

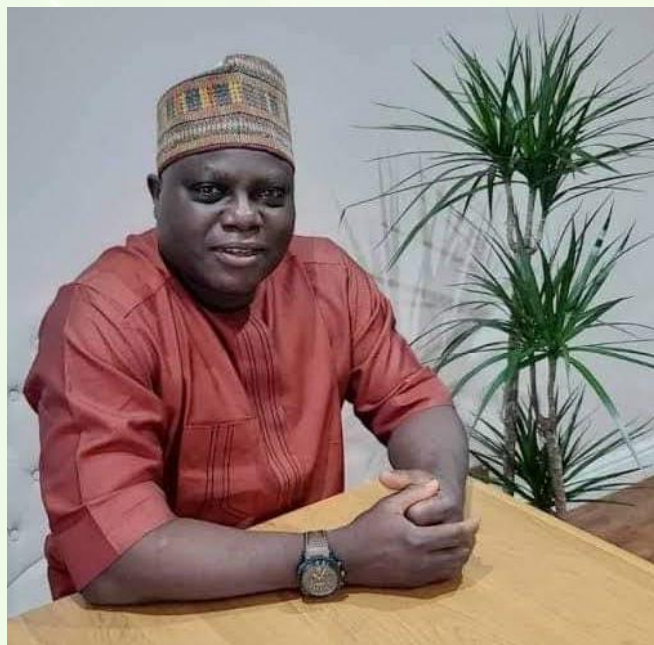


CRIN Herald

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

ISSUE: 52 (June, 2025)

Cocoa House Planting: Promise Kept By The ED CRIN, Dr. Adebola



You would recall that that the Executive Director (ED) of the Cocoa Research Institute of Nigeria (CRIN), Dr. Patrick Adebola in company of the Management and Staff of the Institute stormed the Cocoa House, Ibadan during the Health Walk to create awareness of the last 60th Anniversary of the Institute on Thursday December 5, 2024. At the Cocoa House, the mammoth crowd was welcomed by Mr. Ade Ajayi, the representative of the Odu'a Investment Company Limited. He commended the Institute for the giant strides recorded in research and development, most especially, on cocoa. He noted that Cocoa House was built through revenue generated from cocoa. He encouraged farmers and other stakeholders to invest in research. In his remarks, the ED CRIN, Dr. Adebola, emphasised the significant impact of cocoa on the country's economy, noting the increase in cocoa prices and its essential role in the agricultural sector. He equally encouraged young people to consider agriculture as a profitable venture and

stressed the need for collaboration with organizations like Odu'a Investment Company Ltd. Furthermore, he averred that Cocoa House symbolises the viability of cocoa in the 60s, hence the need to showcase the innovations of CRIN as well as the importance of cocoa to the economy of the country. The ED CRIN promised to replace the old cocoa tree in Cocoa House with improved variety developed by the Institute.



Old Cocoa Tree in Cocoa House





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This promise was kept by the ED, Dr. Patrick Adebola, on Tuesday May 27, 2025 by sending some CRIN Staff comprising of Dr. Samuel Orisajo (Director/Cocoa Programme Leader), Dr. Justina Lawal (Assistant Director/Head, Economics and Extension Division), Dr. Kayode Adejobi (Assistant Director/Kola Programme Leader), Dr. Solomon Adebiyi (Head of Station, CRIN Udonmora Substation), Mrs. Mopelola Yusuf (Research Officer II) and Mr. Kadir Umar Musa (Higher Agricultural Superintendent) to effect the planting of hybrid cocoa in the Cocoa House. A representative of the Odu'a Investment Company Limited, Mr. Mayowa Adeniyi witnessed the planting in the Cocoa House.



