



CRIN Herald

A MONTHLY PUBLICATION OF COCOA RESEARCH INSTITUTE OF NIGERIA (CRIN), IBADAN.

ISSUE: 32 (October, 2023)

CRIN Resuscitates Monthly Seminar



The Cocoa Research Institute of Nigeria (CRIN) has resuscitated her monthly seminars. The seminar was suspended due to COVID-19 pandemic and lockdown as well as industrial dispute between research institutes, labour unions and Government. The seminars kicked off on Tuesday, August

22, 2023 at Lawrence Opeke Hall of the Institute. The second seminar was held on Monday September 11, 2023. The August seminar featured two presenters: Dr. T.E. Ogunjobi, Assistant Director and Head, Information and Documentation Department and Dr B.A. Ogundeji, Principal Research Officer. Dr. Ogunjobi presented on the roles



of information and documentation in the enhancement of CRIN visibility and successful research output. She listed some of the visibility and research tools that are available in

CRIN which includes: Institute website, Facebook, Twitter, YouTube, Internet, Teal and Research for Life. She encouraged all scientists and entire CRIN staff to make use of available visibility and research tools as this will move the Institute forward. Dr B.A. Ogundeji, spoke on metabolic profile of fungi associated with stored cocoa beans and varieties in Nigeria. He emphasized that despite the economic importance of cocoa beans to the world, fungal infections and mycotoxin contamination often rendered them



unsafe for human consumption hence, there is need to determine the stages and conditions for production of toxic fungal metabolites in stored cocoa beans varieties.

Also, September seminar featured two presenters: Dr. C.I. Iloyanomom and Dr. S.B. Rahman.



Dr. C.I. Iloyanomom spoke on growth and early field establishment of cocoa (*Theobroma cacao* L.) as influenced by organic and phosphate fertilizers in Ibadan and Owena. In

her results presentation, she discovered that sole or combined *Chromolaena odorata*, cocoa and kola pod husks at 10 kgNha⁻¹ and rock phosphate at 16 kgPha⁻¹ were as effective as NPK and SSP and they improved growth and early field establishment of cocoa in Ibadan and Owena, Nigeria.



Dr. S.B. Rahman presented on training needs of agriculture lecturers for information and communication technology skills enhancement in public universities in

Southwestern, Nigeria. He discovered training gaps in skill enhancement for software skills, simple web design, online teaching and learning. Therefore, he recommended training programs to enhance skills of agricultural lecturers in public universities in the study area. Also, he urged university management to provide adequate ICT tools to enable lecturers fully utilize ICT tools in their teaching and research.





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Cross section of seminar participants

CRIN Scientist Attends Workshop on Cashew Health Map in West Africa Sub-Region at Côte d'Ivoire



The Head of Station, CRIN Ochaja Substation, Kogi State and National Coordinator, Cashew Health Map in Nigeria, Dr. D.O. Adeniyi attended workshop on cashew health map in West

Africa sub-region organized by West Africa PRO-Cashew project in collaboration with Cashew Research and Development Network (REDAA) from 21st to 22nd August, 2023 in Yamoussoukro, Côte d'Ivoire. The workshop had in attendance researchers, extension officers and policy makers from Benin, Burkina Faso, Côte d'Ivoire, Ghana, Nigeria and Togo. The task of the workshop was to develop protocol for the project activity on "update of the health map of cashew orchard in the West African Sub-Region". The project will be carried out in the countries where PRO-Cashew and/or CICC are working namely Côte d'Ivoire, Benin, Burkina Faso, Nigeria, Ghana and Togo. The assignment is to work to improve the governance of the network, update the mapping of cashew diseases and insects in the countries where PRO-Cashew operates.



Cross section of the participants





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CRIN Represented at ACA conference

Dr. J.O. Lawal, an Assistant Director with the Institute, attended the 17th African Cashew Alliance conference which was held in Saly, Senegal from 18th - 22nd September, 2023. The theme of the conference was 'Sustaining the African cashew



industry: assessing the journey so far and looking forward". The conference was well attended by scientists, captains of industry, Directors, and entrepreneurs from all over the world. At the conference, Dr. Lawal presented a paper titled: "Constraints to sustainable production and marketing of raw cashew nuts for improved farmer livelihood in Abia State, Nigeria". In her presentation, she recommended that cashew farmers in Abia State be assisted and trained on reduction of the incidences of pests and diseases, adaptation and mitigation of climate change and attacks by herdsmen on farming households to help reduce the risks and uncertainties in production and also link them to sustainable markets.



