdullahi Dahiru | low birth weight among adolescent mothers in Murtala Muhammad Specialist Hospital, Kano, Nigeria | 108 |
| Peter Ozovehe Anikoh | Development and performance evaluation of A jat planter | 109 |
| Arben Terstena Gazmend Deda Ismail Mehmeti Sokol Krasniqi | The impact of subsidies on increasing economic productivity in the agricultural industry at the local level – evidence from Kosovo | 110 |
| Ekpo, Enoobong I Ikpe, Emem O. Umanah, Sunday | Microbial examination of ready to eat fruits sold within the vicinity of akwa ibom state polytechnic, Nigeria | 111 |
| E. Karthikeyan M. Divya D.S. Harshini Yaamika | Treatment of chronic low back pain with gabapentin in a tertiary care centre | 112 |
| Murat Şevik | Bovine respiratory syncytial virus seroprevalence in non-vaccinated dairy cattle herds in Konya Province, Türkiye | 113 |
| Ramazan Ayaş | The application of anionic feeding in dairy ruminants | 115 |
| Ramazan Ayaş | Measures to reduce enteric methane release in ruminants | 117 |
| Obaika, Rita Oseimelu Usungurua, Enefiok Okon Udoh, Ito Esiet | Material physicochemical properties analysis and fibre characterization of musa species pseudostem wastes for pulp and paper production | 119 |
| Mohammed El Amine Zennaki Lahcene Tennouga Soraya Balkaid Brahim Bouras Kouider Medjahed | Optimisation of the flocculation process for the removal of turbidity in water using polystyrene waste | 120 |
| Reyhan Uçar Ahmet Ipek | Investigation of the presence of a resistance gene against peronospora destructor disease in some onion genotype | 121 |
| Mohd Adi Taufiq Roslan Elle Zulaikha Binti Halim Clementina Cynthia Moduin Hazamie Jevol @ Alex Gernnyvier Wenzelly Desmond | Tweaking a traditional steamed cake with a fruit flavor | 123 |
| Selim Sirakaya | The effect of chitosan gelatinized with acetic and lactic acid on alfalfa silage quality | 124 |
| Caleb Evander Bin Danius Muhammad Adib Irsyad Bin Aliudin | Teaching construction technology with miniature formwork | 126 |

| | | |
|---|--|-----|
| Okeke, Chioma Blessing., Oladejo, Afees Adebayo., Metu, MaryCynthia Dumebi, Ayo, Ebunlorun Ibukunoluwa. | The effect of inhalation of fumes from esbiothrin based mosquito coil on some renal function markers and hematological parameters in male wistar albino rats | 127 |
| Nadia Bashir Ahmet Şekeroğlu Brian Tainika | The effect of pasture type, age and time on range use and distribution of slower growing broiler chickens on the range in free-range production system | 129 |
| Lawal W.S. Olayiwola S.A Salami M.O Gana E.O Alaya A. Alege .R | Organoleptic characteristic of archatina archatina snail fed ixora coccinea | 130 |
| AIIA Fatma Bouras Yacine | Evaluation of antioxidants activity of crude extract of limoniastrum guyonianum dur. (boiss.) plant growing in sahara of oued souf region (South Algeria) | 131 |
| Aziz Korkmaz | Bioactive properties of some local and foreign olive oils | 133 |
| Mirza Muhammad Faran Ashraf Baig | Recent advances of magnetic gold hybrids and nanocomposites, and their potential biological applications | 135 |
| Kopylova Maria Dmitrievna Getmantseva Varvara Vladimirovna | Analysis of detectors and sensors for monitoring the state of animals | 136 |
| J B Jibitha Sabu Joseph | Detection of urban expansion and land surface temperature change using remote sensing and gis techniques | 137 |
| Manu Minodora Nicoară Roxana Georgiana Chiriac Luiza Silvia Onete Marilena | Influence of grassland management types on soil mites communities from Romania | 138 |
| Serghey A. Shapovalov | Systems of associated nanoparticles based on dye solutions for spectrophotometric determination of water-soluble salts of alkylbenzenesulfoacids | 139 |
| Soumen Dey Santanu Chakraborty Manami Dhibar Tulshi Chakraborty | Development and in vitro evaluation of curcumin-loaded nanocrystals | 140 |
| A. Haider | Enhanced bactericidal action and dye degradation of spicy roots' extract-incorporated fine-tuned metal oxide nanoparticles | 141 |
| Bukola I. Kayode Ojochenemi R. Egwumah Rowland M.O. Kayode | Quality evaluation of ginger-spiced ogi flours produced from blends of yellow maize and african yam bean | 142 |
| Ekin Avunduk | The application of genomics in agriculture | 143 |
| Adeniyi Olarewaju Adeleye Abubakar Ibrahim Michael Edet Nkereuwem Mohammed Bello Yerima | Biostimulatory effect of cattle dung on lead decontamination potential of indigenous fungal population in spent engine oil-polluted soil | 144 |

