



42ND ANNUAL CONFERENCE



THE GENETICS SOCIETY OF NIGERIA
IN COLLABORATION WITH
NIGERIAN DEFENCE ACADEMY KADUNA

Book of Abstracts

- THEME:-

**GENETICS AND
NATION BUILDING**

Sunday 9th–Thursday 13th
December 2018

JN Garba Hall Ribadu Campus, NDA Kaduna

SPONSORS



OPEN FORUM ON AGRICULTURAL
BIOTECHNOLOGY IN AFRICA





- GDC 17: Effects of Seed Dressing Chemicals on Improved and Local Variety of Pearl Millet Infected with *Sclerospora graminicola*. By Shuaibu, A.M, Ahmad, F.S., Zakari, S.M., Abdullahi, S., Katuzu, T.A. and Muhammad, U.A. -----73
- GDC 18: Combining Ability of Stress-Tolerant Extra-Early Quality Protein Maize Inbreds for Resistance to Northern Leaf Blight Disease. By Bello, O. B., Mahamood, J., Azeez, M. A., Kioko, J. I., Agbolade, J. O., Suleiman, Y.A., Ige, S.A., Afolabi, M. S., Azeez, H. A. -----73
- GDC 19: Seroprevalence of Hepatitis B Surface Antigen (Hbsag) and Anti-Hepatitis C Virus Seropositive Patients in Anyigba Environ. Abba, M.A., Odama, L.E., Agieni, A.S and Idajili, M.G.--74
- GDC 20: Antibacterial Potential of Crude Extract of *Azadirachta indica* Seed Oil Against Some Test Organisms. By Jamilu, H., Gambo, J.B. and Onyike, E. -----74
- GDC 21: Retinoblastoma Susceptibility Gene (RB1) Polymorphism among Children in Calabar, Nigeria. By Kooffreh, M.E., Duke, R., Ephraim, N. and Umoyen, A. -----75
- GDC 22: Anti Diarrhoea Activities of the Stem Bark of the Plant *Sacoglottis gabonesis* on Experimental Mice Found in Kaura-Namoda Town. By Hassan A.B, Mustapha S.M and Bello, B. M.-----75
- GDC 23: Using Genetics to Curb the Number of Mosquitoes in Order to Reduce Malaria Sickness; A Case Study of Sokoto Metropolis. By Wada B.M. And Abdulrahman A.S. -----76
- GDC 24: Review the Dynamic Nature Of Breeding for Resistance to Cassava Mosaic Disease (CMD). By T.S. Bubuche¹, G. U. Augie² and M. U. Tanimu³-----76
- GDC 25: Endemicity Of *S. Haematobium* And Co-Infection With Salmonella Bacteria Among School Pupils In Talata Mafara Local Government Area, Zamfara State, Nigeria. By Mudassir, I.,¹ Suleiman, A.B., Dibal, D.M., Abdulhamid, Y., Abba, A. M. and Omenesa, R. L. -----77

SECTION FOUR: ENVIRONMENT, DATA COLLECTION AND FORENSICS

SUBTHEME: HARNESSING GENETIC POTENTIALS FOR ENVIRONMENT RESTORATION (HGPÉR)

- HGPÉR 1: Molecular Characterization of Some Bacteria Isolated from Munitions Contaminated Sites in Kachia Military Firing Range. By Alhaji, A.I., Onusiriuka, B.C., Maikaje, D.B., Appah, J.A., Vantsawa, P.A., Magaji, Y., Haroun, A.A., Oaikhen, E.E and Fatamni, E.O. -----78
- HGPÉR 2: The Use of Genotoxicity Bioassay for The Evaluation of Environmental Contaminants: Review. By Darma, A.M and Yusuf, A. -----78
- HGPÉR 3: Chromosome Mediated Resistance to Heavy Metals in Gram Positive Bacteria. By Adebo, A., Umeh, E. U., Gberikon, G.M and Ogbonna, I.O. -----79
- HGPÉR 4: Detection of Phytoremediation Gene in Selected Flora of Kachia Shooting Range. By Magaji, Y., Ajibade, G.A., Yilwa, V.M. and Haroun, A.A. -----79
- HGPÉR 5: Screening of Fungi Isolates From Soil, Pulp Waste Water and Rotten Wood for Cellulase Producing Potentials. By Effiong T.E., Abdulsalami M.S. and Egbe N.E.-----80





GDC 17: EFFECTS OF SEED DRESSING CHEMICALS ON IMPROVED AND LOCAL VARIETY OF PEARL MILLET INFECTED WITH *Sclerospora graminicola*

¹Shuaibu, A.M*, ¹Ahmad, F.S., ¹Zakari, S.M., ¹Abdullahi, S., Katuzu, T.A. and ²Muhammad, U.A.

¹Department of Plant Biology, Faculty of Life Sciences, Bayero University Kano, PMB 3011, Kano, Nigeria.

²Department of Biological Sciences, Bauchi State University, Bauchi, Nigeria

*Corresponding author e-mail: musashuaibuabubakar@gmail.com GSM: +2348134412110

ABSTRACT

Pearl millet is an important staple food the world over. One of the constraints of its production is the downy mildew disease caused by *Sclerospora graminicola* which is a very destructive disease of pearl millet. The disease is common in places where pearl millet is cultivated for food and fodder and these includes some Asian and African countries. A field experiment was conducted at Minjibir, International Crop Research Institute of Semi-Arid Tropic (ICRISAT) station, Kano state situated within the Sudan savanna of North West Nigeria to test the effect of seed dressing chemicals on yield and growth of pearl millet infected with *Sclerospora graminicola* on improved and local variety. The experiment includes ten treatments (Apron star, Agrolyser, Apama plus, Boost extra, Dress force, MOP, SSP, All-star, Apron star + Boost extra, and control) and replicated three times in a split plot design. The improved variety is super sosat while the local variety is Jirani. The experiment was investigated during the 2017 rainy season. The result obtained showed that seeds dressed with SSP, Apron star + Boost extra lower the incidence of downy mildew disease caused by *Sclerospora graminicola* on both Jirani and Super sosat variety. The super sosat variety is more tolerant to downy mildew disease than the Jirani variety. Seed dressing chemicals increased the yield and growth of improved pearl millet variety while there is no significant difference with the local variety compared to the control.

