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TOWARDS MILLENNIUM
DEVELOPMENT IN NIGERIA**

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Table of Contents

Title Page

Acknowledgment

Table of Contents

Session One

Animal Breeding and Genetics

Egg Quality Traits Of The Nigerian Light Local Chicken Ecotype <i>V.U.Oleforuh Okoleh, A. I. Adeolu And C. C. Nwosu³</i>	
Weight And Linear Body Measurement Of Yankasa, West African Dwarf Sheep And Their Crosses <i>Adewumi, O.O., Chineke, C.A., alokan, J.A. And²onine, C.</i>	3
Reproductive Performance Of Local, Nera Black And B-Alpha Improved Indigenous Cross Bred Chickens <i>K. T. Akanni, S.O. Peters, Funmilayo Adebambo, A. M. Omoare*, And A.A. Adekunle*</i>	7
Comparative Laying Performance In Pure And Cross Bred Chickens In South Western Nigeria <i>K. T. Akanni, S. O. Peters, O.A Adebambo, Funmilayo Adebambo, and A. M. Omoare</i>	10
Comparative Weight and Linear Bodymeasurements Of Adult Lactating Yankasa And West African Dwarf Ewes ¹ <i>Adewumi, O.O. and Badepade, E.G.</i>	14
Regression Analysis For Egg Quality Traits In The Fulani-Ecotype Chicken <i>T.R. Fayeye and B. A. Adeshiyan</i>	17
A Proposal For The Genetic Improvement Of Rabbits Under Smallholder Units In Nigeria <i>S. O. Oseni</i>	19
Phenotypic Characteristics of Indigenous Chicken In Ago-Iwoye <i>F. A Aluko and B .R Ajibola</i>	25
Morphometric Analysis of Eggs laid by two Ecotypes of <i>Archachatina Marginata (swainson)</i> Raised i N Captivity <i>L.A. Ibom, B Okon and A. Essien</i>	28
Phenotypic Correlation Between Internal And External Egg Quality Traits Of A Commercial Layer Strain <i>L.O. Ojedapo, T.A. Adedeji, T.B. Olayeni, S.A Ameen, SR. Amao O.T.F. Abanikannya^aAnd³k.M. Fasasi</i>	31
Egg Production And External Quality Traits Of Pure And Improved Local Chickens In South Western Nigeria <i>K. T. Akanni, F. A .o Akinusi, G. A .k Omoyinmi, and A.a. Adekunle.</i>	34
Session Two	
Animal Physiology	
Hepatic and Serum Enzyme Activities of Laying Quails On Dietary Rubber Seed Meals <i>Olawoyin, O. O. and Abasiubong; K. P.</i>	38
Seasonal Effects on Semen Characteristics of Rhode Island Red And White Strains Of Breeder Cocks In Zaria <i>M. Kabir, O.ò. Oni¹, G.n. Akpa, and P.i. Rekwot¹</i>	42
Fertilization, Embryo Survival and Embryo Characteristics In Doe Rabbits Re-bred At Three Postpartum Re-mating Time-periods In A Tropical Environment. <i>H. A. Awojobi and D. O. Adejumo</i>	46

The Effects of Duration of Storage and Storage Temperature of Anti-coagulated Blood Samples of Farm Animals on the Haematocrit Buffy Coat. <i>J. I. Ihedioha and P. E. Aba</i>	50
Leukocytic Alterations Associated with Continual Sub-acute Blood Loss. <i>J. I. Ihedioha, C. O. Okorie-kanu and U. M. Iwuogo</i>	55
<i>Blood Biochemical Findings Associated With Sub-chronic Contamination Of Drinking Water With Varied Low Percentages Of Used Engine Lubricating Oil.</i> <i>J. I. Ihedioha¹, U. M. Iwuogo¹ and T. E. Ihedioha</i>	59
Contamination of Drinking Water With Inorganic Fertilizer: Effects on Reproductive Performance. <i>I. S. Ochiogu¹, J. I. Ihedioha² and N. S. Okafor</i>	63
Bioaccumulation Of Zinc In Juvenile Edible Tropical Land Snails <i>I. E. Ebenso¹ and A. D. Ologhobo</i>	67
Total Lactation Milk Yield In South African Holstein Friesian Dairy Cows Between the Period 2003 And 2004 At Maizube Farms, Minna, Niger State. <i>A. Aremu</i>	70
Effect of Day Time Brooding Temperature on Water Intake of Broilers Fed Low Energy and Low Protein Diets <i>A. Aremu</i>	74
Diurnal Fluctuations In Rectal Temperature Of Black Harco Pullets Administered Vitamins A and C During The Hot-dry Season <i>V. O. Sinkalu¹, J. O. Ayo¹, A. B. Adelaiye² and J. O. Hambolu</i>	78
Plasma Alkaline Phosphatase Levels And Production Traits In Two Strains Of Rhode Island Chickens. <i>M. Orunmuyi O.O. Oni I. A. Adeyinka and OE Asiribo</i>	82
<i>Reproductive Potentials of the Aquatic Frog (Ptychadena bibroni) in the Rain Forest Of Southeastern Nigeria.</i> <i>M. T. Udo and A. A. Thomas</i>	86
Effect of Probiotic (<i>Saccharomyces cerevisiae</i>) on Haematological Parameters of Rabbits. <i>C. Ezema, C. N. Igbokwe And B. C. O. Omeke</i>	90
Effect of Frequency of Mating on Reproductive Performance of Rabbits <i>B.M. Ilori, S.S. Abiola and O.M. Sogunle</i>	93
Influence of Insemination Time on Fertility of Rhode Island White Chickens (<i>Gallus domestica</i>) Raised in Northern Guinea Savannah Zone of Nigeria <i>D. Zahraddeen, I.S.R.butswat, K.M.bello and A.A.washik</i>	96
Reproductive Responses of Rabbit Does to Zinc <i>Oguike M.A, Ogbonnaya C. O and Amaefule K U</i>	101
Organ Effects and Performance of Broiler Chickens Administered Potassium iodide in Drinking Water <i>S. N. Wekhe, B. M. Oruwari and A. D. Hart</i>	104
Changes in Protein Concentration of Testicular Spermatozoa and Fluids During Sperm Maturation in Male Rabbits Fed Kapok (<i>Ceiba pentandra</i>) Seed Meal <i>I. I. Bitto, C. N. Madugba and I. I. Itodo</i>	108
Time-dependent Postpartum Haematological, Biochemical and Rectal Temperature Changes in West African Dwarf Ewes. <i>L.O Aka¹, I. Eze², G.C. Ofor³, and C.O. Igbokwe</i>	111