| | | |
|---|--|-----|
| Tulshi Chakraborty Sumeet Gupta Soumen Dey Sudip Roy | Effect of insulin-loaded nanoemulsion topical gel on wound healing in diabetes skin diseases | 145 |
| Dalya Saidi | Investigating the efficacy of lyophilized as1411-gold nanosphere conjugated aptamer against breast cancer | 146 |
| Abdulwaheed Adeyemi Bello | Sensory and meat quality evaluation of yankasa rams fed sorghum stover supplemented with varying levels of dried poultry droppings based diet | 147 |
| Abdulwaheed Adeyemi Bello Shalu Kumar Balakrishna Gunaji Desai Ramesh Ganu Burte Vishnu Sakhoram Dandekar Janarda Shamroa Dhekale Harendra Singh Chauhan Meenal Parhad | Evaluation of external and internal egg geometry traits of vanaraja and giriraja in konkan region of maharashtra, india | 148 |
| Caner Yerli Nergiz Dila Şenol | Soil temperature and H ₂ O and CO ₂ releases from soil treated with hazelnut husk compost at different rates under deficit irrigation regime | 150 |
| Hülya Sipahi Terik Djabeng Whyte | Genome-Wide identification and characterization of the wall associated kinases gene family in sorghum (<i>Sorghum bicolor</i> (L) Moench). | 152 |
| Maryam Saddiq Ahmed Salisu Kamaluddeen Kabir | Effect of sterilization on the bioactive compounds and antimicrobial properties of <i>nymphaea lotus</i> L. Leaves | 154 |
| Ukoha, J. C. I. Maduka, O. A. | Assessment of poultry farmers' knowledge level of climate change adaptation strategies in imo state, Nigeria | 155 |
| Sudha Batta | Crispr-Cas9 mediated mutagenesis of two isoforms of starch branching enzymes sbe 2.1 and sbe 2.2 genes in potato cultivar k. chipsona-i | 156 |
| Nazlı Aybar Yalinkiliç Şilan Çiçek Ali Bayram Sema Başbağ | Determination of the effects of seed pretreatment on germination and seedling growth in some cotton (<i>Gossypium hirsutum</i> L.) varieties | 157 |
| Burcu Özen Rana Akyazi | Distribution of tuckerella japonica (acari: tuckerellidae) in tea plantations of the eastern black sea region, Turkey | 159 |
| Oluwafemi Michael Adedire | Biostimulation and biocontrol potentials of bacterial strains and manure in tomato (<i>Solanum lycopersicum</i> L.) cultivated in a nutrient deficient soil | 161 |
| Skender Demaku Blerina Ahmetaj Jeton Halili | Determination of heavy metals in bee honey as a bioindicator, in the regions: istog, drenas and kastriot | 162 |
| Arbnorë Aliu Donika Sylejmani | Practical work in function of achieving the learning results in content of biology subject | 163 |
| Donika Sylejmani Arbnorë Aliu | Application of knowledge from figurative art and physical education in achieving learning outcomes in biology | 164 |
| Ömer Osman Karabağ Mehmet Demir Kaya | The effects of nitrogen doses on the development of sugar beet plants with leaf loss due to hail damage | 165 |
| Yunus Emre Ata Kemal Çelik | Use of propolis as a feed additive in animal nutrition | 167 |

| | | |
|---|---|-----|
| Ivan Pavlovic Milan Stevanovic Nemanja Zdravkovic Aleksandra Tasic | Presence of small wax moth (<i>Achroia grisella</i>) in apiaries in Serbia | 169 |
| Ljiljana Stanojević Aleksandra Milenković Jelena Stanojević Bojana Danilović Goran Nikolić | Comparative analysis of chemical composition, antioxidant and antimicrobial activity of wild carrot (<i>Daucus carrota</i> L.) seed essential oil from Serbia and Greece | 170 |
| Darwin H. Pangaribuan Yohanes Cahya Ginting Chatya Novtri Anisa Lamria Stefani M. Sihite | The effect of vermicompost and p fertilizer on growth, yield and soil health of sweet corn | 172 |
| Ani Nuraini Dwi Yuni Hastati Wien Kuntari Faranita Ratih Listiasari | Development of mocaf (modified cassava flour)-based pastry for cassava food diversification | 173 |
| Khadija Benamar Kawtar fikri benbrahim Saad Insouda Koraichi | Stevia rebaudiana (history, phytochemistry, and extraction methods of steviol glycosides) | 174 |
| Tooba Sarwar Rana Awais Masud Naila Amjad Aamir Shehzad Najam Ul Hudda Syed Faizan Ali Shah Muhammad Kaleem Ullah | Antibacterial activity of ziziphus nummularia against coliform bovine mastitis | 175 |
| Maryam Zakari Aminu Musa Ahmed Lawal Mashi | Metronidazole adsorption from aqueous solution using nano crystalline cellulose obtained from luffa aegyptiaca sponge | 177 |
| Olena Budiakova | Bioeconomy: achieving scientific and technical progress in agribusiness | 178 |
| Harminder Singh Anu Sheetal | Waste to energy plants performance enhancement for benefit of agriculture and rural economy | 179 |
| Lathief Al Umami Maureenayu Rachmadyani Suwastono Rina Arimarsetiowati Endang Semiarti | The optimization of plant growth regulators for induction and multiplication of somatic embryogenesis in arabica coffee plants | 180 |
| Eqbal Radwan Ghada Aldeeb | Visualizing the invisible: 3-D printing of cell division phases as a tool in science education | 181 |
| Abdulvahap Erensayin Murad Aydın Şanda | The Flora Of Karaçavuş (Haçreş) Mountains (Muş) | 182 |
| Aderemi I. Makinde Osagie John, Afodu Oyeyemi O. Oni Matthew O. Oluwafemi | Assessing scarification and priming period effect on physic nut (<i>Jatropha curcas</i> L.) germination | 184 |
| Luca Quaranta Paola Fortini Giancarlo Ranalli | Protocol for the measurements of crops at risk from climate change: a case of study on <i>Lactuca sativa</i> L. subjected to salt stress | 185 |

| | | |
|--|---|-----|
| Shylaja Jeyapaul | Ginger tea effect on dyspepsia among senior citizens | 186 |
| Adamu Hauni Ganya Hauwa Dauda Monica Ango | Investigating and modelling the transmission dynamics of covid-19 virus pandemic | 187 |
| S. Ramesh Kumar Srikanth Vemuru Srinath.A | An expert system for early detection of pest on crops using image processing techniques to protect the crop health and yield | 188 |
| Thi-Hoang-Anh Tran | Agri-tourism and sustainable rural development: research for agricultural tourism model in phong dien district, can tho city, Vietnam | 189 |
| Fadekemi Oketunde | Measuring household food insecurity and coping strategies in ibadan, Nigeria | 190 |
| Orhan Karadağ | Fertility and growth characteristics of kil goats in the Bursa region | 191 |
| Owoyemi, S.I, Ojo, M.O, Akinwande, D.D Ikusika A. | Preliminary geophysical and geotechnical investigation for proposed building foundation at united grammar school irele community, south western Nigeria | 193 |
| Cengiz Türkyay Filiz Baysal | A comparative analysis of turkey and spain and italy olive manufacturing and the olive industry | 194 |
| Deghiche-Diab Nacima Nia Bilel Benouaman Ourida Zguerou Roukiya Roumani Messaoud M'hani Mokhtar Rekis AbdelKarim | Hosts of boufaroua oligonychus afrasiaticus (Mcgregor) from weeds plants in the Biskra Oasis-Algeria | 196 |

