



NRCRI



Bulletin

**A Bulletin of the Media & Publicity Unit
NATIONAL ROOT CROPS RESEARCH INSTITUTE UMUDIKE**

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**NRCRI BRITISH COLONIAL
Administrative Block**

IN THIS EDITION

**NRCRI COMMISSIONS
NEW BIOSCIENCES
CENTRE BUILDING**



**FARMERS HELPLINE OPEN
AT NRCRI UMUDIKE**





Achieving Farmers Access To Agricultural Technologies In A Sustainable Research Environment For Food Security In Nigeria

IT IS MY singular honour to welcome our numerous readers to the first edition of 2020 NRCRI bulletin. The lead story in this edition focuses on making research information available to farmers and end-users through the establishment of a communication link. This is towards accessibility and increasing utilization of improved agricultural technologies. A sustainable, conducive environmental condition is a tool for achievement of viable research outcome that leads to food security in Nigeria.

Provision of an enabling and conducive environment for efficient service delivery in research to tackle the problem of food security should be one of the pressing needs for agricultural research in Nigeria. In an attempt to achieve enabling-attractive and sustainable research environment, the CEO and the Executive Director of National Root Crops Research Institute Umudike (NRCRI), Prof. Ukpabi Joseph Ukpabi has begun some transformation activities in NRCRI environment by the erection of new physical structures and roads. This is to make the staff comfortable and happy to do their jobs in a conducive environment. In order to achieve food security through an enabling research environment, a good drainage system and motorable roads were constructed to make movement easy for workers and to prevent environmental degradation like erosion in the institute.

Furthermore, the issue of climate change, which has contributed to environmental hazards within the institute, (that affected the only Dam that serves NRCRI for irrigation purposes) has been checked through good construction engineering and total rehabilitation, thus making irrigation activities readily available for the institute. Rural farmers are not left out in these innovations because they are the people that make use of research findings. Farmers Helpline Call Centre has been established in collaboration with Federal Ministry of Agriculture and Rural Development, Abuja in the institute to make for easier communication between researchers and farmers in Nigeria. Farmers are hereby advised to call the NRCRI Centre for any information they need concerning their farming activities and problems with **Toll-Free number 08002200444**.

Improved agricultural technologies that could be accessible through this line include: information on high yielding cassava varieties, yam, cocoyam, sweet potato, ginger and other agricultural technologies with good agronomic packages. A wonderful opportunity!

Dr. Mrs. E.N. Nwakor

Editor-In-Chief

Professor Ukpabi Joseph Ukpabi

Editorial Advisers

Dr A.O. Olojede

Dr C. O. Amadi

Dr E.O. Mbanaso

Managing Editor

Dr. (Mrs) Flora Ngozi Nwakor
(Head Media & Publicity Unit)

Contributors

Ngozi Iheadigwu, Dupe Okocha, Chinwe Odor, Nwakaego Obi, Amarachi Mbanaso, Joy ijebuonwu, Christine Obonna, Henrietta Egwu, Rosemary Chimbo, Felix Okorie, Uchenna Ehisianya, Stella Anyaeché, Eric Ene, Chidinma Onyeulo, Chinwe Ubalua, Rosemary Ekechukwu, Bright Ogbonye, Chioma Nsofor, Nkechinyere Ogwo, Nwakaego Akponye, Uju Ogazi, Felicia Amadi, Chibuzo Nwosu.

Photographers

Charles Orji, Augustine Edoh, Smart Ihedigbo

NRCRI MISSION

To provide necessary improved **TECHNOLOGIES** that would enhance total value chain development of **ROOT AND TUBER CROPS** towards national food security, income generation, gainful employment and industrial development.

BRACE UP WITH THE CHALLENGE OF ACCURATE FINANCIAL RECORDS –ED

Felix Okorie



**The Executive Director/CEO
Prof U.J. Ukpabi during his Address**

The Executive Director, National Root Crops Research Institute (NRCRI) Umudike, Prof. Ukpabi Joseph Ukpabi has made a clarion call to the staff of the Finance and Accounts Department and Audit Unit of the Institute to brace up with the challenge of keeping accurate financial records for the Institute. He made this call recently at the institute's conference hall. He said that though the staff of the department have academic and professional qualifications in accounting, they are yet to keep proper records.

He admonished them to use their professional qualifications to ensure more effective performance of their duties. This, he said; will help to uplift their profession and department. He also said that computer literacy is mandatory for every staff of the department and advised the Director of Finance and Accounts, Chief Christopher Anigbogu to ensure that staff of the department follow proper accounting procedures.

Responding, the Director of Finance and Accounts in the Institute encouraged his staff to sit up and shun anything that will endanger their jobs. He however, made a case for the Executive Director to include staff training in 2020 budget because of the sensitivity and current system of accounting.

Mr. Arunsi Anthony Kalu of Audit Unit made an observation; that out of seventy-four senior staff in Finance and Accounts department only thirty-nine were members of their professional bodies like ANAN or ICAN. He therefore, called on the Executive Director to encourage further training of accounts staff for more efficient services.

Professor Ukpabi implored the staff trained by the Institute to salvage the situation by retraining staff of their department and promised that more trainings will be made available this year.

The Head and Acting Director of Administration Department in the Institute, Mrs. Maryrose Mbanaso, informed the staff that Service Compact with all Nigerian (SERVICOM) Unit has been directed to monitor truancy, and therefore advised them to avoid anything that will make them face disciplinary actions.

Nextgen Cassava Breeding Project trains **LEAD FARMERS**

Nkechinyere Ogwo



Nextgen team flanked by the participants

THE NEXTGEN Cassava Breeding Project recently conducted a one-day training for farmers from Imo and Akwa Ibom states who are involved in triadic Comparisons of Technologies (TRICOT). The training which took place on 9th of July, 2019 at National Root Crops Research Institute (NRCRI), Umudike was a capacity building initiative under the Nextgeneration (NEXTGEN) Cassava Breeding project and tailored to equip the lead farmers with the protocols required to evaluate TRICOT trials of the other 10 farmers' field, under their supervision.

In her opening remark, the resource person, Dr. Mrs. Theresa Ugo Madu (Gender Specialist for NextGen Cassava Breeding Project), explained TRICOT trial as a trial with 3 different cassava varieties planted in 3 plots of 30 cassava plants each. Speaking further, Dr Madu said that 30 cassava varieties will be evaluated between 320 farmers spread across Imo, Osun, Benue and Akwa Ibom states and each farmer will be expected to evaluate a combination of 3 varieties in his own field in a TRICOT manner with the supervision of the lead farmers.