Effect of Milking Frequency on Secretion Rate in Red Sokoto and West African Dwarf Goats <i>O.O. Macaulay</i>	116
Effect of Lead Intoxication on Rectal Temperature and Pulse Rate in Young Crossbred Rabbits <i>G.O. Tona, V.A. Togun, O.A. Amao, S.a. Ameen, R. O. Olabanji And A.a. Hammed</i>	119
Evaluation of Udder Traits of West African Dwarf (WAD) Goats in South Western Nigeria <i>I.J. James O.A. Osinowo and O.I Adegbasa</i>	122

Session Three

MINILIVESTOCK NUTRITION, MANAGEMENT AND PRODUCTION

Effects of Some Cheap Locally Available Feeding Materials on The Growth Performance of Edible Land Snail - <i>Achatina Achatina</i> (l) <i>¹O.dunaiya, O. and²akinnusi F.A.O</i>	126
The Effect of Incubator Type on Hatchability and Chick Survival of Emu <i>Dromaius Novae Hollandiae</i> (le Souef 1907) <i>Adewumi A.A, Ayodele I.A, Lameed G.A</i>	129
Feeding Value of Differently Processed Cassava Peel Meal For Weaned Rabbits <i>O. A. Olafadehan¹, O. O. Olafadehan¹, M. K. Adewumi², S. K. Omotugba¹ And N. E. Daniel</i>	132
Seasonal Mortality Among Farmed Cane Rat Reared Using Two Different Housing Materials. <i>J.A. Ogunjobi and E.I. Inah</i>	136
Effect of Replacing Fish Meal With Silkworm Caterpillar (<i>Anaphe infracta</i>) Meal on the Carcass And Haematological Parameters of Weaned Rabbits <i>E.Z. Jiya., A.T. Ijaiya and O.K Akanbi</i>	139
Effect Of Dietary Cassava Leaf-meal On Growth Performance Of Weaner Rabbits <i>A. C. Okonkwo¹, L. J. Isaac¹, I. P.solomon¹ and Eyoh, G.d².</i>	142
Comparative Study On The Effect Of Forms Diet Presentation On Performance Of Cross-bred Rabbits <i>O.O. Ojebiyi, G.O. Farinu, I.O. Oladunjoye and V.A. Togun.</i>	145
Perfomance of Growing Rabbits Fed Graded Levels of Quality Protein Maize Using Soyabean Meal and Groundnut Cake As The Main Protein Sources. <i>Omage, J.J., Agubosi, O.C.p., And Bawa, G. S.</i>	148
Effects of Graded Levels of Cassava Sieviate on the Performance Characteristics And Economy o f Production of Snails <i>A.S Kehinde, , O.O.Tewe, ,T.O Babatunde, ,O. Bobadoye,</i>	151
Effect of Diets Containing Raw And Processed Mucuna Seed Meal on Growth Performance and Relative Organ Weights Of Rats <i>A.O. Ani; J.C. Onweluzo and I.S. Asogwa</i>	155
Growth Performance and Economic Benefits of Weaner Rabbits Fed Diets Containing Low Levels of Cassava Root Sievate <i>L.T. Egbeyale,, B.O. Osidipe, T.A. Amole, , O.M.O. Idowu,, O.M. Sogunle, and O.O Adeleye,</i>	160
The Nutrient Composition and Feed value of <i>Tephrosia bracteolata</i> Seed Meal for Rabbits: A Preliminary Study. <i>S.N. Carew, J.A. Ayoade, A.I. Okwori and D.T. Shaahu.</i>	164