FULL TEXTS

| | | |
|--|--|-----|
| Yusuf Güzel Demiray Mustafa Yaşar Remzi Ekinci | Investigation of fiber quality traits in advanced generation of some cotton lines (<i>Gossypium hirsutum</i> L.) | 197 |
| Hilal Yilmaz Sibel Turan Sirke | Haploid plant production in edible grain legumes | 205 |
| Sibel Turan Sirke Hilal Yilmaz | Anther culture applications in plant breeding | 213 |
| Gözde Hafize Yildirim Nuri Yilmaz | Evaluation of bioethanol production from corn cobs | 222 |
| Gözde Hafize Yildirim Nuri Yilmaz | Nutritional content and utilization areas of bread wheat | 230 |
| Murat Şevik | Seroprevalence of bovine respirovirus 3 in cattle in Afyonkarahisar province of Türkiye | 237 |
| Kave Koorehpaz | Protective effects of variety concentrations of trehalose and carboxymethyl cellulose as cryoprotectant during cryopreservation of ram semen | 246 |

| | | |
|--|--|-----|
| Olusegun Opeyemi Oni Sarah Oluwakemi Ishola Ajiboye, Gbenga Eyitayo | Impact of agricultural finance on agricultural growth in Nigeria | 256 |
| Irem Uzunsoy | Antimicrobial activity of buffalo cheeses | 279 |
| Simge Çoban Şule Turhan | E-commerce and the impact of the covid-19 pandemic in the food industry | 287 |
| Amina Mudhafar Al-Nima Myasar Al-Kotaji Shahad Myasar Alfaris | Comparison of the antimicrobial effect of three natural products formulated as a gel dosage form | 302 |
| Ali Yiğit | Wheat root architecture and drought | 315 |
| Hacer Tüfekci | The effects of heat stress on some parameters in sheep and goats | 323 |
| Mehmet Akif Boz Kadir Erensoy Musa Sarica Ahmet Uçar | Advantages of goose meat production and current situation in Turkey | 331 |
| Javvaji Harikrishna B.S. Anuradha | Isolation of asymptomatic carrier isolates of group a beta <i>Haemolytic streptococci</i> from clinical samples in karimnagar | 341 |
| Özer Kurt Ayşe Nida Kurt | Determination of Ceratonia siliqua tree leaves of in vitro Gas Production | 344 |
| Ayşe Nida Kurt Yasir Tufan Mahir Özkurt Yaşar Karadağ | A perspective on the production areas and changes in feed plants of the province of Muş | 351 |
| Nur Ahmad Fadli Lutfi Nur Latifah Vinanda Arum Tri Kurniawan Zeda Erdian Aryanti Rizky Adinda Lusiana Tursina Silaban Christine Wulandari | Marketing analysis of various types and characteristics of “damar mata kucing” resin (<i>Shorea javanica</i>) to support the economic sector of community in pahmungan, pesisir barat district, lampung province, Indonesia | 359 |
| Bora Bayhan | Marker studies on minor fabaceae (Leguminosae) forages | 367 |
| Ümit Erdoğan Sabri Erbaş Murat Mutlucan | Ultrasonic-assisted extraction of bee pollen grains: determination of total phenolic content, total antioxidant capacity, radical scavenging activity and fatty acid composition | 380 |
| Sabri Erbaş Ümit Erdoğan Murat Mutlucan | Comparison of scent components of solid phase microextraction (hs-spme/gc-ms), distillation and extraction products of lavandin (lavandula × intermedia var. Super a) and lavender (lavandula angustifolia var. Munstead) leaves | 388 |
| Le Tran Thanh Liem Pham Van Trong Tinh Nguyen Thi Bach Kim | An evaluation of watermelon production efficiency in a peri-urban area – a case study in cai rang district, can tho city, Vietnam | |

| | | |
|--|--|-----|
| Pham Ngoc Nhan Nguyen Thi Kim Phuoc Nguyen Thu Hien | | 396 |
| Seval Kaçar Uğur Bilgili | Effects of different nitrogen sources and doses on plant growing and turf quality of some warm season turfgrass | 407 |
| Abdulkadir Halliru | Green science and technology for green planet: emerging issues and prospects | 419 |
| Handan Uğuz Furkan Çoban Hakan Özer | Chemical composition of <i>Heracleum pastinacifolium</i> subsp. Incanum essential oils from eastern anatolia region | 429 |
| Harun Polat | Some mathematics questions asked in some rural areas | 436 |
| Duong Ngoc Thanh | Impacts of urbanization on livelihoods: case study in long hoa ward, can tho city, viet nam | 445 |
| Caner Yerli Nergiz Dila Şenol | Soil temperature and H ₂ O and CO ₂ releases from soil treated with hazelnut husk compost at different rates under deficit irrigation regime | 458 |
| Moses Adeolu AGOI Oluwadamilola Peace AGOI | Exploring the efficacy of machine learning in agriculture: an explicit approach | 470 |
| Erhan Çevikkol Mehmet Akif Çam Ömer Faruk Yılmaz | The concept of welfare and stress in farm animal raising | 478 |
| Mualla Keten Gökkuş Tahsin Beycioğlu Hasan Değirmenci Fatih Killi | Evaluation of drought tolerance in peanut varieties according to drought stress indices and comparison of the indexes | 489 |
| Ali Bayram Nazlı Aybar Yalinkiliç Şilan Çiçek | Sugar beet pests; cassida spp. biological life cycle of (Coleoptera: Chrysomelidae) | 501 |
| Selçuk Yılmaz Yılmaz Karabiçak Harun Alici | Erzincan region dried bean breeding studies | 508 |
| Raymond Oriebe Anyasi Harrison Ifeanyichuku Atagana | The use of <i>Chromolaena odorata</i> to treat polychlorinated biphenyls contaminated soil in phytoremediation | 543 |
| Emine Nakilcioğlu Selen Seyhan Eda Nurko | Hesperidin: a promoting agent of health | 555 |
| Emine Nakilcioğlu Eda Nurko Selen Seyhan | Healing from the plant: berberine | 564 |
| Pervin Erdoğan Sümeyra Üstündağ | Population monitoring of potato tuber moth [<i>Phthorimaea operculella</i> Zeller (Lepidoptera: Gelechiidae)] on potato cultural area in sivas province | 572 |
| Yasir Tufan Ayşe Nida Kurt Mahir Özkurt Yaşar Karadağ | Problems and solutions related to Muş province rangelands | 582 |
| Raymond Oriebe Anyasi | Studying the growth of chromolaena odorata in two soil samples under greenhouse condition | 591 |