In his address, the Global Director for NextGen Cassava Breeding Project, Prof. Chiedozi Egesi welcomed the lead farmers to NRCRI, Umudike. He informed them of few changes made by NEXTGEN recently, which include: engaging farmers more interactively in certain decision-making before varieties are released, as the project aims at supporting farmers. He however, thanked and encouraged the lead farmers in attendance to utilize all they would be taught.

Highlight of the training was a visit to NextGen farms within the institute.

FARMERS' HELPLINE

Opens At NRCRI UMUDIKE

Uju Egwu and Chinwe Odor

THE FEDERAL Ministry of Agriculture and Rural Development (FMARD) in collaboration with the National Root Crops Research Institute (NRCRI) Umudike, has opened a National Farmers Helpline Call Centre, located in the Institute. This centre covers the South-east agro-ecological zone of Nigeria.

In his keynote address, the Permanent Secretary of the FMARD, Dr. Mohammed Umar represented by Dr. (Mrs.) Ngozi Odunze, the Deputy Director Field Extension Services highlighted that the Federal Department of Agricultural Extension (FDAE) has the mandate to educate, disseminate and support farmers to adopt improved technologies and innovations along agricultural value chains, to increase productivity for sustainable agricultural development. In line with this, the department has introduced the National Farmers helpline call centers nationwide, one of which is sited at NRCRI, Umudike. She also emphasized that the call center will be available during

working days and hours from 8am to 4pm, and urged farmers to embrace and fully utilize this innovation.

In his welcome address, the Executive Director of NRCRI, Umudike, Prof. Ukpabi Joseph Ukpabi expressed gratitude to the Federal Government over the wise choice of NRCRI to house the National Helpline centre of the South Eastern region of the country. He encouraged the farmers, stakeholders and input suppliers to make good use of the helpline centre for questions and other concerns.

Honourable Romanus Eze, the Chairman All Farmers Association of Nigeria (AFAN) Enugu state, stated at the occasion that the essence of the Helpline centre is for farmers to be able to seek and receive quick solutions to their farming problems with their phones from any part of the country and that it is totally toll free for the first one year. He implored the farmers to put life into the helpline center by calling the Toll-Free number, **08002200444**, and spreading the news to other farmers.



Farmer's Helpline Centre, NRCRI

In response, the farmers expressed their excitement over this new development in the Institute and thanked FDAE and NRCRI for the sensitization and promised to utilize this great opportunity given to them. They however, complained about not getting what truly belongs to them from the Federal government and urged All Farmers Association of Nigeria (AFAN) to help recognize the South Eastern farmers. The Coordinator, Extension Research Programme and also the overseer of the Helpline Center of NRCRI, Umudike, Dr. Ekwuruchi Mbanaso in his closing remark appreciated the team from FDAE, Abuja, for their assiduity in making farmers helpline project a reality. He also thanked the Executive Director of NRCRI for providing enabling environment for the Call Centre to operate. He also appreciated the Programme Managers of the five Agricultural Development Programmes (ADPs) in the zone for their co-operation, as well as the farmers who were present at the occasion.

Highlight of the sensitization programme included a guided tour to the Helpline Centre to test the facilities.



Participants at the Event

AGREEN QUALITY SEEDS GENERAL MANAGER VISITS NRCRI AND UMUDIKE SEEDS

Nkechinyere Ogwo



Mr Avi Glick with some NRCRI Management staff



YIIFSWA Aeroponics structure at NRCRI

The General Manager of Agreen Quality Seeds, Yehuda, Israel, Mr. Avi Glick in the company of Chief Daniel Okafor (National President, All Potato Farmers' Association of Nigeria) visited the National Root Crops Research Institute (NRCRI), Umudike, Nigeria. According to Mr Glick, Agreen Quality Seeds Company deals on hybrid vegetable seeds, greenhouses, aquaculture

development, poultry, irrigation, etc. between Agreen Quality Seed Company and NRCRI.

In his opening remarks, Chief Daniel Okafor stated that the purpose of their visit was to seek ways of collaborating with NRCRI and Umudike Seeds on innovations in seed production and irrigation system.

Receiving the visitors in his office, the Executive Director of NRCRI, Umudike, Prof Ukpabi Joseph Ukpabi appreciated the visitors for coming and described the purpose of their visit as a welcome development for NRCRI. He however, noted that improved technology is not considered free in Israel, as "Intellectual Property Rights" protects it. Thus, every of their invention, and innovation is protected by patency. The Executive Director informed Mr. Glick about Umudike Seeds Company set up in 2018 with the objective of producing and marketing certified Breeder and Foundation seeds. The visit was to foster a private public partnership initiative

Furthermore, the Director of Biotechnology Department and also an anchor person for Umudike Seeds Company, Prof Chiedozie Egesi reiterated that though NRCRI has cassava as a flagship crop, it also has other root and tuber crops (Such as sweet potato and Irish potato) which efficient irrigation system could boost their chances of having more than one cycle of production in a year. He also noted the importance of screen-house management and re-modeling of some of the screen/greenhouses in the institute to enable plants growth in a controlled environment.

Other highlights of the visit were guided facility tour to NRCRI irrigation dam, Semi-autotrophic Hydroponics (SAH) Laboratory, Aeroponics facility and Tissue Culture Laboratory, and Molecular Biology and Diagnostic Laboratory.

INSTITUTE COMMISSIONS A RENOVATED

Green House

Nkechinyere Ogwo



The Renovated Green House

It was a moment of celebration for National Root Crops Research Institute (NRCRI), Umudike as a green house renovated by Programme for Emerging Agricultural Research Leaders (PEARL) Project was commissioned by the management and staff of NRCRI Umudike.

Speaking during the occasion, the Executive Director of NRCRI, Prof Ukpabi Joseph Ukpabi, ably represented by the Director of Research Support Services, Dr G.N Asumugha commended the Principal Investigator of PEARL Project in the institute, Dr D.N

Njoku for this great transformation he gave the green house and encouraged other scientists to emulate such efforts.

In his response, Dr Damian Njoku appreciated the management and staff of NRCRI for the tremendous support given to him to carry out

this project and promised to do his best in projecting the image of the institute globally.

He, however, noted that the facility is available for all Research Scientists, in the institute for their research activities.