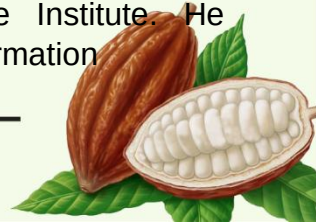
Cocoa planting by CRIN Team and Odu'a Investment Company Limited Representative



Group photograph after the event

CRIN Sets To Partner With HASTOM Food and Farms Limited

The Founder and Chief Executive Officer (CEO) of HASTOM Food and Farms Limited, Mr. Debo Thomas Olushola, accompanied by Mr. Adeoye Moses, Farm Operations, and Miss Oluwatobiloba Onisemo, Head of Administration, paid a visit to the Institute on May 19, 2025. The ED CRIN, Dr. Patrick Adebola, was ably represented by Dr. S.O. Agbeniyi, Director (Research Operations), while other CRIN Team members included Drs. A.R. Adededeji, O.S. Ibiremo, C.O. Jayeola, A.A. Muiyiwa, Y.T. Adeigbe, and D.O. Adeniyi. HASTOM Foods and Farms Limited is based in Ogbomoso, Oyo State, with about ten thousand Hectares of land for cashew farming. They intended to partner with the Institute to learn the necessary intricacies of the crop, have access to quality seedlings and planting methods. The CRIN cashew team assured the CEO, HASTOM Foods and Farms Ltd, that maximum yield would be achieved with their collaboration with CRIN in the area of farm management, soil testing, and grafting. Additionally, the team was advised to also focus on processing and value addition as the market is dynamic and lucrative. The CEO of Hastom Foods and Farms Ltd appreciated ED CRIN for the honour to visit the Institute. He assured CRIN that all the information



shared with the company for improved cashew production, processing and value addition would be applied.



CRIN Team with HASTOM Food and Farms Limited Team

Introduction of Black Plum (*Vitex doniana* Sweet) to CRIN Mandate



The addition of Black Plum to the mandate crops of CRIN has, undoubtedly, set the stage for a new round of unprecedented research ventures with potentially exciting experience for the Institute. The

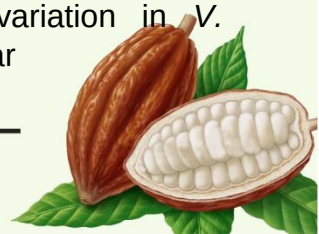
Agricultural Research Council of Nigeria (ARC/N) announced this addition to the Institute late 2024. Black-plum (*Vitex doniana* Sweet), whose fruits are also referred to as African olive is a perennial shrub widely distributed in tropical West Africa. The genus '*Vitex*' belongs to the family Lamiaceae, and is one of Nigeria's nutritionally important savannah trees. *V. doniana* Sweet, a deciduous woody tree species with heavily rounded crown, can grow up to 25m tall. Its local names include: Dinyar (Hausa), Galbihi (Fulani), Ori nla (Yoruba) and Ucha koro (Ibo). With greenish fruits which turn purplish-black on ripening, it is eaten fresh/dried, has a sweet prune-like

taste and velvet-like in texture. During the 5th



series of the 2025 monthly seminar which was held on May 12, 2025 at the Lawrence Opeke Conference hall of the Institute, Dr. Tayo Adenuga, who represented the Leader of the

Black Plum Team, Dr. Anna Muiyiwa, noted that the crop is propagated from seed, root, sucker and cuttings. It improves soil nutrient status due to its nitrogen-fixing capacity. Its fruit is drupe with sweet mesocarp which accounts for 20–25% weight of whole fruit. The edible pulp of fruit has pH 5.20, moisture (67.9%), sucrose (12.5%) and reducing sugar (7.3%), and rich in Vitamin-C (28.5mg/100g). Its seed has high nutritional and phytochemical attributes. The young leaves of *V. doniana* fall within the levels of edible vegetables, and are rich in carbohydrate, crude protein, crude fat, crude fibre, moisture, ash (minerals) and vitamins. Further important uses of black plum include: production of jam, juice, wine production from fermented juice, and production of sweetener like syrup. Other uses include production of dyes from bark of the tree serving as a colorant, use of leaves as herbs, production of filtered grain beer leaves, and fortification into ruminants feed. Health values in the plant include the anti-diarrhoea effect of the stem bark, the use of the leaves in treatment of eye problems, and seeds as a natural antioxidant in food and pharmaceutical industries. As pioneer research activities commence on black plum, areas of immediate focus include the search for information on its domestication, genetic structure of the wild populations, morphological variation in *V. doniana* populations, molecular



check between morphological variation and genetic structure, broad search for information on its germination, nursery operations as well as information on crop protection activities. Start-up research areas in black plum therefore include: mapping of black plum plantations in agro-ecologies of Nigeria, extensive exploration of natural occurrence and domestication of germplasm collections for the assemblage of significant gene pool, genetic profiling and biodiversity of black plum, best agronomic and soil requirements and management practices for optimum yield, value addition and products development from black plum, catalogue of insects and pathogens of black plum, compendium of damages and symptoms expression on the crop, cluster formation of black plum farmers in Nigeria and economics of black plum production and processing in Nigeria.