Effect Of Varied Energy Levels on the Carcass Characteristics Of Grasscutters (<i>Thyromis swinderianus</i>) <i>A. J. Henry and G. N. Njume</i>	168
Response of the African Giant Land Snail (<i>Archachatina marginata</i>) Fed A <i>Carica Papaya</i> Leaf-based Diet Supplemented with Different Calcium Source Minerals in Humid Tropical Nigeria <i>G.A. Kalio, I. Fredrick, E.O. Ugwo and I. Etela</i>	171
Utilization of Stylo and Groundnut Haulms Supplemented with Concentrate by Growing Rabbits. <i>G. T. Iyeghe-Erakpotobor</i>	175
Effects of Dietary Level of Cocoa Bean Shell (cbs) on Nutrient Digestibility, Organ Weight And Serum Metabolites of Weaner Rabbit. <i>A. O. Adeyina and D.F Apata</i>	178
Comparative Effect of Organic and Inorganic Copper Supplemented Diets on Performance And Blood Characteristics of Growing Rabbits <i>A.V. Jegede, A.O Fafiolu, O.M.O. Idowu, O.O. Oduguwa, D.O. Sodeinde and T.O Odewale</i>	182
Effects of Replacement of Maize with Unprocessed Sorghum on the Performance, Digestibility and Carcass Characteristics of Rabbits <i>O. A. Abu And J. Bakare</i>	185
Growth Performance of Growing Rabbits Fed Graded Levels of Garlic (<i>Allium sativum</i>) <i>D.D. Ortserga, A.C. Andyar, And T.I. Anthony</i>	189
Haematology and Serum Chemistry of Weaner Rabbits Fed Cooked Bambara Groundnut Meal as Replacement for Soyabeans Meal <i>E.T.E Ehebha, S.O. Omoikhojie ; A.M. Bangbose, M.B. Druna, C.E. Isidhahomen</i>	192
Effect of Different Levels of Dry Pineapple Waste in the Diet Of Growing Rabbits <i>J.B Fapohunda, O.T. Iji, B.A Makanjuola, A.J. Omole</i>	195
Serum Biochemistry And Organ Traits Of Growing Rabbits Fed <i>Fusarium Verticillioides</i> Cultured Maize-based Diets <i>E.O. Ewuola, J.T. Ogunlade, F.A. Gbore and G.N. Egbunike</i>	199
Growth Performance and Carcass Characteristics of Young Rabbits Fed Steamed Castor Bean Cake Based Diets <i>P.A Onimisi, J.J Omaxe, L. Ademu And N.S Hussaini</i>	204
<i>Reproductive Performances Of Cane Rat (thyromys Swinderianus Termminck 1827) Breeding Stocks And Litters Rate of Survival Reared Using Two Common Housing Materials</i> <i>J. A. Ogunjobi</i>	208
Session 4	
Livestock Products, Meat Science and Technology	
Impact of the Outbreak of Avian Disease (bird Flu) on Patronage of Chicken Dishes In Fast Foods and Hotels in Abeokuta Metropolis <i>O.R. Karim</i>	211
Effect of Dietary Rubber Seed Meal on the Meat Composition of Quails <i>Olawoyin, O. O. Abasiubong, K. P. And Asuquo, O. R</i>	214
Microbial Analysis of Cheese Samples obtained From Holstein Friesian and Bunaji (white Fulani) Cows Under Two Different Management Systems <i>I. C. Alemede, H. And Sadiq,</i>	217

Microbial Analysis Of Milk Samples Obtained From Holstein Friesian And Bunaji (white Fulani) Cows Under Two Different Management Systems <i>I. C. Alemede. and H. Sadiq,</i>	220
Yield And Proximate Analysis Of Milk Samples Obtained From Holstein Friesian And Bunaji (white Fulani) Cows Under Two Different Management Systems <i>I. C. Alemede and H. Sadiq,</i>	222
Effects Of Varying Level Of Lemon Juice On The Palatability And Shelf Stability Of Queso Blanco Cheese <i>O. O. Olusola, O. S. Oyadeyi And A. B. Omojola</i>	224
Consumer Evaluation of Eating Qualities of Some Meat Types Cooked by Different Methods. <i>E.S Apata, O.G Soniran, B B A Taiwo, D. B Oke, O.O. Eniolorunda, A.M. Ogungbesan And V.O. Badejo.</i>	228
Bovine Pregnancy Wastage In Gboko Abattoir <i>O.E. Odoh, M.I. Iorgher And D.A. Oche</i>	231
Frequency Of Slaughtering Gravid Cows In Some Selected Parts Of Ogun State <i>A.O Fayemi, B.B.A. Taiwo, A.O. Okubanjo And A.A. Adekunmisi</i>	234
Effect Of Some Local Processing Methods On Nutritive Value And Organoleptic Taste of Milk <i>M.L Egbo, M.B Ngele And J.M Omale</i>	238
Fatty Acid Profile of Chevron Obtained from West African Dwarf Goats Fed Melon Husk and Palm Oil Slurry Based Diet <i>K.A Sanwo, S.S. Abiola, A.O. Fanimo, O.B Oyewole and J.A Adegbite</i>	241
Session Five	
Biotechnology	
Solid Substrate Fermentation of Ground Leaves of <i>Pterocarpus Santalonioides</i> With Two Isolates of <i>Aspergillus Niger</i> <i>A. A. Ayuk E. A. Iyayi and B. I. Okon</i>	243
Proximate Composition And Amino Acid Profile Of Normal Maize And Quality protein Maize Grown In The Northern Savanna Ecological Zones. <i>J.J. Omage, O.C.P. Agubosi, G.S. Bawa and P. Onimisi.</i>	246
Preliminary Investigation on the Nutrients, Anti-nutrients And Mineral Composition of Microbially Fermented Cassava Starch Residues. <i>S.O. Aro V.A. Aletor, O.O. Tewe A.N. Fajemisin, B Usifo and A.B. Falowo</i>	248
Session Six	
Livestock Economic and Extension	
Assessment of Factors Influencing Poverty Among Rural Rabbit Farmers In Akwa Ibom State, Nigeria. <i>G. E. Edet, N. A. Etim' And I. V. Patrick</i>	252
Analysis Of Socio-economic Benefits Of Chicken Dressing Business In The Urban Metropolis of Kano, Nigeria <i>M. Baba, Nuhu Bello, and A. Aminu</i>	255

