



# CRIN Herald

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

ISSUE: 43 (September, 2024)

## CRIN is Set to Celebrate 60<sup>th</sup> Anniversary and Host RIGAN Games



The Cocoa Research Institute of Nigeria (CRIN) is set to celebrate the Diamond (60<sup>th</sup>) anniversary of the Institute. It is noteworthy that CRIN was established on 1<sup>st</sup> December, 1964, but the anniversary is scheduled to hold on 9<sup>th</sup> December, 2024 marking six decades of pioneering research, innovation, and dedication to Cocoa, Cashew, Coffee, Kola and Tea production and its utilization. In his briefs, the CRIN Executive Director (ED), Dr. Patrick Adebola stated that the Institute is set to showcase its advancement in applying science and technology towards increasing productivity, improving quality and value addition of Cashew, Cocoa, Coffee, Kola and Tea. As part of activities marking the event, the Institute will be

hosting the Research Institute Games Association of Nigeria (RIGAN). The game festival is expected to host all the research and development institutes across the country. Commenting on the coming game festival, the ED CRIN, Dr. Patrick Adebola, emphasized the importance of sport which he said is a good tool for the nation's unity and development. He assured that CRIN will maximally utilise the privilege of hosting the sporting festival. The ED heartily invites the public to join us in celebrating these milestone achievements!

**COCOA RESEARCH INSTITUTE OF NIGERIA (CRIN)**

**60<sup>th</sup> Anniversary**

**9TH DEC. 2024**

Research & Development Mandate for  
**COCOA, KOLA, COFFEE, CASHEW & TEA**

Km 14, Ibadan - Ijebu - Ode Road,  
Idi-Ayunre, Ibadan, Oyo State





## CRIN Holds Monthly Seminar

The 8th in the series of the 2024 monthly seminar was held on August 12, 2024 in the expansive Lawrence Opeke Conference Hall of the Institute. It featured research presentations from Dr. Beatrice Nduka and Dr. Ibrahim Sobowale of Agronomy and Plant Breeding Divisions, respectively. The seminar was chaired by Dr. A. R. Adedeji, the Director, Research Outreach.

## Agronomic and Physiological Efficiency of Intercrops on Cashew Vegetative Growth Characters

- Beatrice Nduka, PhD



Competitive interactions need to be avoided to properly design and manage tree-based intercropping systems. Alley cropping under a tree-based intercropping systems will minimize competitive interactions between annual and tree crops, while

exploiting beneficial interactions between its components, affecting availability of soil water, and available nutrients for use by the adjoining agricultural crop. Intercropping advantage is achieved when the species that are mixed differ markedly either morphologically, or physiologically. More so, the success of Cashew production with food crop depends on whether the food crosses compete with the young cashew plants for growth resources. This experiment was conducted to investigate three-year-old jumbo cashew productivity and its performance on interactions by using Bambara nuts/ Sesame plants and other complementary resource (Pelletized fertilizer).

Cashew trees arranged in a split plot as alley for the intercrop was fitted into a Randomized Complete Block Design and replicated three times. Vegetative parameters: Height, Girth, Crown Diameters, Canopy volume was used to calculate canopy spread. While the yield parameters obtain from the intercrop was used to calculate agronomy, physiological efficiency etc.

The results obtained from this study showed that the competitive index is less than 1 which was an indicator of intercropping advantage. More so other results that was above 1 means that the intercrop was equally competitive with either the type of fertilizer use or may be due to the levels of fertilizer utilization of the plants for growth resources. The use of Bambara TVSU1166 variety had the highest canopy volume under the fertilizer effect, this may be due to its Nitrogen fixing nature. However, the improved tree growth may have come from stimulating the mineralizing of nitrogen from the intercrops due not significantly different may have led to an increase in cashew canopy spread.

Also, the results obtained showed that agronomy, physiology and utilization efficiency were significantly ( $P \leq 0.05$ ) influence under the sub plot Crop type effect (Bambara) and fertilizer type (9.68g) compared to the control treatment. The interaction of these indigenous crops (Bambara/Sesame) in cashew alley has no negative consequences on the development of cashew trees.

Thus, to encourage organic agriculture, pelletized fertilizer and Bambara nut/Sesame should be considered as compatible alley crop for cashew production.