Dr G.N. Asumugha Commissioning the Renovated Green House

YIIFSWA TRAINING ON BUSINESS MODEL for PRE-BASIC SEED YAM PRODUCTION USING TIBS

Nkechinyere Ogwo

Sahel Consulting Agriculture and Nutrition Limited in collaboration with Context Network held a workshop on Business Model for Pre-basic Seed Yam Production using Temporary Immersion Bioreactor System (TIBS). According to the Programme Coordinator for Context Network, Tele Akinlawon, the objective of the meeting was to support the National Root Crops Research Institute (NRCRI) agribusiness team in its development of a business

plan for the production and sale of breeder seeds produced by the Yam Improvement for Income and Food Security in West Africa (YIIFSWA II) to registered seed yam producers. On the other hand, Temi Adegroye, an Associate Partner with Sahel Consulting stated that, his role was to provide agricultural value chain analysis, market entry strategy and policy consulting on agribusiness training to YIIFSWA/ NRCRI economists to enable them evaluate this production enterprise with ultimate goal of attaining food security in Nigeria.

While welcoming the visitors, the Principal Investigator for YIIFSWA in the Institute, Dr O. N. Eke-Okoro stated that the training is in line with the mandate of NRCRI which is to research into the genetic improvement, production, processing, storage, utilization, and socio economics of root and tuber crops of economic importance. He thus encouraged all participants at the workshop to be attentive during the interactions.

The training was anchored by Dr Confidence Kalu, an Agric-economist with YIIFSWA Project in NRCRI.



Programme Coordinator for Context Network,
Tele Akinlawon with NRCRI Team

temporary NRCRI ADOPTS TEMPORARY IMMERSION BIOREACTOR SYSTEM

- Nkechinyere Ogwo

The National Root Crops Research Institute (NRCRI) Umudike has adopted the use of Temporary Immersion Bioreactor System (TIBS) for the rapid multiplication and improvement of seed yam. Over the years, high productivity of yam has been constrained by scarcity of clean seeds, pest attacks, diseases and low soil fertility.

Speaking in an interview, the Principal Investigator for YIIFSWA project in NRCRI, Dr. Okechukwu Eke- Okoro stated that the adoption of TIBS alongside the already existing Aeroponics system by the Yam Improvement for Income and Food Security in West Africa II (YIIFSWA II) project is expected to increase propagation rates, facilitate production of quality breeder, foundation and certified

seeds and fast-track formal seed yam production system in Nigeria.

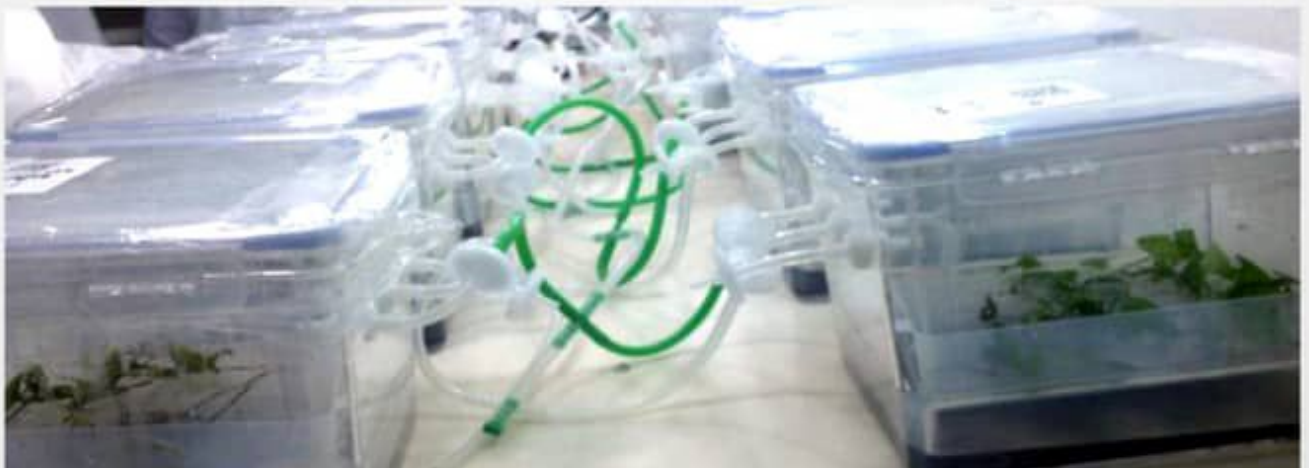
Dr. Mrs. Ihuoma Okwuonu, Head of Tissue Culture Unit, NRCRI explained that the TIBS technology is a propagation system that grows plants rapidly by immersing them intermittently in liquid nutrients in sterile laboratory containers (bioreactor). In Temporary Immersion, the cultures are immersed in the medium for a pre-set duration at specified intervals. The TIB system is a new generation tissue culture technology, and the timed immersion of plant tissue in liquid medium allows for the aeration of culture.

Dr. Okwuonu stated some advantages of TIBS over conventional in-vitro plant

propagation techniques to include:

- Reduction in manual labour requirements.
- Prevention of asphyxiation and tissue verification by exposing the plant to the liquid medium with periodic immersion, which ensures a complete renewal of the atmosphere, thus an increased culture multiplication rate and faster culture growth.
- Planting materials produced using TIBS is harder and acclimatize better.
- It is an efficient technology for scaling up plant production.

NRCRI Umudike, hopes to use TIBS to produce plantlets all year round in addition to the production of micro-tubers.



Bioreactor System in NRCRI

BOARD COMMITTEE ON RESEARCH AND EXTENSION APPLAUDS MANAGEMENT

Nkechinyere Ogwo

The Chairman of Board Committee on Research and Extension for the National Root Crops Research Institute (NRCRI), Hon T.G Muhammed has commended the research efforts of the NRCRI, Umudike during his recent visit with his team to carry out an oversight function on the research activities in the institute's headquarters and out stations based on the approved projects for 2019.

The committee was received by Professor Ukpabi Joseph Ukpabi alongside Dr. Okechukwu Eke-Okoro, (Secretary of the committee), Dr. G.N Asumugha (Director of Research Support Services), Dr. A. O. Olojede

(Director of Research Outreach Department) and Dr. Mrs. Maureen Ikejiofor (Head of Engineering Department). Receiving the visitors in his office, Professor Ukpabi expressed happiness over the visit. He promised to see to it that they receive maximum support during their stay.

Speaking also at the occasion, Honourable Muhammed affirmed that they are working hard to ensure that the institute moves forward. He encouraged the board members, management and staff of the institute to work as a team for

high productivity. He enthused that the board is working hard to ensure that farmers in Nigeria benefit from NRCRI research activities. Hon. Muhammed came in the company of Alhaji Yahaya D. Maradun, Alhaji Nuhu Yusuf and Elder A. Adelowo. Highlights of the visit included tours to the Molecular Diagnostics Laboratory, Semi Autotrophic Hydroponics(SAH) Laboratory, Tissue Culture Laboratory, Confined Field Trial (CET) site, Engineering Unit, Post-harvest Unit and various experimental farms in the institute.