| | | |
|--|--|-----|
| Esra Esin Yücel Cemal Kaya | Effect of tannase enzyme application on color and sensory properties of ultrasound-assisted black tea extracts | 609 |
| C. Vijai D. Joyce M. Elayaraja | Green hrm: a way for corporate sustainability | 626 |
| Arzu Coşkun Gülcan Demiroğlu Topçu | Determination of dry matter yield and properties of some faba bean (<i>Vicia faba</i> L.) cultivars grown in bornova conditions | 633 |
| C.Vijai Elayaraja | A study on consumers perception towards organic products with special reference to chennai city | 641 |
| Gülşah Bengisu | Some notes on maize-alternative silages, bioactive compounds and lactic acid bacteria additives | 648 |
| Hanaba Svitlana | History of species in the history of human civilization: socio-cultural aspect | 658 |
| Dmytro Hanaba | Assessment of the phytosanitary condition of street trees on the example of the city of Khmelnytsky | 661 |
| Kader KARA Zeki Karipçin | Vegatables in terms of nutritional value | 664 |
| Uğur Başaran Seyithan Seydoşoğlu | Possible Effects of Kahramanmaraş Centered Earthquakes on 6 February 2023 on Turkish Agriculture | 672 |
| Rojin Özek Fatih Çığ | Use of plant breeders promoting bacteria in triticale preservatives | 680 |
| Muazzez Değerli Arzu Çığ | Current methods developed on flower drying in ornamental plants | 688 |
| Kübra Gül Hikmet Akyol | Investigation of the impact of the Kahramanmaraş earthquake on the rural development of the region | 700 |
| Aydın Akkaya | Some questions and answers in wheat farming for Muş ecological conditions | 727 |
| Aydın Akkaya | Importance of rye production | 734 |
| Kave Koorehpaz | Etiology, diagnosis and treatment of uterine cysts in mares | 749 |
| Cansu Telci Kahramanoğullari | The effect of different sowing densities on seed yield and some yield components of <i>Lathyrus cicera</i> L. | 759 |
| Cansu Telci Kahramanoğullari | The effect of different sowing densities on forage yield and some plant characteristics in <i>Lathyrus sativus</i> L. | 766 |
| Derya Yücel Celal Yücel Irfan Erdemci Medeni Yaşar Murat Koç | Determination of some technological characteristics of lentil genotypes under ecological conditions of Diyarbakir | 773 |
| Derya Yücel Celal Yücel Irfan Erdemci Medeni Yaşar Murat Koç | Determination of phenological and yield components of lentil genotypes under ecological conditions of Diyarbakir | 784 |
| Mustafa Çirka | Effects of pgpr isolates on plants under drought stress | 797 |

| | | |
|---|--|------|
| Fatih Oğuzay | Management of water resources and irrigation systems in early islamic history | 808 |
| Okan Türk | A rural tourism tour route recommended to Muş province | 822 |
| Adamu Ubaida Muhammad Mubarak Ibrahim Zamfara | Effects of dietary nutrients on colorectal cancer: an overview | 835 |
| Soner Soylu Merve Kara Yusuf Gümüş | Antibacterial activities of plant essential oils against bacterial disease agents of watermelon | 854 |
| Babagana M Shuaeeb, A. I Yahaya, F Ndatsu, A. | Perception of lecturers towards information and technology in improving the quality of teaching and learning in Federal University of Technology Minna, Nigeria | 866 |
| Cevher Ozden | Digital transformation in agriculture sector of Türkiye | 878 |
| Aynur Bilmez Özçınar | Expressing genes of sunflower (<i>Helianthus annuus</i> L.): A review | 887 |
| Ayşegül Usta Yakup Yildirim Mehmet Kale | Molecular diagnosis of deformed wing virus and acute bee paralysis virus infections in honey bees | 896 |
| Özge Sevinç Korkmaz Akar Yakup Yildirim | Serological investigation of feline coronavirus infection in cats | 906 |
| Özmen İstek | Examination of three dimensional printing in veterinary surgery | 916 |
| Mehmet Karaman | The role of wheat yield components on grain yield | 925 |
| Mehmet Karaman | Comparison of some advanced bread wheat lines (<i>Triticum aestivum</i> L.) with registered varieties in mus conditions | 935 |
| Tamer Eryiğit Ela Özer | The effect of different nitrogen doses on yield and yield components of safflower (<i>Carthamus tinctorius</i> L.) cultivars in ađrı dođubayazit climate conditions | 943 |
| Halil Ibrahim Sađbaş Sezai Erciřli | Stress conditions and effect of different applications on antioxidant capacity in fruits | 957 |
| Murat Tunçtürk Rüveyde Tunçtürk | Investigation of the mineral composition of the plant <i>Althea officinalis</i> L. | 973 |
| Rüveyde Tunçtürk Murat Tunçtürk | Determination of total antioxidant capacity, phenolic and flavonoid substances of <i>Hypericum perforatum</i> L. | 984 |
| Rahma Bejaoui Cevdet Gümüş Kenan Sönmez Emine Kırbay Ş. Şebnem Ellialtıođlu | The effects of different pgr contents on in vitro organogenesis and shoot proliferation in kalanchoe (<i>Kalanchoe Blossfeldiana</i> Poelln.) | 995 |
| Utku Can Torun | Structure and problems of businesses buying and selling cherry as fruit and vegetable wholesale in Amasya | 1011 |
| Rukiye Gezer | Vase life in cut flowers | 1029 |
| Sancar Bulut | Crop rotation in Kayseri | 1045 |