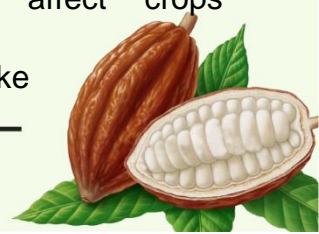
(L-R) Dr. Lawal, Mr. Bernard Ukattah, Director, Crop Production FMARD and Alhaji Tukur Usman Director Cashew value chain (in green)

CRIN Scientist Wins Scientific Exchanges Program (SEP) Fellowship



Dr. I.U. Mokwunye, an Entomologist at CRIN, was selected for the prestigious USDA Scientific Exchanges Program (SEP) Fellowship that held between March 6, 2023 and

June 3rd, 2023 at the North Carolina State University in Raleigh, North Carolina USA. The SEP fellowship was aimed at improving agricultural productivity by educating a new generation of agricultural scientists, increasing scientific knowledge and promoting collaborative program amongst professionals of eligible countries (Nigeria, Ghana, Senegal and Côte d'Ivoire), agricultural professionals of the United States and international agricultural research system. This afforded her the opportunity to work one-on-one with an expert, YU Takeuchi, on Phenology model at the NSF Center for Integrated Pest Management (CIPM), North Carolina State University, Raleigh, North Carolina, USA. The knowledge and skills gained is expected to promote food security and economic growth in Nigeria. During the course of the fellowship, she attended Water for Food Global Conference at the University of Nebraska, USA, where she saw first-hand a sensor-based fertigation system on a large acreage of annual crops. Her work centres on the development of a reliable Phenology model for coffee towards the early detection and sustainable management of coffee berry borer (Coleoptera: Curculionidae) in Nigeria. As stated by Dr. Mokwunye, it is predicted that global warming will affect crops negatively making crops more vulnerable to biotic pressure like





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insect pests. Addressing this concerns require a new approach through the use of models to predict and manage the variability of economic pests. The phenology model was used in the study. Information on times of phenological events is useful for planning, organizing and timely management of crop pests, she averred. The technical skills and knowledge gained on phenological model will be applied for forecasting other important pests of our mandate crops. As a result, she is putting up a team drawn from different relevant disciplines to achieve the goal and in future develop a software that will simplify the prediction and dissemination process to farmers in a timely manner.



Dr. Mokwunye and SEP Fellowship Awardees

ARCN News

The ES Attends the RTB Breeding Investment Inception Conference



The Executive Secretary (ES) of ARCIN, Prof. Garba Hamidu Sharubutu mni attended the RTB breeding investment inception conference in Kampala, Uganda on 6th September, 2023. In his presentation, the ES indicated that the following, among others, will drive RTB production and productivity: a) the strategic importance of NIHORT and NRCRI towards the development of Roots, Tubers and Bananas (RTB) and b) the policy enabling institutions, breeding, economic marketing, extension dissemination as well as synergy amongst these stake holders for demand driven research. Furthermore, Prof Sharubutu enumerated the needs of the farmers as follows: 1) Quick / early maturing varieties; 2) Disease resistant varieties; 3) Drought resistant varieties; 4) Varieties tolerant to wetlands or waterlogged areas; and 5) High nutritional value. The erudite Executive Director (ED) of the Institute and a seasoned breeder, Dr. Patrick Adebola, as well as the ED NRCRI Umudike, Prof. Egesi Chidozie were ably present at the occasion.