The Board Members and some NRCRI staff during the visit

Virca Plus Project Organizes Biosafety Workshop

Nkechinyere Ogwo

Virus Resistant Cassava for Africa plus Iron and Zinc (VIRCAPlus) Project recently organized a 2-day Biosafety Workshop on handling Genetically Modified (GM) Cassava. The workshop which was held at the Biotechnology Conference Hall, National Root Crops Research Institute (NRCRI), Umudike, brought together all categories of participants of the VIRCAPlus Project, including the Institute Biosafety Committee (IBM), under one roof.

In his welcome address, the Director of Biotechnology and Product Development Department, Professor Chiedozi Egesi, ably represented by Dr. Ihuoma, encouraged all participants to be attentive so as to gain maximum experience from the workshop.

In her opening remarks, the VIRCA Plus (Nigeria) Principal Investigator (P.I) and Coordinator of Biotechnology Programme in the institute, Dr. Mrs. Ihuoma Okwuonu, said the objectives of VIRCA

Plus are to proffer solutions to Cassava viral diseases as well as elevate the minimum daily iron and zinc requirements of the average Nigerian, especially pregnant women and children below the age of 5.

She highlighted the objectives of the workshop as; To move all stake holders of VIRCA Plus project towards effective implementation of the project's objectives, acquaint participants with biosafety regulations and update all stakeholders with research and regulatory notification timelines.

Scientists who made presentations during the

workshop included Dr. Ihuoma Okwuonu, (VIRCA Plus Overview and Objective), Dr. Chukwuemeka Nkere (Biosafety Regulations), Dr. Francis Nkaa (Biosafety Concept), Dr. Emmanuel Ekundayo (Functions of IBC), Mr. Ahamefule Nwaogu (Regulatory & compliance books and CFT activities) and Mrs. Nkechinyere Ogwo (VIRCA Plus communication activities).

Highlights of the workshop included discussions, pre/post conference questionnaire, signing of biosafety undertaking and facility tours (Genetic Transformation laboratory, biosafety level II screen house, and Confined Field Trial site).



Participants of the VIRCA-Plus Project with the NRCRI Biosafety Committee

BASICS TEAM VISITS NRCRI UMUDIKE

The team on Building a Sustainable Seed System for Cassava (BASICS) project visited National Root Crops Research Institute (NRCRI) Umudike on a project evaluation mission for BASICS project.

The team was made up of Dr. Loretta Byrnes (External Evaluator/Consultant, BMGF) Dr. Hermant Nitturkar (Team Leader and Project Director for BASICS CIP-Ibadan) Dr. Michael Friedman (Science Officer, RTB, Lima, Peru) and David Obisan (M&

E Officer, BASICS Project, CIP).

During the courtesy visit to the Executive Director (ED) of NRCRI, Umudike, Professor Ukpabi Joseph Ukpabi, the ED appreciated and commended Dr. Loretta Byrnes for the interest she is showing towards seed system development in Nigeria. He also lauded the BASICS project Director, Dr. Hermant Nitturkar for his ability to carry the team along in day-to-day activities. Prof Ukpabi described Hermant as a "great leader" and pledged his astute support for BASICS project.

In his opening remarks, the Principal Investigator for BASICS Project, Professor Chiedozie Egesi stated that the 3-

day mission was part of a project-wide assessment on all components of the BASICS project. The visit, he said further, is expected to bring to the fore key success stories, lessons, identified gaps and course-corrections for next steps.

Dr. Byrnes and the visiting team thanked the NRCRI, BASICS project team and the leadership of the institute for the warm welcome they received.

Highlights of the mission included visits to VSE fields, SAH laboratory, and early generation seed production field of Umudike Seeds Limited. The team met the Nigeria Agricultural Seed Council (NASC) Regional Director, as well as a private foundation seed producer, Renascent Seeds Umudike.



BASICS and NRCRI Team

YIIFSWA PROJECT TRAINS 30 WOMEN SEED YAM FARMERS IN NRCRI UMUDIKE

Nkechinyere Oguwo & Ngozi Iheadigwu

As an intervention strategy to tackle scarcity of clean seed yams and low multiplication ratio of yams in Nigeria, a total of 30 women seed yam farmers drawn from the 5 states in the South East Nigeria have been trained by the Yam Improvement for Income and Food Security in West Africa (YIIFSWA II) team from National Root Crops Research Institute (NRCRI), Umudike and International Institute of Tropical Agriculture (IITA), Ibadan, Nigeria. Nigeria as we know, is the world leading producer and consumer of yam. Unfortunately scarcity of clean seed yams and low multiplication ratio, are some of the major constraints to yam production. YIIFSWA II has amongst other objectives the mandate to empower women to profitably participate in the commercial yam seed value chain within the context of the appropriate socio-cultural seed system.

system. He encouraged the women seed yam farmers to put to good use all they will learn. In his address, the Project Leader for YIIFSWA in West Africa, Dr Norbert Maroya described the carefully selected participants as the chosen few in the South East who have the potential to explore the multiplication of clean seed yam production. He encouraged them to live up to expectations and to see their being selected as a rare privilege.

In his keynote address, the Honourable Minister of Federal Ministry of Agriculture and Rural Development (FMARD), Alhaji Mohammed Sabo Nanano who was ably represented by the Yam desk officer in the Ministry, Dr P. Iyere-Usiahon, stated that FMARD gender policy on agriculture is aimed at empowering women farmers for increased agricultural production. She, however, implored the women to be attentive during the workshop as the commercial production of improved seed yam varieties and its business opportunities will give them the desired empowerment.



YIIFSWA training section

their pockets."

Activities that marked the workshop included: presentations by Dr N. Maroya (Seed Yam Production Systems), Dr O.N. Eke-Okoro (Brief on YIIFSWA Project), Dr B. Aighewi (Principles of Seed Production with focus on Yam), Dr. K.C Ekwe (Expectations of participants), Dr J.G. Ikeorgu (Preparation/Establishment of Demo plot at the Irrigation site, Practical exercise on Yam Miniset cutting, treatment, planting) and Mrs. Onyinyechi Onyegbula (Handling of Aeroponics Raised Yam Seedlings).

In an interview, Mrs Ijeoma Ezekiel Ariwodo stated that the training has imparted positively on her as she hopes to invest more time and energy into seed yam production. She is hopeful that her financial status will be boosted through seed yam production. Mrs Grace Ukachukwu from Ohafia stated her intentions to go into commercial production of seed yams. Mrs Anulika Ambrose highlighted the benefit of the workshop as she learnt how to multiply yam seeds through miniset production. She also learnt how to sort and treat yam seed to avoid contamination. Mrs Onyinyechi Oguelu stated that the workshop has opened her eyes on how to take care of her seed yams, from cutting, planting, fertilizer application to harvesting and storage and hopes that going into commercial production will "put YIIFSWA into her pocket".