Cross Section of seminar participants

NHIS Captures Newly Recruited Staff

The National Health Insurance Scheme (NHIS) visited the Institute on a working visit on May 27, 2025 for the capturing of the newly recruited staff into their database and effect hospital changes for existing members.



This is to facilitate their access to Medicare at subsidised rate.



Dr. Amos Famaye addressing the audience on behalf of the ED CRIN, Dr. Patrick Adebola



The NHIS Team, led by Mrs. Patricia Nwachukwu-Awodein, comprised of Mr. Opeyemi Bello and Mr. Shola Atoki. They worked in collaboration with the staff of Admin. and Supplies of the Institute.



NHIS Team during the exercise

Health News

Heart Failure – Mrs. Bosede Famaye



This is a chronic and progressive condition where the heart muscle becomes unable to pump enough blood to meet the body's needs. It is a serious condition that requires prompt medical attention.

Causes of heart failure includes:

- Coronary artery disease: Reduced blood flow to the heart muscle can lead to heart failure.
- High blood pressure: Prolonged high blood pressure can damage the heart muscle.
- Cardiomyopathy: Diseases of the heart muscle can lead to heart failure.
- Heart valve problems: Leaky or narrowed heart valves can reduce the hearts efficiency.
- Arrhythmias: Abnormal heart rhythms can reduce the heart's pumping ability.

Symptoms of heart failure comprise of:

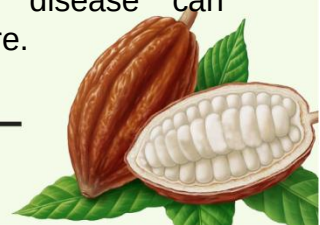
- Shortness of breath: Difficulty in breathing, especially when lying down or exerting oneself.
- Fatigue: Feeling weak or tired, even after resting.
- Swelling: Fluid buildup in the legs, ankles and feet.
- Rapid weight gain: Sudden weight gain due to fluid retention.
- Coughing: Persistent coughing, especially at night.

Lifestyle risk factors includes:

- Physical inactivity: A sedentary lifestyle can increase the risk of heart failure.
- Unhealthy diet: A diet high in salt, sugar and saturated fats can increase the risk of heart failure.
- Excessive alcohol consumption: Drinking too much alcohol can damage the heart muscle.

Medical risk factors

- Kidney disease: Kidney disease can increase the risk of heart failure.





- Sleep apnea: Untreated sleep apnea can increase the risk of heart failure.
- Anemia: Low red blood cell count can reduce oxygen delivery to the heart muscle.

Prevention and management

- Regular check-ups: Regular monitoring of blood pressure, cholesterol levels and heart function can prevent heart failure.
- Healthy lifestyle: Maintaining a healthy weight, exercising regularly and quitting smoking can reduce the risk of heart failure.
- Adherence to treatment: Following treatment plans and taking medications as prescribed can help manage heart failure.

Market Survey

Price Report for May 2025

This report gives the analysis of cocoa and cashew prices across selected states in May, 2025. Data were collected from key cocoa and cashew producing areas within the surveyed states, and average prices were calculated accordingly. In this month, Cocoa prices experienced an upward trend in all surveyed states in May. The most significant price increase occurred in Oyo State, with a 9.8% rise compared to April. Abia State posted the lowest average cocoa price at ₦9,500 per kilogram, while Kogi State recorded the highest at ₦11,500 per kilogram.

Cashew prices also experienced a general increase across the surveyed states. Enugu State recorded the sharpest rise, with prices jumping by approximately 33% from the previous month. The highest average cashew price was ₦1,800 per kilogram in Enugu,

while the lowest was ₦1,250 per kilogram in Abia State. These price variations reflect underlying supply and demand dynamics in the market during the reporting period.