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(L-R) ED CRIN, ED NRCRI and ES ARCN



Group photograph with the other participants

ARCN Inaugurates Joint Committee on Partnership with NASC

An agreement was reached on September 4, 2023 between the Agricultural Research Council of Nigeria and the National Agricultural Seed Council on how to chart a way forward in the development of genetic and improved seeds for sustainable agriculture and food security in the country. The earlier meeting culminated in the coming together between both sister agencies to form a joint committee to that effect. In his opening remarks, the Executive Secretary of ARCN, Prof. Garba Hamidu Sharubutu mni expressed his delight and appreciated the NASC commitment on the project. Represented by Dr Shaibu Aliyu Madugu,

Head of PRS department, he reeled out the names of the committee members nominated by the Council. The Ag. DG of NASC, Dr. Khalid, in his response, noted the necessity of setting up the committee due to the challenges presently being faced as a nation. He indicated that food safety and food security lies within the two sister agencies with emphasis on seed genetics, while urging the Universities and Research Institutes under the Council's purview to work on seed breeding. He further charged the committee to work assiduously to bring out documents to enhance good seed breeding through research. Other areas he directed the committee to look at is the opening up of more lands for research and breeding of improved varieties, extension activities to portray the huge potentials on good seed breeding and to ensure that the research products are brought to the industries. He seized the opportunity to inaugurate the committee.



Round table discussion during inauguration



Group photograph during the occasion





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Courtesy Visit by the VC of IBB University Lapai to ARCIN



The Vice Chancellor (VC) of the Ibrahim Babangida University, Lapai paid a courtesy visit to the Council on September 14, 2023. In his opening speech, the VC of IBB University, Lapai, Prof. Adamu Abu Kasim

indicated the reason for their visit which was to seek for collaboration with the Council. This is as a result of the need for the University's strategy which is committed towards addressing national development challenges that when resolved will promote economic growth and the well-being of the citizenry. Prof. Kasim further highlighted one of the University's objectives which is to encourage and promote scholarship and conduct research in all fields of learning and human endeavours. In proposing the partnership, the University is soliciting for funding, materials and personnel support from the Council which could come in one-time endowment and MOU or at some regulated interventions. In his response, the Executive Secretary (ES) of ARCIN, Prof. Garba Hamidu Sharubutu mni expressed delight in the visit and enthused that the Council would have to study the proposal and see how relevant it is to ARCIN's scope of activities. Prof. Sharubutu further noted that the University is at home and assured that they are legally right to seek for collaboration with the council. In the VC's entourage were the Coordinating Director of Research, Prof. Obaje, University registrar amongst others.



Group photograph after the visit

ES Visits National Root Crops Research Institute, Umudike

The Executive Secretary (ES), Agricultural Research Council of Nigeria (ARCIN), Prof. Garba Hamidu Sharubutu mni paid a working visit to the National Root Crops Research Institute (NRCRI), Umudike, Abia State on September 20, 2023. The ES seized the opportunity of the visit to execute the following functions: 1) Commissioning of the newly built office complex for the Planning Research and Statistics (PRS) Department, 2) Tour of the NRCRI Umudike Biosciences facility, 3) Visitation to Umudike Seeds office, farm, screen house and 4) Supervision of the promotion examinations/interview held in the institute.

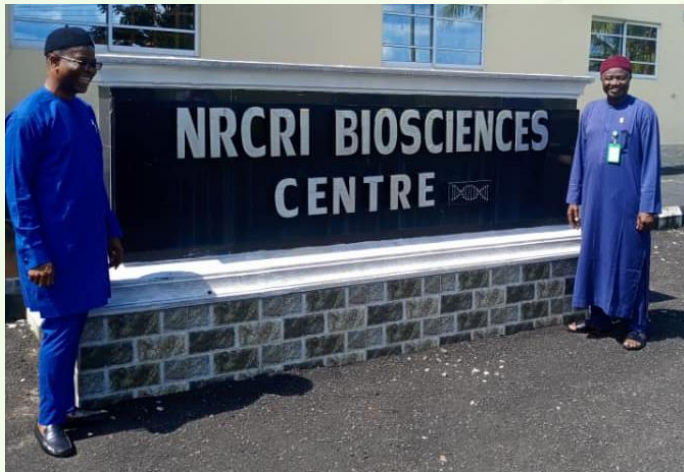


Commissioning of the newly built office complex by the ES ARCIN, Prof. Garba Hamidu Sharubutu mni





Supervision of the promotion examinations by ARCN ES and Ag. Director Administration



(L-R) ED NRCRI Umudike, Prof. Egesi Chidozie and ES ARCN, Prof. Garba Hamidu Sharubutu mni at NRCRI Biosciences Centre



Group photograph with some staff of NRCRI
(ARCN report by Kayode I. Aiyedogbon, Ag. Director, Administration)