At the end of the workshop, the participants expressed deepest appreciation to the Executive Director of the Institute, Prof Ukpabi Joseph Ukpabi, Project Leader for YIIFSWA in West Africa, Dr N. Maroya and the Coordinator of YIIFSWA Project in the Institute, Dr. O.N. Eke-Okoro for this opportunity and pledged to put to use the knowledge garnered from the training in their Seed Yam activities.



Prof. Ukpabi J. Ukpabi flanked by the participants

Declaring the occasion open, the Executive Director of NRCRI, Prof Ukpabi Joseph Ukpabi urged the participants to take advantage of the training to improve their lives and income. He described the training as a right step in the right direction as YIIFSWA is fulfilling one of the dreams of the Federal Government, which is developing a seed system that will replace the conventional yam multiplication

The YIIFSWA Principal Investigator in the institute, Dr O.N. Eke-Okoro said that the project is committed to the production of clean, high quality seed yam for higher yields and improved income for women while also-empowering small holder ware yam producers with improved seed yam varieties for increased productivity and thus "placing big money(YIIFSWA) in

EXECUTIVE DIRECTOR'S EXTRAORDINARY TRANSFORMATION OF THE INSTITUTE

Continues...



New NRCRI Office Complex at Iresi Outstation , Osun State



NRCRI Land Retrieved by the E.D. from a friendly nearby Community



Professor Ukpabi Joseph Ukpabi Administrative Block At Igharim Sub Station



Water-way/Drainage System Constructed by E.D. in NRCRI, Umudike



NRCRI Dam Erosion site restored by the E.D.



New Road Constructed at NRCRI Umudike



On-Going Office Complex (Back view) at NRCRI Umudike



On-Going Office Complex (Front view) at NRCRI Umudike

NRCRI IGBARIAM WEARS A NEW FACE

OFFICIAL OPENING CEREMONY OF THE NEW ADMINISTRATIVE BLOCK AT IGBARIAM SUB STATION

On 27th January 2020, a dream was seen to have become reality when a one storey building built by the Executive Director, Prof. Ukpabi Joseph Ukpabi was officially commissioned and later allotted to staff. In his remark, the Igbariam Head of Station, Dr. Friday N. Aboajah stated that Prof. Ukpabi Joseph Ukpabi should and ought to be remembered throughout the history of National Root Crops Research Institute at large and Igbariam Sub station in particular for his unique administrative prowess and massive achievements despite the recent economic woes in the country.

He thanked him for seeing Igbariam as a favoured town to earn a multi million naira project like this. The complex was named Prof. Ukpabi Joseph Ukpabi Administrative Complex.



The Commissioning of an Administrative Block at Igbariam



New Deep Water borehole executed by ED at NRCRI Igbariam



Newly constructed office desks at NRCRI Igbariam

Some Of The Institution **LABORATORY** Activities



The above photos show Carotenoid Analysis Activities in the Institute Biochemistry Laboratory.

INSTITUTE COMMISSIONS

NEW BIOSCIENCES CENTRE BUILDING

History was made recently as the Executive Director of National Root Crops Research Institute (NRCRI) Umudike, Professor Ukpabi Joseph Ukpabi and the entire management team commissioned a state-of-the-art Biosciences Centre Building in the institute.

In his opening remarks, Professor Ukpabi commended the Director, Biotechnology and Product Development Department, Professor Chiedozie Egese for his relentless efforts at ensuring that the commissioning of the centre became a reality. He described it as an international centre of excellence. He encouraged the institute's research scientists to maximize the great opportunities which the Biosciences centre provides to make advances in their research activities.

In his response, the Director of Biotechnology and Product Development Department, Prof Chiedozie Egese explained that the building was dedicated and commissioned for applied biotechnology related researches such as molecular breeding and diagnostics for root and tuber crops. Quoting Professor Egese, "We also have in the building, genetic engineering and tissue culture components for farmers growing income generating crops. The power of science and technology using cutting edge research tools has been brought in to develop improved varieties of root and tuber crops, and generate improved technologies that will detect, monitor, manage, and even prevent diseases. This will make for food productivity, food security, while enriching the farmers who are producing crops developed by NRCRI Umudike".

Speaking in an interview with NRCRI media crew, the Director for Externally Funded Projects, Dr. Joseph Onyeka expressed the view that the building will provide office spaces for some staff, house laboratories with modern equipment of great service and benefit to all the researchers within the south

east of Nigeria and beyond. He described it as a great day for the institute and encouraged the younger scientists to be dedicated and committed to their research work.

Also present at the occasion was the Coordinator for Biotechnology Programme and Head of Tissue Culture Unit in the institute, Dr. Ihuoma Okwuonu, who described the Biosciences center as a big achievement for the institute. She urged younger scientists to step up in their research activities because the world is becoming more advanced. She also urged them to invest in themselves, travel and come back with innovative ideas to make NRCRI a greater place.

In his closing remarks, Professor Egese appreciated everyone who participated during the commissioning

Nkechinyere Ogwo

of the new facility. He specially thanked the Executive Director for his great support and encouragement towards building the facility. He acknowledged the management of NRCRI for their support. He also commended the entire Biotechnology staff for their efforts, hard work and dedication towards their work. Other features included a tour to the biosciences facility, commissioning of renovated screen house for bioreactor produced seeds and newly built offices for non-academic staff.



NRCRI New Biosciences Centre Building



Participants at the Event

YIIFSWA PROJECT MANAGER VISITS NRCRI

Nkechinyere Ogwo & Ngozi Iheadigwu

As part of the yearly procedure, the Yam Improvement for Income and Food Security in West Africa II (YIIFSWA II) team visited the National Root Crop Research Institute (NRCRI) Umudike for monitoring and evaluation of YIIFSWA projects.

Receiving the visitors in his office, the Executive Director of NRCRI, Prof. Ukpabi Joseph Ukpabi thanked YIIFSWA team for coming. He commended the team for their support and partnership, stating that the institute has done exceptionally well through the innovative partnership with relevant national and international organizations. He promised to support YIIFSWA project in reaching greater heights. YIIFSWA project manager for West Africa, Dr. Norbert Maroya expressed joy over the success so far. He applauded the Principal Investigator (PI for NRCRI), Dr. O.N.Eke-Okoro for his relentless efforts and contribution towards taking YIIFSWA project to greater height. He explained that YIIFSWA II is a five-year program that seeks to develop and establish a functional commercial seed yam system in Ghana and Nigeria. Dr. Norbert Maroya came in the company of Bolanle Akinribido, who is the Monitoring and Evaluation Officer for



Inside YIIFSWA green house



Dr Norbert Maroya, Dr Eke-Okoro and YIIFSWA team members.

the institute has done exceptionally well through the innovative partnership with relevant national and international organizations. He promised to support

YIIFSWA project in IITA.