## Characterization of Juvenile *Cola spp* in Nigeria using Inter Simple Sequence Repeat (ISSR) markers in Nigeria

- Ibrahim Sobowale, PhD



*Cola* is highly valuable in terms of nutrition, medicine and industry. Breeding programs for the development of diverse crops have been substantially accelerated by the use of molecular markers. Molecular marker techniques have been considered to be the most suitable means for estimating genetic diversity. The aim of this study was to assess the genetic diversity among 40 accessions of Kola (*Cola spp.*) collected from CRIN germplasm, through molecular characterization. Inter-simple sequence repeat (ISSR) markers were used to assay 40 accessions of Kola (*Cola spp.*) collected from the Cocoa Research Institute of Nigeria (CRIN) Ibadan germplasm.

The obtained results demonstrate that ISSR markers were highly polymorphic and generated an allele ranging from nine to twenty-seven. The polymorphic information content was highest for the UBC834 and the mean average was 0.832. Moreover, gene diversity (0.946) was high, and dendrogram constructed revealed a similarity coefficient of 46–100% indicating high level of variability.

The result revealed that ISSR marker are useful for genetic characterization as it provides information on the inter-species phylogenetic status of the accessions and also showed a genetic variability that could

be exploited for varietal delineation and used to improve this species in Nigeria.



Cross section of seminar participants  
Cross section of seminar participants





## GIZ-MOVE Consultant Visits CRIN



MOVE (Market-Oriented Value Chains for Jobs and Growth in the ECOWAS region) programme is a GIZ implemented programme that aims to promote market-oriented value chains to create jobs and income in the ECOWAS region and

build resilient value chains. It is a merger of two well-established regional projects: The Competitive Cashew Initiative (ComCashew) and the Competitive African Rice Initiative (CARI). GIZ-MOVE through the German Federal Ministry of Economic Cooperation and Development (BMZ) is commissioned to implement value chain development projects by contributing to improved productivity of the producers and processing companies in the cashew and rice value chains with the target of getting 75,000 people employed in the rice and cashew value chains, including 22,000 women and 10,000 youth, and facilitating increase in their annual income.

A GIZ-MOVE Consultant, Mrs. Elizabeth Jeyol visited CRIN on a two-day assignment which was held from 12<sup>th</sup> to 13<sup>th</sup> August, 2024 at the Board Room of the Institute. The Executive Director, Dr. Patrick Adebola was ably represented at the meeting by Dr. A.O. Famaye, Director, Budget, Monitoring, and Evaluation, welcomed the Consultant to the Institute. In his address, he emphasised that CRIN is in total support of the vision of the Gender Transformative Approaches (GTA) to promote gender equality and equity in the workplace; and that the Executive Director is fully committed to implementing the GTA initiative in CRIN.

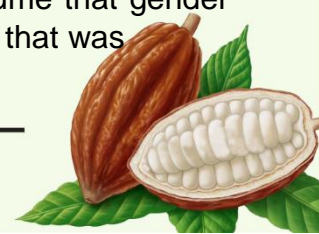
The GIZ-MOVE Consultant explained that one of the quality markers of the MOVE programme is the implementation of the GTA,

which involves addressing gender inequality from the root causes and promoting an enabling environment for all, especially women and youths, to enable them have increased access to resources, opportunities and benefits of agricultural development while strengthening their decision making capabilities. The Consultant highlighted the different activities that will be implemented in pursuit of the goals of the GTA, which include conducting a gender audit, capacity building in the development of gender policies for institutions and a GTA training. She stated that these activities are meant to strengthen the capacity of MOVE partners to facilitate gender equality within their structures and for the integration of more women in the decision making roles. She stressed that the GTA will be used to create a monitoring robust framework to track results.



In her response, the CRIN gender focal person, Dr. C.O. Jayeola (Director and Head, CRIN Gender Mainstreaming Unit) stated that the CRIN Gender Unit was inaugurated on March 11, 2024 by the Executive Director, Dr. Patrick

Adebola in accordance with the directive of the Agricultural Research Council of Nigeria (ARCN) requiring all Research Institutes to have Gender Units. She further explained that the CRIN gender team is composed of five members, made up of 3 females (researchers) and 2 males (1 senior non-researcher and 1 junior non-researcher, youth). She stated that in her interactions with colleagues, most people assume that gender is meant for only women, and that was part of the goal of the gender





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seminar/talk series of July 1, 2024 to correct this misconception. The Executive Director, she said, lent his full support to the seminar. The seminar, which recorded close to 200 participants, had more females than males in attendance. The focal points of the presentations made at the seminar were on gender equality and equity, promoting inclusive policies at the workplace and a health talk titled 'Coping with stress at the workplace'. Dr. Jayeola further explained that the CRIN Gender Unit team has decided to be organizing quarterly talk series to educate members of staff on what gender is all about.