Determinants of Welfare of Urban Livestock Farmers In Uyo, Nigeria <i>N. A. Etim, G. E. Edet And S. Okon</i>	258
Profitability of Yoghurt Production in Bauchi State, Nigeria <i>B.F. Muhammad</i>	261
Assessment of the Training Needs of Fisherfolks in Eket And Ibeno Local Government Areas of Akwa Ibom State <i>U. A. Asa, N. A. Etim, G. E. Edet, C. A. Uwem And I. V. Friday</i>	264
Preliminary Cost and Return Analysis of Fish Pond Farming In Kaduna State <i>S.E. Anamayi J. M. Usman, R.M Anamayi and M.S. Makama</i>	266
Estimating The Determinants Of Poverty Among Rural Women In Akwa Ibom State <i>U. A. Asa, R. P. A. Unamma, and O. O. Ekumankama</i>	269
Gender Responsiveness To Cultured Fish Production As A Veritable Tool For Household Food Security. <i>G.M..Adebo</i>	271
Perceptions of Constraints Affecting Rabbit Production in Akwa Ibom State, Nigeria <i>I. A. Akpabio¹ and D. P. Okon</i>	274
Socio-economic Characteristics of Poultry Farmers in Abeokuta South Local Government Area of Ogun State. <i>E.O. Fakoya And M.O. Umunna</i>	278
Analysis of Market Concentration Among Beef Marketers In Oyo State, Nigeria <i>J. O. Oladeebo and A. M. Dare</i>	282
Cost and Return implications in Poultry Farming In Ido Local Government of Oyo State <i>R.A. Musa and L.o. Olarinde</i>	285
A Comparative Economic Analysis of Small, Medium and Large Scale Broiler Production In Ogun State, Nigeria <i>R.K. Ige, M.O. Nosiru, O.A.C. Ologbon, A.O. Odeniyi & O.O. Awe</i>	288
Improving Productivity of Small Scale Deep Litter System of Egg Production in Ogun State, Nigeria: Implication for Farm Households Socio-economic Enhancement <i>R.K. Ige, V.O. Okoruwa, M.O. Nosiru, J.O.S. Banjo & O.T. Olatokunbo</i>	291
An Analysis Of Communication Channels Of Information On Adoption Of Improved Pig Production to Women Pig Farmers In Kaduna <i>R.M. Anamayi and S.E. Anamayi</i>	294
Analysis of Some Factors Responsible for Low Animal Protein Intake in Ibadan <i>S. E. Anamayi, R. M. Anamayi and J. M. Usman</i>	297
Information Needs of Farmers in Grass Cutter Production for Improving Performance in Ona Ara Local Government Area of Oyo State <i>E. O. Fakoya, C. I. Sodiya, C. I. Alarima And A.M Omoare</i>	300
Socio Economic Effect of Micro-credit on Small Scale Poultry Farmers Livelihood In Abeokuta North Local Government of Ogun State <i>E. O. Fakoya, O. R. Ashimolowo S.A. Adewuyi, and O.F. Ashaolu</i>	304
Analysis of Nigeria's Livestock Production Trends, 1970-2005 <i>I. A. Ojiako and G.O. Olayode</i>	308
Socio-economic impact of Some Identified Components of The Agropastoral Production System in Ogun State, Nigeria <i>C. I. Sodiya, A. M. Omotayo, S.O. Apantaku, and M. O. Adedire,</i>	311

Assessment of Fulani Pastoralists Awareness of Hiv/Aids in Ogun State, Nigeria <i>C. I Sodiya, E. O. Fakoya, C. O Adamu And T. O. Obasa.</i>	314
Determinants of Technical Efficiency in Poultry Production: the Case of Urban Broiler Farms in Calabar, Nigeria <i>E. J. Udoh and N. A. E Tim</i>	318
Gender Diversity in Access and Control of Resources Among Integrated Crop-livestock Farmers in Southern Niger Republic <i>Y. N. Souley & S. A. Sanni.</i>	322
Comparism of the Productive Performance of Some Commercial Broiler Chickens In Umuahia. <i>M.O. Ironkwe and O.A Ekine</i>	325
Children Involvement in Sustainable Animal Protein Production In Nigeria <i>B. N. Ejidike</i>	328
Determinants of Use of Improved Cassava Processing Techniques for Different Cassava Products in Southwest Nigeria <i>O.E.Fapojuwu</i>	331
Technical Efficiency in Pig Production in Ogun State, Nigeria <i>O.M Bamiro; A.M. Shittu; A.A.Banwo and S.O.Akinleye</i>	335
Consumption of Dairy Products Among Rural Households in Ogun State, Nigeria. <i>O. Oyebanjo and O.A.C. Ologbon</i>	339
An Application of Alternative Production Functions to Egg Production in Oyo State <i>Z.O., Amoo and D.O. Awotide</i>	343
Economic Analysis Of Pig Production In Yewa North Local Government Area Of Gun State <i>J.O.Y. Aihonsu , E. O. Akerele A.O.Idowu and A.O.Otunaiya</i>	346
Assessment of Cattle Ownership Structure in Yewa North Local Government Area of Ogun State. <i>T.P. Olusanya A.A. Talabi, A.M. Ogungbesan G.A. Adeleke</i>	350
Socio-cultural Factors Affecting Snails' Consumption Among Ethnic Groups In New Bussa, Niger State, Nigeria <i>A.A. Ogunjinmi, M.O.Lawal, I.O.O Osunsina, O.A. Jayeola and M. Salaudeen .</i>	354
Utilization of Agricultural Research Results By Farmers Ayetoro Enclave, Ogun State, Nigeria. <i>O.M. Dada And A. Aderinto</i>	357
Session Seven	
Monogastric Animal Production Nutrition And Management	
Effects of Graded Levels of Processed Castor Oil Bean (<i>ricinus Communis</i> L) Meal and Supplementary DI-methionine on Growth Performance of Broiler Finishers <i>A.O. Ani and A.U. Okorie</i>	360
Enhancing Nutrient Utilization In Cheap, Bulky Feed Ingredients Fed To Pullets By The Use of Exogenous Enzymes <i>M. O. Adebajo, J. A. Agunbiade, O. A. Adeyemi and O. S. Banjoko</i>	365
Nutritional Evaluation of Layers Diets Based on Cassava Products and Soya Beans As Influenced By Protein Supplementation and Processing. <i>O. S. Banjoko, J.A. Agunbiade, H. A. Awojobi, O.A Adeyemi. M. O. Adebajo</i>	371
Response of Pullets to Graded Levels of Dried Yeast and High Rice Husk Diets. <i>B.A Ayanwale, and A. Umoru</i>	375