In his good will message, Dr. Eke-Okoro affirmed that with "Aeroponics (process of growing plants in an air or mist environment without the use of soil)

system, YIIFSWA has been able to release clean yam seeds unlike the conventional system of growing yam seedling. He enumerated other evidences of YIIFSWA breakthroughs as rapid

multiplication of seeds done in the tissue culture laboratory and the Temporary Immersion Bioreactor (TIBS) laboratory.

Highlights of the occasion included a guided tour led by Dr. Eke-Okoro to the Executive Director's office, Prof Egesi's office, Aeroponics screen house, Bioreactor screen house, TIBS Lab, YIIFSWA farms and NRCRI Dam site. YIIFSWA is managed by the International Institute for Tropical Agriculture (IITA) in collaboration with NRCRI, Umudike.

AGRO-PARK DEVELOPMENT COMPANY LIMITED VISITS NRCRI, UMUDIKE

Solomon Afuape and Nkechinyere Ogwo

The goals of establishing the National Root Crop Research Institute outpost at Iresi, Osun State in the South West Nigeria was further achieved on October 14, 2019 when the Head of NRCRI Iresi Out-station, Dr. Solomon Afuape, led a strong team from Agro-park Development Company, Abeokuta, Ogun State to the institute. Agro-park Development Company limited is an agro-based company that sits on one thousand hectares of land in Abeokuta, Ogun State. The company is involved in the planting and processing of spices. The

cardinal aim of the visit was to forge a good working relationship with the institute on orange-fleshed Sweet-potato, turmeric production and processing.

During the courtesy visit to the Executive Director of NRCRI, Prof. Ukpabi Joseph Ukpabi welcomed the Agro-park team to the institute and reiterated the national mandate of the institute to the visitors. He assured them of the institute's willingness to enter into strategic collaboration with the company on the utilization of the institute's proven technologies.



Prof. Ukpabi with the Agro-Park Team

AFAN Seeks Partnership With NRCRI, Umudike

Nkechinyere Ogwo



AFAN Team with the Executive Director, NRCRI, Prof. U.J. Ukpabi

In a bid to foster partnership between Apex farmers in the south east zone and National Root Crops Research Institute (NRCRI), Umudike, the All Farmers Association of Nigeria (AFAN), South East zone in collaboration with All Potato Farmers Association of Nigeria paid a courtesy visit to the Executive Director of NRCRI, Prof. Ukpabi Joseph Ukpabi.

According to the Vice National President of AFAN, Chief

Daniel Okafor, the purpose of their visit was to seek partnership with the Institute on how to play pivotal roles on issues concerning food security in Nigeria. He noted that AFAN feels relegated to the background when it comes to decision concerning agriculture in the South East.

In his response, the ED appreciated them for coming and reiterated the mandates of the institute to them. He

further invited them for the launching of Farmers' Helpline Centre which was to hold the next day in the institute.

Highlights of the visit were a guided tour round the Semi Autotrophic hydroponics (SAH) seed multiplication laboratory, tissue culture laboratory led by the Head of Tissue Culture Unit of in NRCRI, Dr. Ihuoma Okwuonu.

CLIMATE CHANGE: THE NEGATIVE IMPACTS ON NRCRI, UMUDIKE



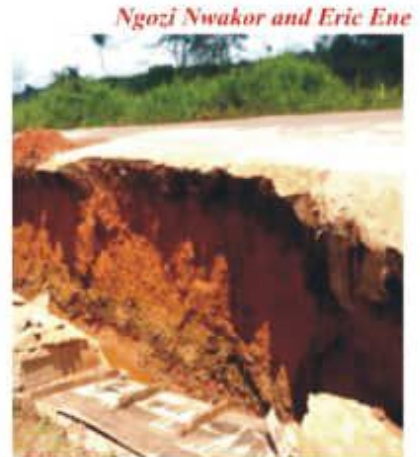
The ED at the Erosion Site near the Institute's Dam

The Executive Director of the National Root Crops Research Institute Umudike, Professor Ukpabi Joseph Ukpabi has gladdened the hearts of his staff as he made a positive move towards the restoration of NRCRI Dam which was apparently affected by the global climate change panacea.

Climate change is considered real and has come to stay. The only way out is to adjust through adoption of sustainable mitigation/adaptation measures. It is the most serious environmental threat to the fight against hunger, malnutrition, disease and poverty due to its impact on agricultural production. Climate change was aggravated due to increase in emission of greenhouse gases that affect the earth average temperature, causing global warming as a result of the effect on the ozone layer by these gas emissions

The recent climate change has led to increased temperature, change in the pattern of rain fall, excessive floods, erosion, increase crop failure, loss of soil nutrients and increased pests and diseases effect. All these may lead to decrease in agricultural production, hunger, poverty and food insecurity.

Climate Change is a global issue, and constitutes additional stress affecting agricultural sector and other sectors of the economy. It is the most serious environmental threat to the fight against hunger, malnutrition, disease and poverty. NRCRI, Umudike, the only agricultural research institute in South East Nigeria seems to be also affected by climate change menace. Regrettably, the only dam for irrigation and other agricultural purposes in the institute is seriously damaged as a result of excessive flooding and overflow. On the face of this challenge, however, the following adaptation strategies could be



Ngozi Nwakor and Eric Ene

introduced to reduce the impact of climate change on agricultural production in this area.

1. The depth of the dam should be increased to retain larger volume of water.
2. Proper channels should be made to ease movement of water into the dam.
3. Heavy trucks should be controlled from passing through the pathway.



African Potato Association Honours NRCRI Scientist

Rosemary Ekechukwu and Stella Anyaeche

A renowned food scientist (food chemist, Root and Tuber Processing Expert) of the National Root Crops Research Institute (NRCRI) Umudike, Dr. Mrs. Rachel Omodamiro, has been elected the council member representing West Africa during the 11th Triennial African Potato Association (APA) Conference held at Kigali Marriott Hotel, Kigali, Rwanda (from 25th August to 29th August 2019).