GIZ-MOVE consultant with CRIN female scientists



GIZ-MOVE consultant with CRIN male scientists

A record of staff audits of the Institute, which was demanded by the Consultant, showed that in CRIN, there are 919 members of staff out of which 66% are males and 34% females. An overview of the statistics of staff members in terms of Male/Female, Senior/Junior, Management and Committee members was also presented. Copies of the

gender policy flier and sticker printed by CRIN Gender Unit were presented to the Consultant; these were also distributed to all in attendance. The Consultant had separate meetings and interviews with the HR/Administrative Secretary, Gender team members, the Management team, Programme Leaders and Heads of Department, Units and Sections, ACTU members, Researchers, Non-Researchers, Youth and Junior staff during the two days of the meeting. Group photographs were taken at the different meeting levels. The meeting was concluded at the close of work on the second day.



GIZ-MOVE consultant with Head, Admin and supplies



Group photograph with the consultant





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## Training and Empowerment of Cocoa Farmers on Modern Farming Approach in Edo South Senatorial District



The programme was attended by selected cocoa farmers from communities notable for cocoa production in Edo South Senatorial District.

The programme was anchored by Mr. Charles Ize-Iyamu, Special Assistant to the Senator. According to him, the program was organized to assist peasant farmers in improving their standard of living through training and empowerment. The Facilitator, Senator Neda B. Imasuen, in his keynote address welcomed the participants and encouraged them to seize the opportunities to increase farms' income. As averred by Senator Neda, agriculture is the backbone of economy and it is his responsibility to ensure that farmers are equipped with the knowledge, skills and resources needed to thrive in this modern era. He added that the training programme was designed to introduce farmers to innovative farming methods, improve crop yields and increase income. He assured them that the expert facilitators will share their expertise and experiences. He urged them to take full advantage of this opportunity, ask questions and engage actively in the training sessions. He equally encouraged all to work together to build a brighter future where agriculture is a source of pride, prosperity and self-sufficiency.

At the event, the CRIN Executive Director, Dr. Patrick Adebola, ably represented by Dr. Adebiyi Solomon, the Head of Station, Uhonmora Substation, made presentation on "Training on Cocoa Production from Nursery Establishment to Post-harvest handling". In

addition, the Institute's mandate, objectives and achievements were presented at the programme. The ED encouraged the Non-Governmental Organization (NGOs), Foundations, Industrialists and other Stakeholders to partner with CRIN by funding commercial production of CRIN technologies for empowerment of young entrepreneurs, job creation, livelihood improvement, food and nutrition security. Other resource persons at the programme were Mr. Lekan Salami (consultant on food crop) and Mr. Theophilus Amure (an Agri-food system development consultant.) About 12,000 cocoa seedlings from CRIN and 10,000 improved plantain suckers from IITA, Ibadan were distributed to the selected participants. Equally, materials such as spraying pumps and chemical (herbicides) were given to each participant. Above all, certificate of attendance and a cash of ₦25,000 were given to each of the beneficiary.



The Guest Speakers at the event



From Left: Dr. Adebiyi, Mr. Lekan Salami, Senator Neda Imasuen, Mr. Amure and Mr. Leke





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## ARC� News

### Boosting Agricultural Research



The Executive Secretary of Agricultural Research Council of Nigeria Prof. Garba H. Sharubutu mni led a delegation to meet with the Chairman, Senate Committee on Agricultural Colleges and Institutions, Senator Simon Bako Lalong. The composition of the delegation include the CODRI Chairman ably represented by the Executive Director of NRCRI Umudike, Prof. Chiedozie Egesi; the NACHCARD Chairman and Secretary, Dr. Jude Okpara and Dr. Fadiyimu Akinyemi. The major focus of the meet centered on boosting Internally Generated Revenue (IGR) and planning an exciting Agricultural Research Exhibition Week. The leadership of the Senate Committee on Agricultural Colleges and Institutions, the ARC�, CODRI and NACHCARD all agreed on the importance of compliance with regulations, maintaining an open-door policy, and strengthening collaboration. The Council and the Senate committee resolved to tackle challenges such as securing steady financing, reducing unnecessary external pressures, and enhancing the sector's infrastructure and resources.