| | | |
|--|---|------|
| Sancar Bulut | Crop rotation in Sivas | 1063 |
| Muhittin Tutkun | Current approaches to avoid the culling of layer male chicks | 1079 |
| Vinod Kumar Vikas Saini Jyoti Sinha | Future of artificial intelligence (Ai) in the pharmaceutical industry | 1087 |
| Enise Begüm Göçmez Adem Önen Osman İrfan İlhak | The effect of marination with a sauce with protective culture on pathogens and shelf life of chicken wings | 1092 |
| Kadir Emre Buğdaycı İsmail Kirbaş | Classification of crude protein content of sunflower meal using machine learning algorithms | 1109 |
| Emre Kara Mustafa Sürmen | Biomass potential and chlorophyll (spad) content of sweet sorghum as effected by sowing density and deficit irrigation | 1118 |
| Mustafa Sürmen Emre Kara | Chlorophyll (spad) content of perennial ryegrass / red clover mixtures under different cutting | 1125 |
| Akgül Taş | Evaluation of some physio-chemical properties of mulberry genotypes grown In Duzce Region | 1132 |
| Koroka, M.U.S Aliyu, N.M Shuaeeb, A.I Ndatsu, A. | Influence of teachers' professional and career development programs on secondary school biology teachers' productivity in Niger South Senatorial Zone Of Niger State, Nigeria | 1145 |
| Mehmet Gencer Fikret Akinerdem | Determination of the effect of different varieties in safflower (<i>Carthamus tinctorious</i> L.) in irrigated and without irrigation treatments on seed yield and crude oil ratio | 1153 |
| Kaan Küçükerdem Serdar Sari | Effects of low tunnel and mulch on plant microclimate in unheated greenhouses | 1166 |
| Sema Gün | Policies on the protection and management of pasturelands and sustainability | 1182 |
| Sabri Erbaş Murat Mutlucan Ümit Erdoğan Sercan Önder | Effect of gibberellic acid application on yield and quality characters in lavandin (<i>Lavandula x intermedia</i> Emeric ex Loisel. var. Super A) | 1198 |
| Sabri Erbaş Murat Mutlucan Ümit Erdoğan Merve Özer | Chamazulene source plants and their cultivation | 1211 |
| Murat Mutlucan Sabri Erbaş Ümit Erdoğan | Fennel (<i>Foeniculum vulgare</i>) agriculture, problems and future in the world and in Turkey | 1223 |
| İbrahim Hakan Karabulut | Evaluation of the effects of livestock enterprises supported by ipard program on rangeland and forage crops cultivation | 1238 |
| Aykut Kaan Eren | Evaluation of the environmental impacts of airports on rural areas | 1247 |
| Sipan Soysal | Effects of Heavy Metal Toxicity in Edible Legumes | 1254 |
| Sabri Erbaş Murat Mutlucan Ümit Erdoğan Meryem Çakmak | Immortelle (<i>Helichrysum italicum</i>) farming and future in the world and in turkey | 1264 |

| | | |
|--|---|------|
| Ahmet Kinay Selçuk Kalander | Determining the performance of some hybrid and standard confectionery sunflower genotypes in middle black sea transitional zone | 1273 |
| Dnoop K Sim Joseph | Food security system in india | 1284 |
| Ani Nuraini Dwi Yuni Hastati Wien Kuntari Faranita Ratih Listiasari | Development of mocaf (modified cassava flour)-based pastry for cassava food diversification | 1299 |
| Murat Şevik | Bovine respiratory syncytial virus seroprevalence in non-vaccinated dairy cattle herds in Konya province, Türkiye | 1307 |
| Yusuf Efteli Ismail Kirbaş Ömer Gürkan Dilek | Livestock weight estimation based on computer vision | 1315 |
| Sinan Mithat Muhammet | Synthesis of new piperazine derivative as potential antimicrobial agents | 1328 |



**PERCEPTION OF LECTURERS TOWARDS INFORMATION AND TECHNOLOGY
IN IMPROVING THE QUALITY OF TEACHING AND LEARNING IN FEDERAL
UNIVERSITY OF TECHNOLOGY MINNA, NIGERIA**

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ABSTRACT

The use of ICT in teaching-learning process is a relatively new phenomenon and it has been an educational research focus for effective integration of this technology into classroom practices. This study was aimed at investigating the perception of lecturers towards information and media technology in improving the quality of teaching and learning in Federal University of Technology Minna and a Survey design was employed. The population of the study was 133 lecturers' in the Federal University of Technology Minna, Niger state. The sampling technique used was the Yaro Yamani Formula to arrive at the sample size of fifty (50) lecturers' that were randomly selected. The major instrument of the study used for data collection was a well titled and structured questionnaire titled "Lecturers perception on the use of information and media technology questionnaire" (LPIMQ) which was used to gather the data which was analyzed using mean, standard deviation, frequency count and percentages. The instrument was validated and its reliability coefficient established was 0.82 which was correlated using cronbach alpha formula. The study hence showed that lecturers in federal university of technology Minna are used to ICT and make use of them in improving the quality of teaching and learning. It was recommended that investments of the college on lecturers' training programs for instructional technologies and support services of instructional technologies should be prioritized to integrate ICT into teaching-learning process and avenues should be created for lecturers not having ICT tools to have and start using them.

Keywords: ICT, Nigeria, education



INTRODUCTION

Information technology is described as the gathering, processing, storing or retrieval of information. A more general term, ICT emphasizes the role of communication in modern information technology, in the transmission or transfer of the information from place to place and over a distance. According to Otamiri (2014), ICT is a term used to describe a range of hardware equipment (personal computer, scanners, digital camera), computer software (database programs, multi-media programs) and the telecommunication infrastructure (phones, faxes, videoconferencing equipment and web cameras) that allow us to access, retrieve, store, organize, manipulate, present, send material and communicate locally and globally through digital media. Generally, ICT is used to encompass all forms of telecommunication networks, including telephone, radio, and television. However, the driving power of ICT is obviously the internet, a world-wide computer network built on telecommunication media, and which is usually the focus of discussions on ICT. According to Nwokocha and Onwuchekwa (2014), the internet has emerged as a major driving force of this dynamic development of information and communication technologies, which has impacted positively in virtually every sector.

Quality guarantee in the education system is a concept consisting of lot of activities that are designed to improve the quality of input, process and output of the educational system (Emmanuel, *et al.*, 2015). Quality guarantee in the education system involves the process of observing, weighing and evaluating all aspects of the education activities and communicating the outcome to all concerned with a view of improving the products of the education system. Quality guarantee addresses some vital issues in education which enhance the quality of delivery. Ololube, (2012) notes quality assurance in education as all proactive measures adopted by a country to ensure that the system standard remain high enough to produce results set for it. Thus, quality standard in education is the bench mark that should guide the performance of the education system. Quality assurance in education is in fact a process of continuous improvement in the quality of teaching and learning activities. The Federal Ministry of Education (FME, 2014) remarked that quality standard in the education system are goals or targets to which learners, teachers, staff and school administration aspires to attain. Quality guarantee in the education system is therefore a multi-dimensional concepts involving the various functions and activities of the education system which includes teaching research, staffing, students, buildings, facilities and equipment, service to the community and academic



environment. It is ensuring that at least the provision of the minimum academic standard is attained and sustained.