Carcass And Organ Characteristics Of Broiler Finishers Fed Diets Containing Graded Levels Of Processed Castor Oil Bean (<i>ricinus Communis</i> L) Meal And Supplementary Dl-methionine <i>A.O. Ani and A.U. Okorie</i>	376
Effect of Amino Acid Supplementation of Lablab Seed Diet on Performance of Young Pigs <i>G. S. Bawa*, T. S. B. Tegbe¹, S. O. Ogundipe, And I. I. Dafwang</i>	380
Nutritional Evaluation of Graded Levels of Taro Cocoyam in the Diet of Quail (<i>coturnix Coturnix Japonica</i>) Chicks <i>Edache, J. A., Musa, U., Karsin, P. D., Esilonu, J. O., Yisa, A., Okpala, E. J. and N.j. Zwandor</i>	383
Effect of Soaking Medium on Minerals and Antinutritional Factors in Baobab (<i>adamsonia Digitata</i>) Seed <i>S.B. Abdu, S.M. Yashim, M. Kabir, A. Musa, G.E. Jokthan</i>	386
Performance of Japanese Quails Fed Graded Levels of Pigeon Pea (<i>cajanus Cajan</i>) Meal <i>Karsin, P. D; Oyawayo E.O; Bawa, G.S; Musa, U. and Edache, J.A.</i>	388
Effects of Dietary Bitter Kola (<i>garcinia Kola</i>) on Performance Of Broilers <i>A.C. Esiogwu, H.O. Obikaonu, A.B.I. Udedibie and B. O. Esonu</i>	390
Effects of Dietary Neem (<i>a. Indica</i>) Leaf Extract On The Performance Of Laying Hens <i>M.J. Akpan, G.E. Enyenihi, O. L. Obasi, I. P. Solomon And A.B.I. Udedibie</i>	393
Physical/chemical Quality And Nutritive Value Of Dried Cassava ' <i>fufu</i> ' Meal For Laying Hens <i>AB.I. Udedibie, G. E. Enyenihi, M.J. Akpan, I.P. Solomon and O.:L. Obasi</i>	396
Effects of 5-hour Wetting of Sun-dried Cassava Tuber Meal on Its Hen Content, Performance And Haematological Indices of Laying Hens <i>G.E. Enyenihi, A.B.I. Udedibie, M.J. Akpan, O.L. Obasi and I. P. Solomon</i>	399
The Feed Value Of Velvet Beans (<i>Mucuna Utilis</i>) For Laying Chickens. <i>C.D. Tuleun, S. N Carew, . And I. Ajiji</i>	402
Fibre In Poultry Diets: Concerns And Options. <i>Abeke, F.O.</i>	406
Evaluation Of The Potential Of Blood Meal As A Supplementary Source Of Lysine In Broiler Diet <i>G. S Bawa , R. A. Ajayi¹, P. D. Karsin, U. Musa And E. Payi</i>	409
Evaluation of Nutriblast Gro Up As Feed Supplements on Performance Of Broilers <i>S M Yashim, U M Abubakar and S B Abdu,</i>	412
Cost Effectiveness of Feeding Boiled Sun-dried Taro Cocoyam Diets to Growing Japanese Quails (<i>coturnix Coturnix Japonica</i>) <i>B. I. Okon, A. A. Ayuk and M. B. Obi</i>	416
Effect Of Stocking Density And Feed Type On The Performance Of Broiler Finisher <i>H.Y. Adamu, G.E. Jokthan, S.B. Abdu, S.M. Yashim and O.T. Lekalu</i>	419
Effects Of Enzyme Supplementation Of Raw Bambara Nut (<i>vigna Subterranea (l) Verdc</i>) Waste Diets On Nutrient Utilization Of Broiler Finishers <i>A.O Ani and O.D. Omeje</i>	421
Effects of Ascorbic Acid Supplementation on the Performance Indices of Starter Pullets in A Humid Environment <i>R. A. Sobayo, E. B. Oguntona, O. A. Osinowo, D. Eruvbetine, A. M. Bamgbose, O. A. Adeyemi. A. Olomola, E.N. Okeke, J.M. Usman</i>	425