Health News

Hepatitis B – Mrs. Bosede Famaye



Hepatitis B is a viral infection that affects the liver tissues. It begins as an acute infection that is usually short-lived but in some people, it turns into a chronic infection that never goes away. Long term formation does serious damage to the liver over time. It can lead to cirrhosis and liver failure. Like other chronic liver diseases, hepatitis B infection can do this damage without causing symptoms. Typical symptoms of infection include: Fever, Loss of appetite, Nausea and vomiting, Abdominal pains, Weakness and fatigue, Joint pains. Symptoms of liver disease include: Jaundice (Yellowing of the skin and the whites of the eyes), Dark coloured urine, Light or clay-coloured excreta, Swelling with fluid in the belly or arms and legs. Hepatitis B infection comes from the hepatitis B virus (HPV). The virus spreads through bodily fluids. Transmission occurs when fluids from the body of a person who is infected enter the body of a person who is uninfected. This might happen through: Childbirth, Sexual contact, Contact with an open wound, Sharing needles or syringes, Sharing toothbrush or razor and Accidental. HPV can live on surfaces outside of the body for at least 7 days. So, used instruments that haven't been sterilized can still carry the virus. This includes medical instruments and common items like a toothbrush or razor that may have provoked bleeding. Besides blood, HBV also lives in other bodily fluids including saliva, but cannot





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easily be transmitted through saliva. That means it cannot be transmitted from sharing food or eating utensils or from someone coughing or sneezing on you. Most people successfully fight Hepatitis B off during the acute phase of the infection. The acute phase is when the immune system recognizes the virus and launches its attack.

Prophylactic treatment involves being exposed to the virus such as vaccination with an immediate dose of the hepatitis B preferably within 24 hours of exposure. One will need two more doses over the next six months to become fully vaccinated against the virus. Hepatitis B immune globulin (HBIG) is a substance made from human blood containing naturally produced antibodies to the hepatitis B virus. It is given as a shot to help prevent infection in people who have recently been exposed to the virus. There is no specific medication to treat an acute hepatitis B infection, and many people won't need any treatment. But if one is having severe symptoms, a healthcare provider might monitor one for complications and offer supportive care such as: Intravenous fluids, Intravenous Nutrition and Pain relief. Several medications are available to treat chronic hepatitis B, but they may not be appropriate for everyone. Treatment is based on condition and risk factors. Current medications help boost the immune system and slow down the rate at which the virus reproduces itself. They don't kill the virus completely, but they can help keep the liver as healthy as possible. Whether or not one is taking medication for Hepatitis B, one will need to take steps to protect the liver from further harm throughout life. It is recommended that one avoid alcohol and maintain a healthy balanced diet.

Successful PhD Defense: Dr. Chinyere Florence Anagbogu



Dr. Chinyere Florence Anagbogu successfully defended her PhD in August 2023 at the Crop Protection and Environmental Biology Department, University of Ibadan. She worked on genetic diversity and metabolomic profile of *Coffea* species in Nigeria. In her research, she discovered that *Coffea* species is an important crop largely consumed for its cup quality. Coffee quality, determined by its bioactive compounds, varies with species. *Coffea canephora* is more predominantly cultivated in Nigeria, but low in cup quality compared to *C. arabica*. Low genetic diversity had been reported in conserved *C. canephora*, however, information on the extent of the diversity among landraces in Nigeria is scanty. Understanding genetic diversity and variation in metabolites of *C. canephora* is necessary for improving its cup quality. Therefore, genetic diversity, and profile of metabolites in matured beans of landraces and conserved *Coffea* species in Nigeria were investigated by her. Young leaves were collected from 48 coffee plants comprising 14 genotypes from six *C. canephora* accessions: Kouilou (C90, C111, C36); Gold Coast (A116, A81); Java Robusta (E106, E77); Niaouli (M10, M36); Uganda (G129, G37) and Java (T1049, T921, T797), one genotype each from *C. arabica* (Ara_01), *C. liberica* (Lib_02), *C. abeokutae* (Abe_01) and *C. stenophylla* (Sten_01) from *ex situ* of Cocoa Research Institute of Nigeria; and 30 unknown species including 15 each from Ekiti (Can_18 to Can_32) and Kogi (Can_33 to Can_47) states being predominantly lowland coffee producing regions. The Single Nucleotide Polymorphism (SNP) of