Keywords: Pearl millet, downy mildew, varieties and Seed dressing chemicals

GDC 18: COMBINING ABILITY OF STRESS-TOLERANT EXTRA-EARLY QUALITY PROTEIN MAIZE INBREDS FOR RESISTANCE TO NORTHERN LEAF BLIGHT DISEASE

¹Bello, O.B.*, ²Mahamood, J., ³Azeez, M.A., ⁴Kioko, J.I., ⁵Agbolade, J.O., ⁶Suleiman, Y.A., ⁷Ige, S.A., ⁸Afolabi, M.S. and ⁹Azeez, H.A.

¹Department of Agronomy, Federal University, Gashua, Nigeria.

²Lower Niger River Basin Development Authority, Ilorin, Kwara State, Nigeria

³Department of Pure and Applied Biology, Ladoke Akintola University of Technology, Ogbomoso, Oyo State, Nigeria

⁴Department of Biodiversity and Conservation, Cape Peninsula University of Technology, Cape Town, South Africa

⁵ Department Plant Science and Biotechnology, Federal University, Oye Ekiti, Nigeria

⁶Department of Agronomy, Ibrahim Badamasi Babangida University, Lapai, Niger State, Nigeria

⁷Department of Crop Science, Landmark University, Omuaran, Kwara State, Nigeria

⁸Department Agronomy, Osun State University, Ejigbo Campus, Osogbo, Osun State, Nigeria

⁹ Department of Crop, Soil and Pest Management, Federal University of Technology, Akure, Nigeria

*Corresponding author: obbello2002@yahoo.com, Phone Number; +2348035618020

ABSTRACT

Quality protein maize (QPM) cultivars combining disease resistance with high tryptophan, lysine and grain yield could enhance nourishment and food security in the sub-Saharan Africa. A diallel cross of ten newly developed stress-tolerant extra-early QPM inbreds was developed with the aim of assessing combining ability for resistance to Northern Leaf Blight Disease (NLBD) disease with high grain yield and quality protein using artificial inoculation. The trial was evaluated at the Lower Niger River Basin Authority, Oke-Oyi, Nigeria in 2016 and 2017 cropping seasons. The ratio of general to specific combining ability was greater than one for grain yield, but less than one for NLBD resistance, lysine and tryptophan traits, signifying that additive genetic effect is controlling the inheritance of grain yield alone. The NLBD ratings in all the crosses of drought and Striga tolerant QPM inbreds were low (<3.0) compared with the five commercial hybrids as controls of 3.7. The stress-tolerant QPM inbreds (99 TZEE-Y STR QPM and 99 TZEE-W STR QPM) that were crossed with moderately tolerant lines (TZEE-Y POP STR QPM C₂, TZEE-W POP STR QPM C₂ and 2009 TZEE-OR₁ DT STR QPM) featured as most promising for developing NLBD resistant, high grain yield, tryptophan and lysine genotypes.

Keywords: Additive; artificial inoculation; grain yield; leaf blight.





MEMBERS OF THE LOCAL ORGANIZING COMMITTEE (L.O.C) OF THE 42ND ANNUAL CONFERENCE OF THE GENETICS SOCIETY OF NIGERIA

Secretariat and Technical Committee

Dr NE Egbe	Chairperson
Dr AA Haroun	Member
Mrs V Bakare	Member
Mrs E Kereakade	Member
Mr ET Effiong	Member
Mr B Benjamin	Member
Ms EE Oaikhena	Secretary

Publicity

Dr AA Haroun	Chairman
Dr Y Magaji	Member
Mrs NA Bamidele	Member
Mrs Ada Oyong	Member

Logistics

Dr J Appah	Chairman
Maj (Dr) Al Alhaji	Member
Haj H Hamza	Member
Mrs M Haroun	Member
Mrs Rabi	Member
Mrs E Oladapo	Secretary

Financial Subcommittee

Dr VMY Dan	Chairperson
Dr GB Onwumere	PRO
Dr J Appah	Member
Dr SM Tahir	Member
Dr David Duniya	Member
Mrs Rabi	Member
Mrs Zah'rau Umar	Member
Dr DM Dibal	Secretary

Refreshment and Decoration

Dr DM Dibal	Chairperson
Dr KB Dikwa	Member
Mrs Doris	Member
Mrs Zakarriya	Member
Mr Y Abdul	Member
Ms KR Patrick	Member
Mrs S Ayuba Buhari	Secretary

ADVISORY COMMITTEE

Prof BC Onusiriuka	Publicity and Logistics
Prof GA Ajibade	Secretariat and Technical Committee
Prof MC Emere	Refreshment and Decoration
Prof YA Umar	Publicity and Logistics
Prof MA Adelanwa	Secretariat and Technical Committee
Prof Atawodi	Publicity and Logistics
Assoc Prof MS Abdulsalami	Refreshment and Decoration
Dr PA Vantsawa	HOD, Financial Subcommittee