Effect of Enzyme Supplementation of Dried Brewer's Grain And Palm Kernel Cake Diets on Broilers Performance and Carcass Measurements <i>Anyaehe, A.A. and Irole, O.U.</i>	428
The Effects of Mucuna Pruriens (I) Dc Var. Utilis Leaf Meal Diets on the Performance, Haematology And Serum Biochemistry of Broiler Finishers <i>Anyaehe A.A. and K.C Okorie</i>	432
Performance Of Broilers Fed Graded Levels Of Roasted Flamboyant (<i>delonix Regia</i>) Seed Meal <i>E.L. Shiawoya., S.K. Yahaya., S .S.AEgena aAnd A. Usman</i>	436
Effect of Four Different Commercial Feeds on Cockerel Production <i>Y.S. Kudu, J.O. Alabi, S.S. Egena and M.A. Umar</i>	440
Influence Of Litter Depths On The Performance Of Broiler Chickens Raised On Wood Shaving and Sand Litters <i>E.K. Asaniyan, J.O. Agbede and E.A.O. Laseinde</i>	443
Comparative Study of Broiler Chickens Performance Reared on Different Litter Materials <i>G.R. Adebeyejo, J.A. Agunbiade, H.A. Awojobi And B.B.A. Taiwo.</i>	447
Effect Of Roof Thatching On Egg Production and Mortality Rate Of Laying Hen <i>K. O. Onasanya And G. A. Adeleke</i>	451
Influence of Different Dietary Energy Sources on the Fat-free Dry Matter Body Composition. (protein: Ash Ratio) of The Japanese Quail <i>O. A. Ekine And M. O. Ironkwe</i>	453
Proximate and Mineral Compositions of Bambaragroundnut as Influenced by Cooking Periods <i>S.O. Omoikhoje, A.M. Bamgbose, M.b.aruna, D.O. Obasoyo and E.T.E. Ehebha</i>	456
Performance of Finisher Broilers Fed Wet Mash With And Without Drinking Water During Wet Season In The Tropics <i>H. A. Awojobi, B.O. Oluwole, A.A. Adekunmisi and R.A. Buraimo</i>	459
Evaluation of Graded Dietary Levels of Rice Offal on the Performance of Broiler Starter Chickens <i>M.I. Iorgyer, E.O., Odoh and V, Ishaya</i>	461
Enhancing The Nutritive Value Of Cassava Products Through Processing In The Diets Of Broilers. <i>S.A Adesida and J.A. Agunbiade</i>	464
Quantitative Determination of Tannin Contents of Some Unconventional Feedstuffs <i>G.O. Adeyemo, O.A. Adebisi and O.A. Sokunbi</i>	468
Microbial Phytase Supplementation: Effects on Mineral Utilization in Broiler Fed Maize Based Diets. <i>O. A Adebisi, A.D Ologhobo, A. A. Adedoyin, and E. A. Amao,</i>	470
The Performance of Broiler Chicken Fed Fermented Cassava Composite Diets. <i>L.N. Agwunobi, and A.N. Robert,</i>	473
Evaluation of Raw and Fermented <i>Alchornea cordifolia</i> Seeds As Feed Ingredients For Broilers <i>O.O. Emenalom, E.B. Etuk, B.O. Esonu, A.B.I. Udedibie, C.C. Nwaiwu, and B.A. Obiora</i>	476
Feed Potential of <i>Tephrosia bracteolata</i> Seeds <i>S.N. Carew; J.A. Ayoade; A.I. Okwori And DT. Shaahu.</i>	479
Comparative Utilization Of Palm Kernel Cake And Deoiled Cake In Diets Of Cockerels. <i>S.A Adesida, J.A. Agunbiade and O.O. Eniolorunda</i>	482

Comparative Effects of Maize, Sweet Potato, Cocoyam and Cassava on Broiler Chicken Performance <i>B. M. Oruwari and O. Ogwuegbu</i>	486
Utilization Of Cassava Peels Treated With Yeast Culture By Egg-laying Chickens <i>O. Olowofeso and O.O. Omisami</i>	489
Egg Quality Response of Layers on Commercial Yolk Colourants and Carrot <i>T.A. Rafiu, G.M. Babatunde, A.A. Odunsi, T. B. Olayeni, O.O. Ojebiyi and O. A. Aderinola</i>	493
Effects of Replacing Soyabean Meal and Maizewith Palm Kernel Cake on the Performance of Finishing Brioler Chickens <i>J.I. Kperegbeyi and B.I.O. Akpobasa</i>	497
Effect of Castration on the Performance and Carcass Characteristic of Male Rabbits <i>D.B Oke, E.S. Apata, F.O. Osikoya and M.O. Oke,</i>	500

Session 8

Animal Health And Diseases

The Influences of Trimester of Pregnancy And Lactation on The Responses of Out-bred Albino Mice to <i>Heligmosomoides bakeri</i> Infection. <i>L.A. Ngongeh, S.N. Chiejina, B.B Fakae</i>	503
A Study of Graded Single Doses of <i>Heligmosomoides bakeri</i> . Infections of a Nigerian Strain of Out-bred Albino Mouse <i>L.A. Ngongeh, S.N. Chiejina, B.B Fakae</i>	505
Survey of Tick Species Responsible for Lameness on Goats in Sokoto, North-western Nigeria <i>M.D Lawal, H.S Yahya, .,ASHittu, . and A Jibril,</i>	508
Dermoid: A Case Report In a Friesian-bunaji Cross Calf <i>A. Jibril¹, J.B Adeyanju¹, S Buhari², ., Yakubu¹, A.S. and A Umar,</i>	510
Cannibalism in Poultry: Causes And Cure <i>F.O Abeke.</i>	513
Camel Trypanosomosis from Gwandu, Northwestern Nigeria: A Case Report <i>H.S. Yahya, ²M.D Lawal and A Shittu.</i>	516
Prevalence Level of Gastro-intestinal Helminthiasis in Savanna Brown Goats in Kpakungu Minna, niger State, Nigeria <i>D. N. Tsado, C.I.Alemede, And I.A.Adewale</i>	519
Sero-prevalence of <i>Mycoplasma gallisepticum</i> of Local Chickens in Sokoto State. <i>Y.A Adamu and A. Abdulkadir</i>	522
An Appraisal of Streptothricosis Occurrence in Cattle in Niger State <i>J.Y. Adama and O. O. A. Fasanya</i>	525
Prevalence Of Ticks Infestation In Dogs In Jos Metropolis <i>P.W. Erakpotobor, L.G. Gomos and E.J Okpala</i>	527
Traditional Methods of Treating Mange in Small Ruminants in Offa Local Government Area, Kwara State <i>M.O Alayande, B.R. Olorede and S.O .Salami</i>	530