This election was sequel to the presentation of her two scholarly papers on orange fleshed- Sweet Potato (OFSP) titled; "Total

carotene content, physical attributes and sensory evaluation of orange-fleshed sweet potato puree inclusion in commercialized wheat-cassava composite flour bread newly developed in Nigeria" and "Potential of orange-fleshed sweet potato based drink in vitamin A deficiency control.



Orange Fleshed Sweet Potato



Dr. Mrs. Rachel Omodamiro

NRCRI BASICS Holds Market Day Promo

Building a Sustainable Seed System for Cassava

Christine Obonna, Henrietta Egwu



A Market Promo Scene



Over 1000 youths and women scrambled for available information on quality cassava stems when a team on Building a sustainable seed system for cassava (BASICS) stormed markets in four states of the south east zone of Nigeria.

This was carried out by the National Root Crops Research Institute, Umudike BASICS Village Seed Entrepreneur (VSE) team at Imo, Abia, Akwa-Ibom and Cross River States. The aim of the Programme was to create awareness on improved cassava and promoting certified improved cassava production in Nigeria, with the slogan "plant certified improved cassava variety for increased income, the difference is clear."

Speaking during the market Promo at Nkwoegwu market, Ohuhu, Umuahia North Local Government Area, Abia State, the Director of Research Support Services, who coordinated the programme in the four states, Dr. Godwin Asumugha posited that cassava business was one of the best choices of business and encouraged market women to plant certified improved cassava variety for increased income. The team leaders of the various states were Dr Justin Ewuziem (Imo), Dr Helen Anyaegbunam (Akwa Ibom), Dr Ngozi Nwakor (Abia) and Lilian Onyegbule (Cross River)

INTER DEPARTMENTAL FOOTBALL MATCHES IN NRCRI, UMUDIKE

Nwakaego Akponye, Bright Oghonye

The National Root Crops Research Institute, Umudike recently concluded a three-day inter- departmental friendly football matches.

The second phase of the match was between Engineering, Estate Management versus Accounts and Administration departments.

The grand finale of the event witnessed the presence of Executive Director of the Institute, Professor Ukpabi Joseph Ukpabi where

Accounts and Administration team emerged the winners of the competition. Speaking at the occasion, the Executive Director commended the organizers and participants for their good performances and promised token prizes for the winning teams that emerged.

Earlier in her welcome address, the Chairman, Staff Recreation and Sports Committee, Mrs Chinwe Ezeaputa who described sporting activity as an

activity involving physical exertions and skill in which an individual or teams compete against one another, said the competition will also earn the winners award of medals. She noted that the occasion was the first of its kind in the Institute for a very long time.

Highlight of the event were presentations of Trophy and Medals to deserving competitors.



The Executive Director Kicking the Ball at the Opening Ceremony



ED awarding prizes at the closing ceremony

RTB-FOODS TRAINING ON SENSORY PROFILING

Nkechinyere Ogwo

Recently, some food test panelists in the National Root Crops Research Institute, Umudike, were trained on descriptive sensory evaluation/profiling of RTB-Foods (boiled yam, pounded yam, eba, fufu and sweet potato). RTB-Foods Sensory Evaluation, in line with its 5-year effort to pin point the quality traits that determine the adoption of new Root Tuber and Banana (RTB) varieties developed by breeders.

Speaking during the occasion, Dr. Bolanle Otegbayo, Food Technologist from Department of Food Science and Technology, BOWEN University, Iwo, Osun state explained that the essence of the training was to ensure that the methodology used in the descriptive sensory evaluation is consistent all over the partner institutions. She stated that all products are examined the same way in all partner institutions.

Welcoming the visitors in his office, the Executive Director of the Institute,



Some Participants at the Event

Professor Ukpabi Joseph Ukpabi stated that the training tallies with the national mandate of NRCRI, Umudike which is to research into the genetic improvement, production, processing, storage, utilization and socio economics of root and tuber crops of economic importance (yam, cassava, potato, sweet potato, cocoyam, ginger, Hausa potato, sugar beet,

Living Stone potato arrow root etc). He appreciated the visitor for coming while encouraging participants to put to use all they were taught.

The 5-day workshop was anchored by Mrs. Ugo Chijioke, the co- Principal Investigator of the project at NRCRI, Umudike, as part of 2019, activities of RTB-Foods Project.



Sensory Evaluation Session in NRCRI

NIRSAL & ARCN TEAM AT NRCRI UMUDIKE

Nkechinyere Ogwo



NIRSAL, ARCN AND NRCRI TEAMS

THE NIGERIA Incentive-Based Risk-Sharing System for Agricultural Lending (NIRSAL) in partnership with the Agricultural Research Council of Nigeria (ARC�) recently visited National Root Crops Research

(ARC�) specified that the purpose of the visit was to carry out validation of Agro-ecological areas which were identified as having comparative advantages for the cultivation of agricultural commodities such as cassava,

Institute (NRCRI), Umudike.

During an interview with NRCRI Media crew, the team leader, Mr. Ubi Ikpi

potato, ginger and other relevant information regarding them. Other members of the team were Mr. Nura Abubakar Abba (NIRSAL), Mrs. Nkolika Achigbu (NIRSAL) and Mr. Khairullah Abarshi (NIRSAL).

Highlight of their visit included facility tour led by Dr. Okechukwu Eke-Okoro round aeroponics screen house and visit to the Semi-Autotrophic Hydroponic (SAH) laboratory which was led by Biotechnology Programme Coordinator, Dr. Ihuoma Okwuonu.

DOMESTICATION OF AMORA IN NRCRI

- Uche Collins



Harvested 'Amora' tubers at NRCRI, Umudike

The National Root Crops Research Institute, (NRCRI) Umudike in collaboration with the Raw Materials Research and Development Council, (RMRDC), Abuja recently engaged in a pilot project to cultivate and domesticate Polynesians Arrow root, popularly known as Amora, in North Central Nigeria. The objective of the project is to have a comprehensive report on how best to cultivate and domesticate Amora (*Tacca leontopetaloides*).

Amora has always been graded under 'Minor Crops'. Though looking closely at the potentials of this crop, one would begin to imagine how much the crop

could be enhanced if enough recognition is given to it by both scientists and Federal Government. A lot of achievements has been made in the production of yam, cassava, sweet potato, rice, cocoa and so on following government policy on "Back to farm" supported by the Federal Government. These efforts geared towards food security are commendable. However, government and other relevant stakeholders are urged to move beyond the major crops and delve into the potentials of these so-called minor crops like Amora.