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the samples were determined using Genotyping by Sequencing (GBS). The SNP data were analysed to determine genetic distance (low: 0.0-0.13; high: 0.14-0.26), relatedness and population structure using Identity by State (IBS), Hierarchical Clustering (HC) and Structure. Matured beans from Java (T1049), Kouilou (C111, C36) and Landrace (Nia_1, Nia_2 and Nia_3) based on GBS and abundance were profiled for metabolites on GC-MS using five replicates. The peak values (mz) from GC-MS were recorded and metabolite identified on National Institute of Standard Technology (NIST) database. Data were analysed with Principal Component Analysis and ANOVA at $\alpha_{0.05}$. A total of 433,676 SNP markers were detected. There was high genetic distance (0.2552) between T1049 and M10 and high similarity between M10 and landraces with low genetic distance (0.1194). The HC grouped the *C. canephora* accessions into four genetic units: landrace/Niaouli, Java, Kouilou and Uganda/Gold Coast. The Structure formed three clusters: Q1: M10 and landraces; Q2: T1049, T921, T797, E106, Lib_02, Can_19, C90; and Q3: G37, G129, E77, A81, A116, C36, C111. Three hundred and forty metabolites were detected and classified into amines, amino acids, sugars, polyphenols, sugar derivatives, organic acids and vitamins. Sixty-six metabolites differed across the groups (landrace, Kouilou and Java). Caffeine and sucrose were the most abundant among the accessions. Two metabolite groups were formed separating landraces and Java/Kouilou. However, the most discriminating metabolites were citramalic acid, tryptophan and threonine. Concentration of citramalic acid and tryptophan in Kouilou were 583.9 ± 0.08 and 311904.2 ± 0.24 , which were significantly higher than 291.7 ± 0.08 and 89081.3 ± 0.24 in landraces, respectively. The threonine concentration of 14659.5 ± 0.06 in landraces was significantly higher than 8603.0 ± 0.06 in Kouilou and 9164.6 ± 0.06 in Java. It was concluded that variation in genetic diversity of *Coffea* species and metabolite levels of *C.*

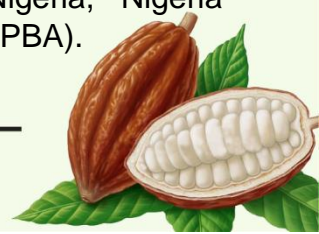
canephora accessions in Nigeria is low. High genetic uniformity occurs among the landraces.

Staff of the Month: Mr. Shamsudeen Tomiwa Balogun



Mr. Shamsudeen Tomiwa Balogun was born on 3rd October, 1972 in Lagos state. He attended Army Command Children School, Zaria and

obtained his First School Leaving Certificate in 1983. He proceeded to Ansarul Islam Grammar School, Oro, Kwara State and in 1988 sat for the West African School Certificate Examination. In furtherance of his academic pursuit, he attended University of Ilorin, Ilorin and obtained Final Diploma in Microbiology and HND in Histology in 1998 and 2002, respectively. He equally attended Ladoke Akintola University of Technology, Ogbomoso and bagged PGD in Environmental Biology and Masters in 2008 and 2013, respectively. In 2022, he obtained BSc in Agriculture from BOWEN University, Iwo. He is currently pursuing PhD degree at the Ladoke Akintola University of Technology, Ogbomoso. Mr Balogun was employed by the Institute in 2009 as Technologist II Officer. He rose to the rank of Technologist I in 2017 and converted to Research Officer 1 in 2017. He is presently a Principal Research Officer. He is a member of many professional associations among which are: Associate, Nigerian Institute of Science Technology (ANIST), Nigerian Association of Tissue Culture and Biotechnology, Nigerian Bioinformatics and Genomic Network, Biotechnology Society of Nigeria, Nigeria Plant Breeders Association (NPBA).