However, today in Nigeria, there exists general disenchantment in the quality of the education system as well as in the quality of education output. Similarly, Njoku, (2016) noted that quantitatively, the Nigerian Education scene is quite impressive but qualitatively deficient. Therefore, this research intends to investigate the role of ICT as a change agent for quality education in Federal University of Technology, Minna. The challenges confronting our educational system in tertiary institution centers on quality achievement of education delivery, almost everything connected with education in tertiary institution is in minimal supply. Quality teachers are in short supply, quality buildings, quality equipment, quality electricity supply, quality laboratories, good experimental farms/fields and other resources input that can lead to quality education are inadequately provided. Today, there exists general distrust in the quality of the education system as well as education output. The quality of education is the prime factor that determines the worth, value and significance of the system to both the recipients and the society at large. Thus, Iheonunekwu, *et al.*, (2013) noted that, the promises of information and communication technologies (ICTs) have driven E-learning in transforming education delivery and thereby advancing knowledge and the economy.

The knowledge, economy for example sets a new scene for education and new challenges and prospects for education is a pre-requisite of the knowledge based economy and the production and use of new knowledge both require a more educated population and workforce (Stephenson, 2011). ICTs are very powerful tool for diffusing knowledge and information which is fundamental aspects of the education process. In that capacity, ICTs play a pedagogic role that could in principle compliment the traditional practices of the education sector (Udo, 2011). Undoubtedly, e-learning powered by ICT use in tertiary institutions could help to expand and widen access to Federal University of Technology, Minna and learning, improve the quality of education as well reduce its cost. This means that effective ICT use in tertiary institutions in Nigeria could help to spur positive results in improving the overall learning (and teaching) experiences as well as in up-lifting the quality of the system. Therefore, the research seeks to investigate the role of ICT as a change agent for quality education in Federal University of Technology, Minna.



Statement of the problem

The use of ICT in teaching requires competencies on part of the teacher and has indeed made the profession more challenging experience and retains knowledge for a longer time. According to the UNDP (2011) statistics, almost 80% of the teachers in developing countries feel that they are not prepared to use the technology. The integration of information and communication technologies into curriculum is a crucial process in ensuring the quality of education (Vandervert, *et al.*, 2013). However, the presence of technology alone will not stimulate significant changes in a school. Teachers are an important ingredient in the implementation of ICT in education. Without the involvement of teachers, most students may not take advantage of all the available potential benefits of ICT on their own. Teachers need to actively participate in using ICT.

Okoli (2012), notes that quantitatively, the Nigerian Education scene is quite impressive but qualitative deficient. There exist general disenchantment and general distrust in the quality of the education system as well as in the quality of education output. Stephenson (2011), stated that ICT can play a very prominent role in diffusing knowledge and information which is fundamental aspects of the education process towards quality attainments. In this capacity, ICT plays a pedagogic role that could in principle complement the traditional practices of the education sector. Therefore, since the tendency of using ICT in teaching and learning strongly depends on the attitudes of the teachers, this study aims to investigate teachers' perception towards ICT integration in teaching-learning process in Federal University of Technology, Minna. This was based on the assumption that effective and successful use of ICT is helpful to motivate the students in teaching-learning process and enhance quality of education.

Purpose of the Study

The aim of the study is to find out the perception of lecturers towards Information and Communication Technology in improving the quality of teaching and learning in federal university of Technology Minna, Niger State. The specific objectives are to:

1. determine the demographic characteristics of lecturers in Federal University of Technology, Minna,
2. determine the response of lecturers to ICT usage in Federal University of Technology, Minna,
3. To determine perception of lecturers towards use of ICT in Federal University of Technology, Minna.



Research questions

To fulfill the objectives of this study, the researcher set up the following research questions.

1. What are the demographic characteristics of lecturers in Federal University of Technology, Minna?
2. What are the responses to usage of available ICT tools in Federal University of Technology, Minna?
3. What is the perception of lecturers towards use of ICT in Federal University of Technology, Minna?

METHODOLOGY

The researcher used descriptive research survey design in building up this project work. The target population of this study was the entire lecturers' population of FUT or comprehensive items, since the researcher was interested in getting information on the study on the appraisal of the role of ICT as a change agent for quality in teaching and learning in the federal university of technology Minna. 133 lecturers from different departments. The sample size for this study comprises of 50 respondents randomly selected. Due to large size of the target population, the researcher used the Yaro Yamane formula to arrive at the sample population of the study.

The major research instrument used was the questionnaires to analyze data. The research questionnaire was titled: Lecturers perception on the use of Information and media questionnaire (LPIMQ) which consist of three sections "A, B & C". Each question had its responses coded by assigning codes of responses for each item. Section A contains questions on the demographic characteristics. The responses were categorized into themes based on research questions and objectives. Data such as gender, age, academic qualification and professional experience were analyzed using descriptive statistics; while Likert scale was used to determine the perception of lecturers on the use of ICT. A four-point Likert-type scale (i.e. 4=Strongly Agree, 3=Agree, 2=Disagree and 1=Strongly Disagree) was used to rate their level of agreement on 9 research questions/statements to investigate perception of teachers on ICT usage. The lecturers were administered with the questionnaires to fill, with or without disclosing their identities. The questionnaire was designed to obtain concise and vital information from the respondents. The primary data contained information extracted from the questionnaires in which the respondents were required to give specific answer to a question by ticking in front of an appropriate answers.

The questionnaire used as the research instrument was subjected to its validation, so as to make sure the instrument represents the content of the study and accurately measures what is intended



(i.e. its primary objective). This research instrument (questionnaire) adopted was adequately checked and validated by the experts in the field of research in the department of science education and educational technology in the faculty of technology education. Their contributions and corrections were effected into the final draft of the research instrument utilized.

The research used qualitative and quantitative research methods Three mean groups were established based on Vandervert, *et al.*, (2013), with the mean for the perception of teachers about ICT usage ranging from 2.8 and below, to demonstrate as disagreement. The mean for the perception of teachers about ICT usage ranged between 3.2 and above, to demonstrate strong agreement.

RESULTS

Demographic characteristics of respondents

Gender

Figure 1.1 show that majority of the respondents accounting for 70% of the total respondents were male while 30% of the respondents were female. This implies that majority of the lecturers were male.