Detection of Mastitis in Dairy Goats Using the Alcohol Test <i>M. Anaeto, G. O. Tayo, S. J Dela-rosa, and Eyadan, L. C</i>	532
Prevalence Of Bovine Tuberculosis In Ogbomoso Area Of Oyo State <i>S.A. Ameen, O.S Adedeji, A.K Raheem, T.B Olayeni T.A Rafiu, Akingbade, A.A., Ojedapo, L.O, Amao S.R.</i>	535
Preliminary Studies on Prevalence of Small Ruminant Trypanosomosis in Ogbomoso Area of Oyo State, Nigeria <i>S.A.Ameen, R.A Joshua O.S Adedeji, T.A Adedeji, T.B Olayeni, L.O Ojedapo, A. K Raheem, and A.A Akingbade, . O.O. Leigh.</i>	538
Investigating The Health Status of Animals in Lairages in Port Harcourt and Environs <i>O. S. Olaka ,and J. Z Alabo,</i>	540
The Effects of Dietary Supplementation of Alpha Tocopheryl Acetate and Ascorbic Acid on the Severity of <i>T. Brucei</i> Infection In Albino Rats. <i>L. O. AkaC.O Igbokwe and I. Ezeh</i>	543
A Survey Of Causes Of Mortality In Some Local Chicken Flocks In Plateau State <i>U. Musa, P.A Abdu, . I.I Fafwang., J. A Edache, M.S. Ahmed, G.S Bawa, Karsin, P.D., and P.E. Ememaa</i>	547
Comparative Studies on the Diurnal Variations in the Rectal Temperature of the West African Dwarf Goat During the Hot-dry And Raining Seasons <i>A. Fayomi, J.O. Ayo, O. A. Gabriel, O. M, Jaiyeoba, J.J. Ajakaiye, N.S. Minka, and O. Olaniyan</i>	551
Cebocephaly (monkey face) in a 3 day old oudah-balami cross-lamb: a case report <i>M.L. Sonfada, A.A. Umar, S.A. Shehu and M.S. Abubakar</i>	555
Clinical Incidence Of Coccidiosis In Rivers State Between 2000 2005 And Its Public Health Importance <i>O. S. Olaka, And C. U. Achigonye</i>	557
Session 9	
Ruminant Animal Production, nutrition And Management	
Nfluence of Season on Flock Structure of Sheep and Goats Managed at Natural Service Centre, Danbatta, Kano State. <i>Nuhu Bello and I. R. Muhammad</i>	560
Effect of Cassava Leave Meal Supplement With or Without Cobalt on Dry Matter And Nutrients Intake And Digestibility In Goats Fed Panicum Maximum Hay <i>M. B.yousuf; H. A. Gbaadamosi "nd N. J. Ogundun</i>	564
Applying an <i>In Vitro</i> Gas Production Method to Assess <i>Panicum Maximum</i> And <i>Ficus Polita</i> At Varying Proportions <i>T. O. Abegunde¹, A. A. Mako² and A.O. Akinsoyinu</i>	567
Studies on Performance of Sheep Fed Sugarcane (<i>Saccharum officinarum</i>) Tops Supplemented With Varying Levels of <i>Leucaena leucocephala</i> Foliage. <i>T. O.Bawala, , A. B. J Aina, C. F. I Onwuka, . A.O Oni, Y. Adebisi, and M. A. Alli,</i>	571
Feed Intake, Digestibility And Introgen Balance of West African Dwarf Sheep And Goat Fed <i>Vetiveria Nigritana</i> Grass <i>O. A. Aderinola, J. A. Akinlade, T. A. Rafiu and T. Fajinmi.</i>	575

Nutrient intake, Digestibility and Weight Gain of West African Dwarf Sheep Fed Rumen Content-poultry Droppings Mixed Diets <i>A.N. Fajemisin, J.A. Alokun, S.O. Aro, O. Olowofeso and T.S. Fawolu</i>	579
Nutrient Contents Of Selected Forages As Affected By Soil Fertility Treatment Techniques. <i>L. J. Isaac, U. C. Udoinyang, And J. S. Ekpo,</i>	583
Evaluation of <i>Gmelina Arborea</i> And Banana (<i>Musa Sapientum</i>) Leaves as Feed for Household Goat Production <i>O.O. Adeleye And O.A. Fasae</i>	586
The Adaptability of the White Fulani Cattle to the Humid Zone of Nigeria <i>K. O. Onasanya, A. G. Ologun, H. A. Ademiluyi and G. A. Adeleke</i>	590
Macro-minerals Composition of Selected Forages Edible by Ruminants in Afaka Area, Kaduna <i>O. Olukotun and K.E. Nwaosuibe</i>	592
Germinability Response of Five Forage Legume to Five Presowing Treatments <i>A.M. Ogungbesan , O.E Okpako , G.A Adeleke, and M.o Ariyo</i>	595
Effect of Combined Levels of Panicum Maximum And Gliricidia Sepium on Nutrient Digestibility and Utilization By West African Dwarf Goat Fed Cassava Offal Based Diet. <i>O. O. Eniolorunda, O. A. Jinadu, M. A. Ogungbesan And T. O. Bawala</i>	597
Nutritive Values of Dried Pineapple Pulp And Some Tropical Grasses Using Invitro Gas Production Method. <i>T. O.Ososanya,</i>	601
Assessment of palm kernel cake, wheat offal and brewers dried grain-based concentrate incubated with Guinea grass on in vitro gas production and methanogenesis <i>O. J. Babayemi</i>	603
Effect of Feed Trough Shapes and Methods of Feeding on the Performance and Blood Biochemical Constituents of West African Dwarf Goats. <i>O. S. Sowande, G. T. Ogunjobi And A. B. J. Aina</i>	605
Biochemical Evaluation of Four Forage Legumes at Different Stages of Growth <i>G. O. Tayo, A. Akinyemi, M. Anaeto and G. O Agbaje</i>	608
Effect of Solubilization of Cornhusk Supplemented With Cassava Leave Meal And <i>Leucana</i> Leave Meal Based Diet As Fed to Yankassa Sheep On Feed intake and Growth Rate. <i>O.O. Eniolorunda And G.A. Rowaiye.</i>	611
Identification and Chemical Composition of Feed Resources Used Inruminant Production In Ado-Odo Ota And Abeokuta South Local Government Area of Ogun State, Nigeria. <i>O.A. Isah, L.A Omoniyi and A.O. Olatunji</i>	615
Utilization of Whole Cassava Plant (TMS 0581) by West African Dwarf Goats <i>O. E. Fasina, O. O. Ijaduola, A. I. Bello and O. O. Fayinminu</i>	618

Session 10

Fisheries

Preliminary Fish Seed Resources Survey in Yewa Lagoon, Ogun State Nigeria <i>Olopade O. A. and I. O. Taiwo</i>	621
Performance And Profitability Of Catfish (<i>Clarias gariepinus</i>) Production Under Smallholder Enterprise.	