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He has attended training workshop on laboratory methods of Biotechnology (2010), Training Workshop on Plant Tissue culture and Cryopreservation (2015), Breeding Management System Training (2017), Training course of Bioinformatics in life sciences (2018), Basic Training course of Biotechniques (2018), Training Workshop on Writing Grant Winning Proposal (2020), WCF/USAID Sensory Analysis Training (2021) and Advance Training course of Biotechniques (2022). Mr Balogun is an awardee of BCIL, India fellowship for African Scientist (2019), CV Raman fellowship for African Researchers (2022/23) and a member of Flavour Quality Nigeria (CRIN) lab team. He is one of the arrow heads of the Institute's Flavour Quality Laboratory. His basic duties in cocoa flavour quality laboratory and essential activities include sensory evaluation to assess cocoa product flavours, aromas, and textures; quality grading and quality control to assign grades and maintain product consistency; and data recording and reporting to head of lab who communicates findings to stakeholders for quality improvement and compliance with industry standards. These activities are crucial for ensuring that cocoa meet desired flavour profiles, quality standards, and consumer expectations.

Excursion to the Institute

On the 20th September, 2023, 21 students from the College of Agriculture, Mokwa, led by Mr. Mohammed Jiya, were on a field trip to the institute. Details on the history, mandate and objectives of the Institute were exposed to them. In accordance to the request of the students who have never seen or being to a cocoa plot, they were taken to the Institute's demonstration plot. At the plot, CRIN mandate crops and various Agronomic Practices required by each of the crops was

shown to them. Dr. Adebisi and the extension staff anchored the visit.



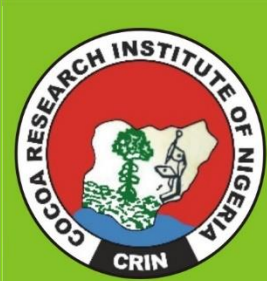
Group photograph with the students at the plot

Tribute to a Phenomenal Scholar - Professor Malachy Oghenovo Akoroda



It was with rude shock that the news of demise of Prof. Akoroda was received by the CRIN Community, being one of the past Executive Directors of the Institute. Malachy Akoroda, a professor of Agronomy with specialization in Seed Production and Plant Genetics Breeding was born in 1953. He had his elementary education at Academy Primary School, Urban Area, Sapele and his secondary education at Malachy's Secondary Grammar School, Ugbeyiyi, Sapele, Delta State. He later proceeded to Kings College, Onikan Lagos. Professor Akoroda graduated from the Premier University, University of Ibadan, Ibadan with BSc. (Agriculture/Crop Science) in 1975 and PhD (Agronomy/Plant Breeding) in 1981. He had expertise in Plant





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Breeding, Farming Systems, Genetics, Statistics, Cassava, Sweet Potato, Soybean, Yams, Okra, Cochorus, Fluted Pumpkin amongst other crops. He started his journey as a scientist with the National Horticultural Research Institute (NIHORT) - 1981 to 1983. He later joined the Department of Agronomy, University of Ibadan as a Lecturer II (1983), Lecturer I (1986), Senior Lecturer (1989) and Professor (1994). He worked with several international organizations including IITA, USAID, IFAD, FAO, CGIAR, SARRNET, NRCRI, FACU, PCU, EARRNET, NIHORT, RTEP, CMP, ADPs, IFC, TAC, SPG, TRIPP, AFNETA, TAC, VITAA, ISTRC-AB etc at different times and capacities as consultant, principal investigator, officer in charge, project coordinator, collaborator, team member, reviewer, editor and other positions of responsibility in local and international projects. He became the Executive Director of Cocoa Research Institute of Nigeria, Ibadan from July 2012 to December 2015. He had over 100 publications in journals, books, technical reports and other academic media. He supervised over 120 students at undergraduate and postgraduate levels since 1980 till date. He was survived by his wife, children, grandchildren and family members. May his gentle soul rest in peace and may the Lord watch over all he left behind.

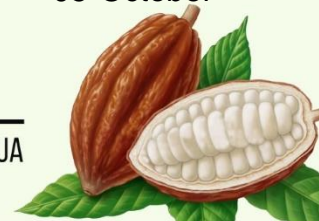


October Birthday Galore

Hearty birthday celebrations to the members of staff that will be celebrating their birthdays this month. Wishing you all the very best in your life endeavours. Congratulations!