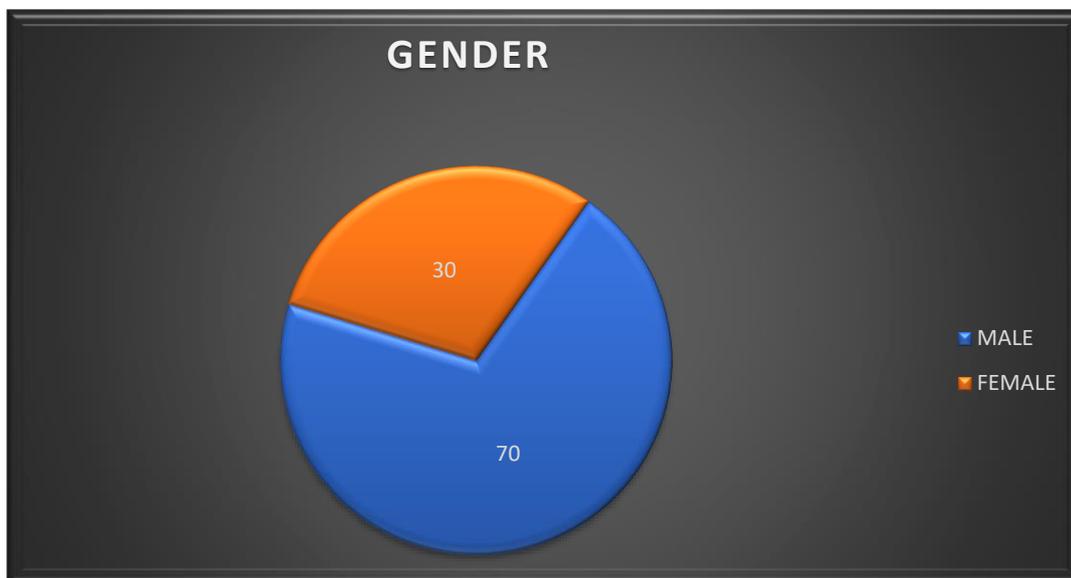


Figure 1: Distribution of respondents according to Gender

Figure 1 show the age of the respondents. The mean age of the respondents was 43 years. Majority (52%) of the respondents were within the age range of 41 – 50 years and 30% of the respondents were within the age range of 31 -40 years and 6% were above 50 years.

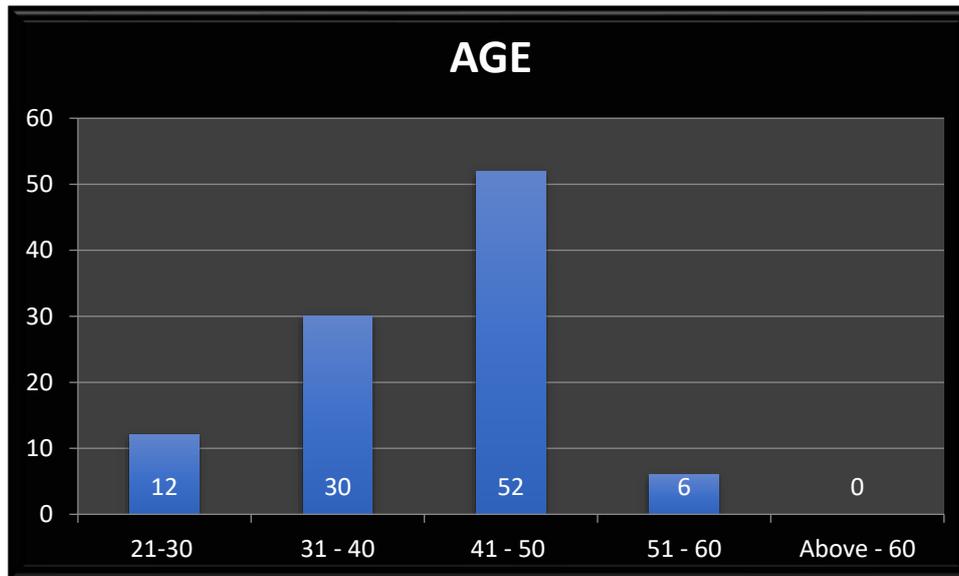


Figure 2: Distribution of respondents according to ranks

Positions held by respondents

Table 2: reveal that majority of the respondents were Lecturer I-Senior lecturers (50%), followed by Lecturer II and below (30%) and Asst. Prof.-Professors accounting for 20% of the total respondents.

| Ranks held by respondents | Frequency | Percentage |
|-----------------------------|-----------|------------|
| Lecturer II and below | 15 | 30 |
| Lecturer I-Senior lecturers | 25 | 50 |
| Assoc. Prof. - Professor | 10 | 20 |
| Total | 50 | 100 |

Source: Filed survey, 2019

Years of experience in using ICT

Figure 3 show that majority (46%) of the respondents have been using ICT for more than 15 years while 32% of the respondents have been using ICT for between 11 to 15 years, 14% have been using ICT for within 6 to 10 years and only 8% have used ICT for within 1 to 5 years. This indicates that the lecturers use ICT tool frequently which attributes to ease of their teaching and preparing of lecture notes.

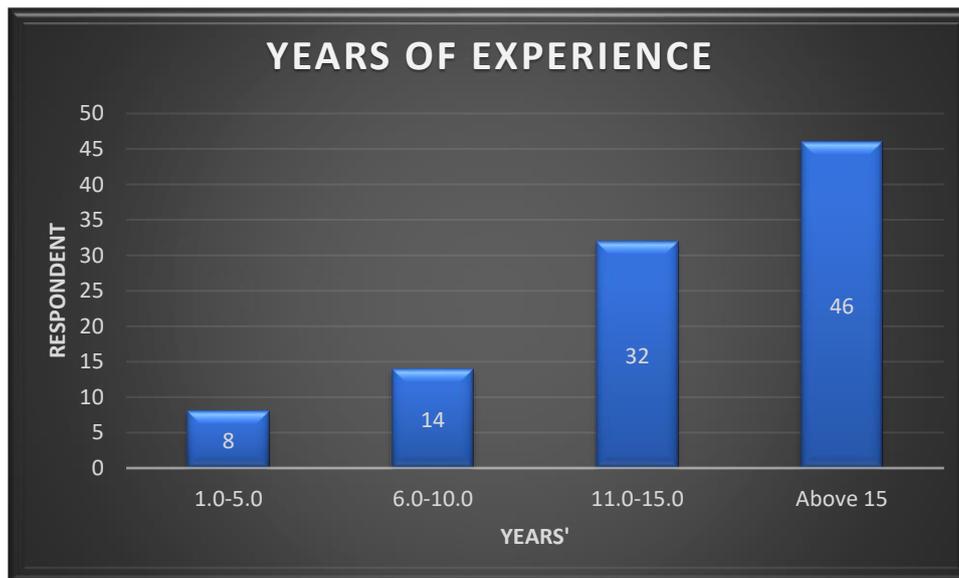


Figure 3: Distribution of respondents according to years of experience in using ICT

Lecturers response to ICT usage

Table 4. revealed that majority of the lecturers use one ICT tool or the other. This implies that the lecturers were used to ICT tools and regularly use them. This show that ICT tool are used in improving teaching and learning.