COCOA COST PER KG (LOCAL PRICE) MAY, 2025

State	Minimum Price(₦)	Maximum Price (₦)	Average Price (₦)
Abia	9000	10000	9500
Cross River	10500	11500	11000
Kogi	11000	12000	11500
Kwara	10000	10000	10000
Ondo	11000	11500	11250
Osun	10000	11000	10500
Oyo	11000	11500	11250

Source: CRIN Survey, 2025
Economics and Statistics Sections

CASHEW COST PER KG (LOCAL PRICE) MAY, 2025

State	Minimum Price(₦)	Maximum Price (₦)	Average Price (₦)
Abia	1200	1300	1250
Enugu	1700	1900	1800
Kogi	1400	1500	1450
Kwara	1200	1400	1300
Osun	1300	1400	1350
Oyo	1500	1700	1600

Source: CRIN Survey, 2025
Economics and Statistics Sections



PhD Defence Galore

It was a momentous occasion for the Institute when the duo of Dr. Eunice Adeyemi and Dr. Uche Asogwa defended their PhD thesis at the prestigious University of Ibadan on 28th and 29th April, 2025 at the Department of Crop and Horticultural Sciences and Zoology, respectively. The programme was held at the Faculties of Agriculture and Science.

Influence of Selected Agronomic Practices and Nut Attributes on Field Establishment, Growth and Nut Yield of Cashew (*Anacardium occidentale* L.)

- Dr. Eunice Adeyemi



Cashew is valued for its nut as snacks and confectionary, but its production is constrained by poor field establishment and rodent damage due to the tasty cotyledons that emerge above soil when sown at standard depth of 2-3

cm. Seedling Emergence (SE) in cashew could be influenced by factors such as nut-biotypes, nut-forms (floaters/sinkers), growth-media, and sowing-depth. Cashew growth and nut-yield may also be influenced by intercropping at field establishment phase. However, there is limited information on interaction of nut-biotypes, nut-forms, growth-media and sowing-depth on growth and nut-yield of cashew. Therefore, effects of selected agronomic practices, growth-media and nut-attributes with plantain-melon combinations on cashew establishment, growth and nut-yield were investigated. Three cashew nut-biotypes: madras, medium and

jumbo was sorted into sinkers and floaters using standard floating test. These were sown in 5 kg soil in a 2×3 factorial experiment using Completely Randomised Design (CRD, $r=4$). Data were collected on SE. Thereafter, medium and jumbo nuts were sown at depths of 2.5 (T1), 5.0 (T2), 7.5 (T3), 10.0 (T4) and 12.5 (T5) cm in a 2×5 factorial using CRD ($r=4$). Data on SE, Cotyledon Concealment (CC) and stem diameter (mm) at 12 Weeks After Sowing (WAS) were collected. Medium nuts-biotype were sown at 7.5 cm depth in five nursery growth-media: topsoil, sawdust and their combinations in ratios 1:1, 1:3 and 3:1 using CRD ($r=4$). Stem diameter and leaf area (cm^2) were measured at 12 WAS. On the field, two establishment methods: direct-sowing (7.5 cm-depth) and transplanting (eight weeks old seedlings grown in 1:3 topsoil-sawdust-medium) of medium and jumbo nut-biotypes were evaluated for growth using randomised complete block design ($r=3$). Stem diameter was assessed at 12 months after sowing. Thereafter, effects of intercropping melon, plantain and melon-plantain mixtures on directly-sown (7.5 cm-depth) jumbo and medium nut-biotypes were evaluated for nut-yield (kg/ha) over three years. Data were analysed using descriptive statistics and ANOVA at $\alpha_{0.05}$. The SE of $97.5\% \pm 1.6$ (jumbo-sinkers), $97.5\% \pm 2.1$ (medium-sinkers), $92.5\% \pm 5.0$ (medium-floaters), $90.0\% \pm 3.2$ (jumbo-floaters) and $88.8\% \pm 4.1$ (madras-sinker) were similar, but significantly higher than $50.0\% \pm 19.0$ (madras-floater). Sowing-depth significantly affected SE and CC. Seedling emergence across sowing-depth was in the order $71.9\% \pm 6.6$ (T1) > $64.3\% \pm 5.4$ (T2) > $61.5\% \pm 8.3$ (T3) > $59.4\% \pm 8.3$ (T4) > $44.8\% \pm 14.7$ (T5). Cotyledon concealments were 0.0% (T1), 87.5% (T2) and 100.0% (T3, T4 and T5). Stem diameter ranged from 4.8 (T5) to 7.7 (T1). Effect of growth-media was