(ARC� report by Kayode I. Aiyedogbon, Acting Director, Administration)

## Health News

### Cholera – Mrs. Bosede Famaye



Cholera is a highly infectious diarrhoeal disease caused by the bacterium *Vibrio cholerae*, typically spread through contaminated food and water, poor sanitation and hygiene, direct contact with an infected person's faeces, sea food, eating raw or undercooked sea

food, raw fruits and vegetables. Infection takes place in the small intestine as a result of the toxin the bacteria produces that causes infection.

The symptoms include: diarrhoea (watery, pale, and profuse, often with a "rice-water" appearance); nausea and vomiting especially in the early stages; muscle cramps due to rapid loss of salts such as sodium, chloride and potassium; vomiting frequently and severe, leading to rapid dehydration; excessive thirst due to fluid loss; rapid and severe dehydration with symptoms such as dried mouth and throat, low blood pressure and rapid heartbeat; electrolytes imbalance leading to loss of essential minerals like sodium, potassium and chloride as well as shock in severe cases, leading to organ failure and death.

The diagnosis includes stool test to detect *Vibrio cholerae*, physical examination to assess dehydration and electrolytes balance and laboratory tests to monitor electrolyte levels and kidney function.

The treatment involves fluid replacement in case of aggressive rehydration with oral rehydration solutions (ORS) or





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intravenous fluids; antibiotics such as doxycycline or Azithromycin to shorten duration and severity; electrolyte replacement to restore balance and prevent complications, and rest and hydration which are essential for recovery.

Preventive measures include vaccination for high risk individuals or areas; improved sanitation and hygiene; safe food and water handling; proper waste disposal; hand washing and good personal hygiene; drinking only safe water and eating of food that is completely cooked and hot; and avoidance of street vendor food.

The complications are dehydration and shock, electrolytes imbalance, kidney failure, septicemia (blood infection), hypoglycemia (low blood sugar) and death if not treated on time.

## Market Survey

### Price report for August 2024

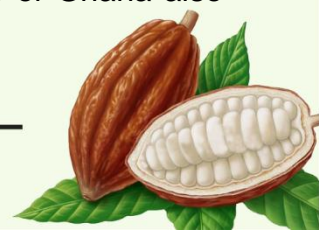
This report presents the local prices of cocoa in selected States for August 2024. Data were collected from various production areas within these states, and the average prices per State were computed for this report. In August, there was a significant increase in cocoa prices in Osun, Ondo, Kwara, and Oyo States, while Abia and Cross River States saw a decline compared to July. Oyo State experienced the most substantial price hike, with cocoa prices rising by approximately 8.3% from July's figures. Notably, Cross River State recorded the highest average cocoa price at ₦13,700, whereas Abia State had the lowest average price at ₦10,000. It is noteworthy to mention that cashew is currently in its off season, hence, there are no price data for the commodity in the month of August.

COCOA COST PER KG (LOCAL PRICE)				
Month	State	Minimum Price(₦)	Maximum price (₦)	Average price (₦)
August 2024	Abia	9000	11000	10000
	Osun	12000	13000	12500
	Ondo	12500	13000	12750
	Kwara	11500	12500	12000
	Oyo	12500	13500	13000
	Cross River	13650	13750	13700

Source: CRIN Survey, 2024 by Economics and Statistics Sections

### CRIN Scientists at Yamoussoukro, Côte d'Ivoire

The scientists of the Institute, Mrs. E. A. Adeyemi and Mr. Anthony Agbongiaghuoyi were among the 70 new Master Trainers who successfully graduated from the 17th Edition of the European Union and OACPS Secretariat - Secrétariat OEACP co-funded Master Training Programme (MTP) on Friday, 28th June 2024 in Yamoussoukro, Côte d'Ivoire. Their graduation increases the total number of MTP graduates to 1,255 from 20 countries since 2013. Out of the 70 graduates, 4 were from Benin, 9 from Burkina Faso, 2 from Cameroon, 11 from Côte d'Ivoire, 19 from Ghana, 1 from Mali, 11 from Nigeria, 9 from Sierra Leone, 1 from Tanzania, 2 from Togo and 1 from Zambia. The GIZ/MOVE (ComCashew) sponsored the participation of majority of the participants of this edition; the USDA West Africa PRO-Cashew, ANATRANS, ABC Pader GIZ Cameroon and the Ghana Private Sector Competitiveness Programme (GPSCP II) as well as implementing partners - Ghana's Ministry of Food and Agriculture, CICC, CCA and Cocoa Research Institute of Ghana also sponsored some participants.