Evaluation of Pawpaw Leaf-based Diets on Growth And Survival of African Catfish(*Clarias gariepinus*) Fingerlings Reared In Plastic Bowls.

P.S. Alatise, N.J. Ogundun, A.A. Akinwande and S.K. Omotugba

627

Stimulation of Profitability and Technical Efficiency Levels Among Commercial Poultry Farms in Rural Farming Communities in Oyo State, Nigeria

K.A. Akann

630

The Profitability Of Livestock Production In Ogun State

G. Olayode, I.A. Ojiako, J.O.Y. Aihonsu, Z.O. Amoo and S. Falemara

634

Carcass Characteristics of Broiler Chickens Fed Different Sources of Energy

M.I. Egbo, M.B. Ngele and M.E. Trivboje

639

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NUTRITIVE VALUES OF DRIED PINEAPPLE PULP AND SOME TROPICAL GRASSES USING INVITRO GAS PRODUCTION METHOD.

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Summary

The experiment was carried out to access the nutritive value of dried pineapple pulp (DPP) compared to the nutritive value of some tropical grasses using in- vitro gas production technique. The grasses were: *Panicum maximum*, *Pennisetum purpureum*, *Andropogon tectorum* and *Cynodon dactylon*. 2mg of dried, ground pineapple pulp was incubated with rumen liquor, buffer solution, macro and micro mineral solutions, reducing solution and usazurin. The incubation was due at 39 °C for 24 hours. The same procedure was due for the grasses. The amount of methane, organic matter digestibility and metabolizable energy of the samples were compared. Findings revealed that dried pineapple pulp has higher organic matter digestibility and sufficient crude fibre. Also, DPP produced higher levels of methane than other fibre sources. It can therefore be concluded that DPP can be mixed with other feed ingredients as a supplement for ruminant production.

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Introduction:

The state of nutrition of people in tropical Africa currently leaves a lot to be derived. UNO (1971) reported that adequate nutrition is a pre requisite of the development of nature's human resources. It is a fundamental goal for all economic and social progress; therefore, meaningful and coordinated research into increased food production with emphasis on animal protein is inevitable. The nutrition of farm animal is of paramount importance to the nutrition of man as sources of essential protein. Thus, finding alternative, non-conventional feed ingredients for livestock to increase animal production and subsequently availability of animal protein to humans is a paramount.

This study compared gas production levels of pineapple pulp and some tropical grasses which serve as fibre sources in ruminant feed.

Materials and methods

The grasses were collected from T&R farm, UI while pineapple pulp was obtained for a nearby canning factory. Each of the grasses collected and pineapple pulp were dried and ground. Rumen liquor was collected and strained using cheese cloth while flushing with carbon dioxide. The strained rumen liquor was mixed with artificial saliva/ buffer solution. In vitro gas production technique of Menke *et al.* (1979) was used to determine the nutritive value of the samples from the estimates of the degradable organic matter and metabolisable energy.

Results and Discussion

The results of the calculated methane gas, organic matter digestibility and metabolisable energy were presented in Table 1.

Table 1: Calculated Methane Gas, Organic Matter Digestibility and Metabolisable Energy of Dpp and some Tropical Grasses

	a	b	c	y	T	EGP
A <i>Cynodon dactylon</i>	2.790	3609	0.00923	7.502	13.50	12.880
B <i>Panicum maximum</i>	3.778	213	0.00452	8.264		
	13.50	13.122				
C <i>Pennisetum purpureum</i>	2.572	186	0.09319	5.082	13.50	7.363
D <i>Andropogon tectorum</i>	4.699	634	0.00044	6.238	13.50	8.446
E <i>Pineapple pulp</i>	5.235	177.0	0.02558	10.419	13.50	16.492
SEM	2.953	2379.045	0.00657	2.195	0	3.1519

In vitro characteristics.

a= intercept, b= potentially degradable fraction, c= rate of degradation of b, t= time, y= degradability at time t and EGP= Expected gas production.

The result of the methane gas production showed that *Andropogon tectorum* had the least value of 3.3 while Pineapple pulp had the highest value of 33.00. There were no significant differences ($P < 0.05$) between methane gas production levels of Pineapple pulp and *Panicum maximum*. Similarly, the results showed that the OMD values ranged from 26.8 to 46.1 for *Andropogon tectorum* and DPP respectively. However, there were no significant differences ($P < 0.05$) between *Cynodon dactylon* and *Pennisetum purpureum*. But significant differences ($P < 0.05$) existed between these two grasses, other grasses and pineapple pulp. Also, the result showed that metabolisable energy revealed no significant differences ($P < 0.05$) between Pineapple pulp and *Panicum maximum*, but, the 2 ingredients and *Cynodon*

dactylon, *Andropogon tectorum* and *Pennisetum purpureum*.

Conclusion

Considering the fact that pineapple pulp contains high percentage of rumen degradable organic matter than the forages but its use as a total replacement but as supplements.

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