Currently, reports show that Amora is a tuber crop that grows in the wild, specifically in the middle belt of the country, and some parts of the East. Some communities in the Middle Belt Region consume the starch from Amora tuber while some traditional medical practitioners consider the crop as medicinal. Dr. Charles Amadi, a Director with the NRCRI, Umudike reported that Amora is an annual monocot that regrows the next season from underground tuber when they break dormancy. The increasing recognition of the Industrial quality of its starch as reported by Ukpabi et al 2009, has given rise to the need to domesticate the crop.

Speaking on the potentials of Amora, an Assistant Director with the National Root Crops Research Institute Umudike, Dr. Mrs. Glory Adanma Ironkwe enthused that Amora has high quality starch which could relieve a lot of pressure on cassava starch.

While the research efforts on Amora by the renowned scientists in NRCRI are commendable, more scientists and other stakeholders are hereby encouraged to get involved in the total improvement of this crop.

NRCRI UMUDIKE EMPOWERS RURAL WOMEN

Nkechinyere Ogwo



A Group Photograph of the Event

It was a moment of celebration for Olokoru women as the National Root Crop Research Institute (NRCRI), Umudike and Umuahia South Local Government in collaboration with Harvest Plus Project paid them a formal visit to sensitize and empower them with pro-vitamin A rich cassava stems. The Farmers' Field Day which was titled "Vitamin A Cassava and its value addition" was done to enhance agri-business development in Nigeria. Over 200 representatives from the 15 communities that make up Olokoru clan were beneficiaries of the programme.

The Executive Director of NRCRI, Professor Ukpabi Joseph Ukpabi represented by the then Director of Root Crop Division, Dr. Anthony Ano stated that the event was part of the institute's effort to promote planting of root and tuber crops, especially cassava.

In his opening address, the then Co-ordinator of Biotechnology Program and leader of Harvest Plus Project, Professor Chiedozi Egesi stated that the purpose of the visit was to sensitize the women and youths of Olokoru on the nutritional value of 'vitamin A cassava' and orange-fleshed sweet potato. He stressed the nutritional importance of eating quality food.

The then Chairman of Umuahia South Local Government Area, Prince Obioma Ogbulafor, represented by Mrs. Ngozi Oche said the Chairman was happy to collaborate with NRCRI in the field day because of the benefits it would bring to the people of Olokoru.

The Chairman of the occasion and first Vice President of Olokoru Welfare Association (OWA), Hon. Sir Benedict Atu

applauded NRCRI for associating with his rural community of Olokoru and encouraged participants to be attentive to the lectures on vitamin A cassava and orange-fleshed sweet potato as this will enable them to harness their benefits.

At the end of the event, the President General of OWA (women wing) Dr. Mrs. Angela Ifeancha, expressed happiness in having NRCRI team in their midst and appreciated them for the lectures given on vitamin A cassava and its value addition. She promised to see to it that every participant puts into practice all she has learnt. She, however, made a plea for a demonstration farm to be established in Olokoru.

Highlights of the event were distribution of vitamin A cassava stems and orange-fleshed sweet potato vines to participants and exhibition of the value added products made from the cassava and sweet potato varieties.

KADUNA APPEALS PROJECT VISITS NRCRI, UMUDIKE

– Joy Ijebuonwu



APPEALS and NRCRI Team

THE Eke-Okoro; Coordinator of Ginger Research of NATIONAL Root Crops Programme, Dr. Mrs. Helen N. Anyaegbunam; and recently played host to the representation of Agro Processing Productivity Enhancement and Livelihood Improvement Support (APPEALS) World Bank project, Kaduna State. Receiving the representatives, the Executive Director of NRCRI Umudike, Professor Ukpabi Joseph Ukpabi welcomed the August visitors with the Director of Crop Research Operation Department, Dr. O.N.

of Ginger Research Programme, Dr. Mrs. Helen N. Anyaegbunam; and Head of Maro out-station, Mr. Bala Idris. Mr. Sonkop of the APPEALS team highlighted that APPEALS is working in partnership with a World Bank project which offers financial assistance for the execution of the project. He further stressed that the primary reason for the visit to NRCRI, Umudike was basically on ginger improvement, value chain and market development. He equally inspected other ginger facilities and

equipments for ginger drying, processing and slicing fabricated locally at NRCRI Umudike.

In his response, Professor Ukpabi reiterated the readiness of his NRCRI to partner with APPEALS in all the areas of need as it pertains to ginger production, processing, value addition and fabrication of machines.

The Executive Director mentioned the achievements of the institute in improvement of ginger value chain that include the fabrication of ginger splitting machines among others. Dr. Anyaegbunam, thanked all for finding time to attend the interactive session and prayed for journey mercies for the visitors. The event ended with a tour to the institute's Engineering Department.

Cattle Menace In Sweet Potato Experimental Field

- Rosemary Chimbo



Sweet Potato Experimental Farm

Cattle menace has been a very disturbing national issue, and appears in major news lines in most national dailies. Sadly, several proposals to resolve the menace of cattle in cultivated fields has ended in stalemate.

Recently, the National Root Crops Research Institute (NRCRI) Umudike in Abia State, South-East of Nigeria has received its own share of cattle menace, this time at the Sweet potato experimental field located at the western farmland of the Institute. Cattle numbering over 50 invaded the sweet potato breeding trials close to the road to Olokoro and completely destroyed the field by trampling, grazing and uprooting and eating most of the hybrid sweet potato lines under trial.

The sweet potato breeding field in the western farm contained seven sweet potato trials which included the Institute's prioritized trials such as:

- (1) the Nationally Coordinated Crop Release multi-location evaluation of exotic sweet potato varieties for agronomic traits, nutritional quality and adaptation to various agro-ecologies of Nigeria for possible release to farmers,
- (2) Evaluation of the performance of sweet potato landraces for official registration as "variety" for commercial sweet potato production and for export,
- (3) Development of hybrid sweet potato genotypes for high dry matter and resistance to

sweet potato virus disease complex through genetic recombination plus other trial were destroyed and under constant attack by cattle.

Report made available to the Coordinator of Sweet Potato Research Programme, Dr. Edward N. Nwaogu indicated that cattle normally visits the sweet potato fields trials in the evening hours on weekends when nobody is around.

The Institute had invested lots of resources in conducting these trials for the benefits of millions of Nigerians who enjoy eating sweet potato and industrialists who use sweet potato as raw materials. The destruction of these sweet potato breeding trails by cattle had pushed valuable sums of money down the drain and had set the clock of sweet potato breeding back by one year. Time for the release of these varieties to anxious Nigerian communities has been delayed, postponed and prolonged.

The worst disaster was that the seedlings in the Seedling Evaluation Project has been genetically eroded. Efforts plus materials invested in the generation of the botanical seeds for the seedling evaluation have been destroyed, wasted and washed down the throat of these animals.