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Mrs. E. A. Adeyemi and Mr. Agbogiarhuoyi Anthony in Yamoussoukro

proceeded to Obafemi Awolowo University, Ile-Ife for MBA (Management Accounting) and graduated in the year 2002. She has been a student member of ICAN and a Certified National Accountant since 1987 (ANAN). She was employed by the Institute on June 14th, 1999 as Higher Executive Officer (Accounts). She rose to the rank of the Chief Executive Officer, FFR Division in Finance and Accounts Department. She has enjoyed CRIN sponsored training like e-payment and GIFMIS trainings. She is happily married with 2 boys.

## September 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!



## Staff of the month: Mrs Somosu Olusola Atinuke



Mrs Somosu Olusola Atinuke was born on the 17th of January, 1971 in Ibadan, Oyo State. She is a native of Ijebu Ode in Ogun State. She attended Our Lady of Apostles Primary School, Ijebu-Ode, for her primary education and Anglican Girls

Grammar School, Ijebu-Ode for her secondary education. She later proceeded to Ogun State Polytechnic, now Moshood Abiola Polytechnic, Abeokuta for her OND and HND Certificates in Accountancy and graduated in 1996. She also obtained PGD from Ambrose Alli University, Ekpoma in 2000 and

Olayiwola Babatunde	01-September
Asein Uwaifo	02-September
Oderinde Sunday	02-September
Adebiyi-Shittu Seminat	03-September
Makinde Seye	03-September
Umaihon Alaba	04-September
Oduntan Kunmi Samson	05-September
Ezeh Nicolas	05-September





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Mustapha Kazeem	06-September	Joda Eniola Mary	23-September
Arutu Ademola Nurudeen	07-September	Emeng Ele Eleng	23-September
Adeleke Kazeem	09-September	Lawal Justina Oluyemisi	24-September
Eno Innocent Eno	09-September	Oyedokun Adegoke Victor	24-September
Kunnuola Seun	09-September	Enosegbe Kelly Anthony	24-September
Lawal John Kayode	09-September	Akhidime Mary Ozohu	25-September
Ugioro Osasogie	09-September	Akinrinola Akeem Kehinde	25-September
Okeh John Ekechi	10-September	Samuel Olusola	25-September
Adebowale Lateef A.	11-September	Muyiwa Annah Abimbola	26-September
Morufu Salawa	12-September	Oladunmoye Akinola A.	26-September
Akande Kunle	13-September	Olasoji Hannah Olufemi	26-September
Akhidime Sunday Itua	13-September	Ujunwa Ephraim I.	26-September
Babafemi Ibitope Babajide	13-September	Egbuta Daniel Chima	26-September
Nwagala Charles	13-September	Adeogun Gbenga	27-September
Ogunbosoye Bolanle B.	13-September	Adedokun Israel C.	27-September
Omogbeme Anselem O.	13-September	Akeem Akinola	28-September
Komolafe Kolade David	14-September	Akinyomide Oriola A.	28-September
Alalade Olukemi Latifat	14-September	Nwaifo Andrew I.	28-September
Adeleye Kehinde	14-September	Ibiyemi Adewale O.	28-September
Onifade Wasiu	14-September	Bello Saka Adedayo	28-September
Akosile Isaac Gbenga	15-September	Adejobi Kayode B.	29-September
Adekanbi Boajoko	16-September	Babalola Eunice Adenike	29-September
Kuforiji B. M.	16-September	Olawore Abosede E.	29-September
Adebayo Kayode A.	17-September	Oghenegueke Gift	29-September
Kayode Bukola Olayinka	18-September	Saheed Ademola	29-September
Tajudeen Toyin	20-September	Awe Jacob Ajayi	30-September
Oluyemi Oluwadamilola I.	20-September	Chila Njwe Fredrick	30-September
Ayoade Olufemi	20-September		
Arowolo Sodiq	21-September		
Amusa Lateef	22-September		
Imasogie Michael Osagie	23-September		
Ogunsuyi Busuyi A.	23-September		