significant on growth parameters of cashew. Stem diameter was in the order: 0.78 ± 0.01 (1:3 topsoil:sawdust) > 0.74 ± 0.02 (topsoil) > 0.73 ± 0.03 (sawdust) > 0.72 ± 0.02 (1:1 topsoil:sawdust) > 0.70 ± 0.01 (3:1 topsoil:sawdust). Leaf area was: 36.41 ± 0.54 (1:3 topsoil:sawdust) > 35.62 ± 0.32 (3:1 topsoil:sawdust) > 32.13 ± 0.34 (sawdust) > 29.50 ± 0.32 (1:1 topsoil:sawdust) > 29.41 ± 0.39 (topsoil). Stem diameter ranged from 18.0 ± 2.9 (transplanted medium nut-biotype) to 28.0 ± 3.1 (directly-sown jumbo nut-biotype). Average nut-yield of medium and jumbo nut-biotypes of 380 and 503 (cashew/melon) were higher than 234 and 305 (cashew-melon-plantain) and 185 and 254 (cashew/plantain intercrops), respectively. Sowing cashew nuts in 1:3 topsoil:sawdust improved seedling growth. Medium and jumbo cashew nut-biotypes directly-sown at 7.5 cm depth and intercropped with melon enhanced establishment and nut-yield.

Management of Brown Mirids, *Sahlbergella singularis* HAGL 1895 (Hemiptera: Miridae) in cocoa plantations in Ibadan and Ikom, Nigeria

- Dr. Uche Asogwa



Sahlbergella singularis, a major mirid insect pest of cocoa has been implicated in severe economic losses across West Africa. Chemical control remains the major

management option with reported high mirid resistance, environmental persistence and adverse effects on non-target insect species. Effectiveness of the pest control is further

compounded by insecticide high procurement costs and scarcity. These have necessitated the search for alternative, cheaper and environmentally friendly targeted interventions towards mirid population control in cocoa farms.

The study was conducted at the Cocoa Research Institute of Nigeria headquarters, Ibadan and its sub-station at Ikom. Morphological identification of cocoa mirid species was carried out using standard guides. Molecular characterisation of *Sahlbergella singularis* was conducted using Cytochrome Oxidase Subunit I (COI) primer and the PCR products were sequenced and BLAST for similarities of species before deposition in the Gen-Bank. Mirid infestation levels on cocoa pods were determined monthly for one year using hand-picking and pheromone lure traps for prediction of appropriate insecticide intervention periods. Data obtained were analysed using descriptive statistics and ANOVA at $\alpha_{0.05}$.

Identified *Sahlbergella singularis* had 99 to 100% homology with previously existing species in the Gen-Bank (Accession number KU875980.1). The peak mirid population occurred in October with significantly higher mirid catches by pheromone traps (Ibadan: 7.06 ± 1.13 and Ikom: 11.00 ± 0.23), when compared to hand-picking (Ibadan: 5.23 ± 0.13 and Ikom: 6.42 ± 0.16), respectively. The very high number mirids caught by the pheromone lure traps over the period underscores the effectiveness of the lure traps in mitigating mirid infestation.

The utilisation of pheromone-based integrated pest management significantly reduce the amount of hazardous chemicals released into the environment on a yearly basis in cocoa mirid infestation management interventions.



Staff of the Month



Mr. Simeon Peter Ibiyomi was born on 5 December, 1975 at Isado Kiri-Bunun in Kabba/Bunnu Local Government, Kogi State. He attended Isado Kiri-Bunun Primary school where he obtained First School Leaving Certificate. Subsequently, he attended Kiri High School for secondary education and obtained the West African Examination Council (WAEC) Certificate. He later proceeded to Agric. Training Centre Ochaja (ATC), Kogi State and obtained Certificate in General Agriculture. He equally bagged National Diploma (ND) in Agricultural Technology and Higher National Diploma (HND) in Higher Agricultural Technology. He joined the service of CRIN as a casual staff in December 14, 1999 and was made permanent staff in January 02, 2009 with the Plantation and Estate Management and transferred to the Soil and Plant Nutrition (SPN) as field staff. Currently he is of Higher

Agricultural Superintendent cadre attached to Plant Breeding. He has been trained by CRIN on cashew scion collection and grafting. He is happily married with children.