Table 4: Distribution of respondents according to response to ICT usage

| Lecturers response to ICT usage | Frequently | Sometimes | Never |
|---------------------------------|------------|-----------|-------|
| Projector | 17 | 5 | 0 |
| Computer | 45 | 2 | 0 |
| Learning management system | 9 | 9 | 30 |
| Website interactive tool | 7 | 2 | 34 |
| Intranet/web | 36 | 7 | 0 |
| Grade records software | 12 | 5 | 0 |
| Television/ video conferencing | 3 | 0 | 38 |
| Public address (PA) system | 23 | 4 | 4 |
| Mobile Phones | 25 | 11 | 0 |

Source: Field survey, 2019

Table 4 above reveal that majority of the ICT used were computer, internet/web facilities, Mobile phones, Public address systems, Overhead projector and Grade records software. The result revealed that majority of the respondents (90%) used computers, 72% used internet/web, 50% used telephone, 46% used public address system, 24% used grade record software and 14% used website interactive tool and 6% used television/video conferencing. This implies that lecturers used ICT tools and are conversant with the importance of using ICT to improve teaching and learning in Federal University of Technology, Minna.



Table 5: Distribution of respondents according to Perception of lecturers towards use of ICT showing mean and standard deviation of respondents on the use of ICT

| S/N | Lecturers perception towards the use of ICT | SA | A | D | SD | X | Sd | Remark |
|-----|---|----|----|---|----|------|------|--------|
| 1. | Critical thinking skills in students can be improved by use of computer | 32 | 18 | 0 | 0 | 3.64 | 0.23 | ACCEPT |
| 2. | ICT can enhance students' effective participation and feedback to lecturers | 24 | 28 | 0 | 0 | 3.60 | 0.28 | ACCEPT |
| 3. | ICT can enhance students' collaboration | 23 | 26 | 1 | 0 | 3.44 | 0.29 | ACCEPT |
| 4. | ICT can enhance teacher and student interaction | 30 | 19 | 1 | 0 | 3.58 | 0.37 | ACCEPT |
| 5. | Internet offers a wide range of opportunities and variety of resources to lecturers for content improvement/modification. | 38 | 10 | 2 | 0 | 3.72 | 0.28 | ACCEPT |
| 6. | Higher institutions should replace the traditional teaching aids by new ICT tools to improve teaching and learning | 36 | 12 | 1 | 1 | 3.36 | 0.38 | ACCEPT |
| 7. | The use of ICT enhances individual practice for attainment of mastery | 33 | 15 | 2 | 0 | 3.62 | 0.32 | ACCEPT |
| 8. | Preparation of course materials, assignment, handouts etc is made easy by the use of instructional technologies | 39 | 9 | 1 | 1 | 3.72 | 0.36 | ACCEPT |
| 9. | Integrating ICT in academic activities improves the performance of students | 28 | 22 | 0 | 0 | 3.56 | 0.25 | ACCEPT |

Grand Mean = 3.58

The findings reveal that 32 and 18 of the respondent strongly agreed and agreed respectively with a mean score of 3.64 and a standard deviation of 0.23 reflecting a low variability that Critical thinking skills in students can be improved by use of computer while none of the respondent disagreed to this statement also 24 and 28 of the total respondent strongly agreed and agreed that ICT can enhance students 'effective participation and feedback to lecturers with a mean score of 3.60 and a standard of 0.28 reflecting low variability . It was also observed that 23 and 26 of the respondents strongly agreed and agreed that ICT can enhance students collaboration with a mean score of 3.44 and a standard deviation of 0.29 reflecting low variability, it was also visible from the findings that 38 respondent strongly agreed and 10 agreed that ICT can enhance teacher and student interaction while 2 disagreed to this statement with a mean of 3.58 and standard deviation of 0.37 reflecting a high variability, it was also observed that 36 and 12 of the respondent strongly agreed and agreed respectively that Internet offers a wide range of opportunities and variety of resources to lecturers for content improvement/modification while 1 equally disagrees and strongly disagree to this statement with a mean score of 3.36 and a standard deviation of 0.38 reflecting more variability. Also 33



and 15 strongly agreed and agreed respectively that Higher institutions should replace the traditional teaching aids by new ICT tools to improve teaching and learning while only 2 disagreed to this statement with a mean score of 3.62 and standard deviation of 0.32 reflecting more variability .in addition 39 and 9 of the respondent strongly agreed and agreed that The use of ICT enhances individual practice for attainment of mastery but 1 of the respondents strongly disagreed and disagreed to this statement with a mean of 3.72 and a standard deviation of 0.36 reflecting more variability .

Furthermore, 28 and 22 of the respondent strongly agreed and agreed that Preparation of course materials, assignment, handouts etc. is made easy by the use of instructional technologies. Integrating ICT in academic activities improves the performance of students with a mean score of 3.56 and a standard deviation of 3.25 reflecting low variability. And the grand mean reflecting that respondents agrees with the use of ICT

DISCUSSION

The table above further revealed that the lecturers agreed that the use of ICT for instructional purposes is important rather than printed materials, ICT can enhance students effective participation, effectiveness and feedback to lecturers; ICT enhances students collaboration, ICT enhances teacher-student interaction, internet offers a wide range of opportunities and variety of resources to teachers for content improvement/modification, the use of ICT enhances individual practice for attainment of mastery, integrating ICT in academics improves performance of students, usage of instructional technologies makes it easier to prepare course materials (assignments, handouts, etc.); internet can offer opportunities to teachers for obtaining learning resources to improve content; ICT tends to increase students learning motivations and ICT can enhance students' participation and feedback to teachers as a tool. This implies that ICT was viewed as important in improving the quality of teaching.

CONCLUSION

This study reveals that the lecturers are used to ICT tools and use them in improving the quality of teaching and learning which shows that lecturers in federal university of technology Minna have a positive perception on the use of ICT in improving classroom teaching and learning activities/quality of education.

RECOMMENDATIONS

1. Investments of the college on lecturers training programs for instructional technologies and support services of instructional technologies should be prioritized to integrate ICT into teaching-learning process,



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2. Avenues should be created for lecturers not having ICT tools to have and start using them,
 3. It is important to motivate and reward lecturers to use ICT in instructional activities,
 4. Technology should be incorporated during curriculum design in order to apply it easily and the University should also give attention in creating comfortable environment which motivates to use this technology.



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