Aribido Mary M.	01-October
Asein O.	01-October
Olawole Sarafa	01-October
Olukotun Olubunmi S.	01-October
Orimogunje Alex	01-October
Osho Ezekiel	01-October
Raji Ibrahim	01-October
Husein Yahaya	01-October
Adetunji Titus A.	02-October
Agbebaku Endurance E.	03-October
Balogun Samsudeen T.	03-October
Olatunji Comfort A.	03-October
Arumeni Christian I.	04-October
Ajayi Yemisi A.	05-October
Arokoyo Elizabeth	05-October
Musa Ibrahim Y.	05-October
Olutade Bamidele	05-October
Etuke Charles E.	05-October





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Ayidu Sunday	05-October	Makinde Kehinde O.	17-October
Alhassan Gloria	05-October	Olateju Kazeem	17-October
Onifade Elizabeth	06-October	Oyefi Jolade A.	17-October
Oladigbolu Yetunde O.	06-October	Titiloye Isaac S.	17-October
Adeogun Moruf A.	06-October	Adewusi Eunice M.	18-October
Atanda Kolawole O.	07-October	Aleburu Juliana O.	18-October
Oladokun Johnson O.	07-October	Owoyemi Julius	18-October
Olayiwola Adekunle M.	09-October	Oyepaju Tunde	18-October
Adelolu Kayode	09-October	Oguntona Victor O.	19-October
Emmanuel Felicia O.	10-October	Babanitsa Mohammed	20-October
Aboderin Ayokunnu K.	10-October	Oyeniran Uthman	20-October
Okoh Mercy	10-October	Raheem Waheed O.	20-October
Kunnuola Arinola	10-October	Nmeregini Ursula N.	21-October
Oniosun Basiru	10-October	Otuonye Theresa C.	21-October
Egesi Nwabueze	11-October	Oladejo Gbemisola A.	21-October
Hammed Abiola	20-October	Fowosele Adeniyi S.	21-October
Fowosere Elizabeth F.	13-October	Babafemi Kolawole A.	21-October
Gidiga Johnson O.	13-October	Onipe Siyaka J.	21-October
Ebunuola Tope E.	13-October	Ibrahim Wasiu	21-October
Tijani Rashidat R.	13-October	Adesina Motunrayo	23-October
Osungbade Abolanle A.	13-October	Oladejo Wasiu	23-October
Oladepo Kemi	14-October	Agboluaje Aduragbemi	24-October
Titiloye Eruke	14-October	Falusi Loveth	24-October
Akinrinola Olawale A.	15-October	Yinusa Sakiru A.	24-October
Tijani Fatai A.	15-October	Mokwunye Francis C.	25-October
Umontia Mercy	15-October	Onigbinde Adeniyi J.	25-October
Hassan Akeem A.	15-October	Ojo Johnson	25-October
Ajibola Yinka	16-October	Ogunlade Moses O.	26-October
Oladele Olayemi O.	16-October	Odosote Ayodele A.	26-October
Bolaji Oyedele	17-October		
Ekereobong Sunday	17-October		





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Gbadamosi Taye	26-October
Dongo Lelia N.	27-October
Ejikeme Paulina O.	27-October
Laoye Fiyinfoluwa	27-October
Adeyemi Adewunmi E.	28-October
Adewumi Ibrahim	29-October
Ogar Okparaku Ekok	29-October
Oghenejabor Rita	29-October
Oladunmoye Oladimeji A.	30-October



COCOA RESEARCH INSTITUTE OF NIGERIA (CRIN)

High-end AGRICULTURE for all

* High yielding, disease resistant, early maturing and improved *cocoa pods, cocoa seedlings, cashew nuts and seedlings* are available for planting at affordable price.

* Also, we offer training on:

- good agricultural practices for cocoa, cashew, kola, coffee and tea
- coffee processing,
- cashew juice processing,
- best practices for cocoa nursery operators,
- fertilizer from cocoa pod husk,
- field establishment for cocoa etc.

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CRIN SUBSTATIONS

- CRIN Owena Substation, Idanre LGA, Ondo State.
- CRIN Ajassor Substation, Etung LGA, Cross River State
- CRIN Ibeku Substation, Bende LGA, Abia State
- CRIN Uhonmora Substation, Owan West LGA, Edo State
- CRIN Ochaja Substation, Dekina LGA, Kogi State
- CRIN Mambilla Substation, Sardauna LGA, Taraba State