June 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!



Ajibola Dare	01-June
Asein Oyahire Jonathan	01-June
Ojo Sunday	01-June
Stephen Philina	01-June
Aiyedogbon Pelumi	02-June
Odeyemi Busayo	02-June
Oyebode Olumide Johnson	02-June
Olaoba Folorunsho Olatunji	03-June
Oyebode Felicia Anike	04-June
Ogundare Taiwo	04-June
Mokwunye Idongesit Umanah	05-June
Ogunlana Busola	05-June
Onifade Aminat	05-June
Adekojo Sunday Adeboye	06-June





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Adio Sunday	06-June	Kuforiji Bolanle Mercy	14-June
Areola Oluwatobi James	06-June	Irumekhai Florence Avenigbe	14-June
Bakare Motunrayo	06-June	Taiwo Oluwole Samuel	14-June
Isah Olushola Sherif	06-June	Akinwale Abraham Oluwagbenga	15-June
Kayiwedo Solomon	06-June	Ijadunola Titilayo Felicia	15-June
Ogbechie Michael Bamidele	06-June	Onigbinde Olarewaju Oluwole	15-June
Akano Joseph	07-June	Ogujobi Moruf Ayinla	15-June
Obi Samuel Ikechukwu	07-June	Abioye Adeyemi Emmanuel	16-June
Otanwa John	07-June	Ilori Oluwole Victor	16-June
Shittu Tunji Rasaki	07-June	Balogun Rowland Olusegun	17-June
Arowobusoye Julius Akinrinsola	08-June	Garba Idris Audu	17-June
Edim Okpokam Ozung	08-June	Baoku Helen Funmilayo	18-June
Gold Ahmad Olaoti	08-June	Sonuga Olunike	18-June
Kokori Paul	08-June	Adebayo Joel Adekunle	19-June
Okoro Ekezie	08-June	Adedeji Maryam	19-June
Adedara Iyabo Abosede	09-June	Akinsola Mopelola	19-June
Adio Adebukola	09-June	Jimoh Abdulahi	19-June
Efuniyi Muyiwa Oladotun	09-June	Ogbugburu Nwabenu Segun	19-June
Alalade Kunle	10-June	Ogunfowokan Omowumi Victoria	19-June
Nwachukwu Benedict	10-June	Oyedotun Olugbenga	19-June
Salami Fatai	10-June	Bakare Gbenga Taiwo	22-June
Adeagbo Temitope Yewande	11-June	Daniel Rebecca	22-June
Alamu Risikat	12-June	Eguavoen Lucky	22-June
Danila Anthony	12-June	Ikpefua Anthony	22-June
Fasina Babatunde	12-June	Ojo Oluseye Abioye	22-June
Nanna Angela	12-June	Ibidapo Samuel	23-June
Osim Ayang	12-June	Onifade Adesoji R.	23-June
Okokuwa Idowu	12-June	Oaikhena Lydia Itoya	23-June
Omogbehin Ayo Kikelomo	12-June	Tanko Haruna	23-June
Taoheed Ojo	12-June	Fowowe Charles Olufemi	24-June
Adelusi Adejoke	13-June	Oladipupo Samuel	24-June
Eze Joseph Nmesirionye	13-June	Ojo Oluwatosin	24-June





Adegboro Olugbenga	25-June	Jayeade Abass E.	28-June
Onigbinde Ayodele	26-June	Awofeko Beauty	29-June
Owoduyilemi Opeyemi O.	26-June	Ekundayo-Benson Brayila J.	29-June
Ejugwu Joseph	27-June	Adeji Alaba Olaitan	30-June
Fapohunda Omolade	27-June	Adepoju Abigail Funmilayo	30-June
Ibe Osita E.	27-June	Afolabi Oyawale Gbeminiyi	30-June
Olebara Ugonna F.	27-June	Umar Salisu	30-June



Products and Services

- **Research and Consultancy** ● **Training on Best Agricultural Practices**
- **Supply of high yielding, disease resistant, early maturing and improved Cashew, Cocoa, Coffee, Kola and Tea varieties**
- **Nursery and Field Establishments** ● **Agrochemical Screening**
- **Cocoa Flavour Laboratory Services** ● **Value Additions**
- **Soil and Biological Services**

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