

NATIONAL CROPS RESOURCES RESEARCH INSTITUTE

# BULLETIN

Keeping connected for Transformation

2nd Edition | January-June 2025



**Illuminating Innovation:**  
Infrared Light in Breeding  
for Consumer-Driven Crops

**Boosting Wellness Through**  
**Black Rice: A Nutritional**  
**Revolution in the Making**

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## NATIONAL CROPS RESOURCES RESEARCH INSTITUTE (NaCRRI)

### OUR MISSION

To generate, promote and disseminate appropriate crop technologies, knowledge and information.

### OUR VISION

Crop technologies transforming livelihoods and fostering socio-economic development.

### OUR GOAL

To generate, develop and disseminate appropriate crop technologies, methods and knowledge on food and cash crops of national importance.

### OUR VALUES

- Inclusivity,
- Transparency,
- Integrity,
- Accountability, and
- Excellence.

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## Editorial: A Growing Story



Dear Reader,

Welcome to this vibrant edition of our newsletter; a snapshot of progress, innovation, and shared learning from Uganda's agricultural front lines.

Inside, we highlight research breakthroughs that are redefining crop resilience and food security, from genomic trait editing to pest management strategies that are restoring farmers' confidence.

Our field stories spotlight real communities transformed by knowledge and innovation, reminding us that impact begins with people.

Under **Innovations & Technologies**, discover tools making the leap from lab to land: climate-smart varieties, digital platforms, and value chain solutions. In **Policy & Advocacy**, we reflect on milestones like the **Kampala CAADP 2025 Declaration**, affirming Uganda's leadership in building inclusive, sustainable agrifood systems.

We also share updates on capacity building, knowledge sharing events, and cross-sector learning efforts that bridge research and practice.

Dive into community voices, new publications, and insights from our partners; walking this journey with us, hand in hand, field by field.

Follow us on social media for real-time updates and as always, your **voice** and **engagement** are welcome.

Thank you for being part of this growing story.

Warm regards,

**Christine Elong**

Development Communications Officer  
Editor-NACRRI Newsletter

## Word from the Director of Research



Dear Reader,

At NACRRI, research is more than discovery, it is a commitment to solutions that serve farmers, communities, and the future of Uganda's agriculture.

This edition of our newsletter reflects that commitment. Each story and highlight is rooted in the work of dedicated scientists, partners, and farmers collaborating to transform challenges into opportunities—from enhancing crop resilience to driving innovations that reach the hands that need them most.

As we push the frontiers of agricultural research, we remain guided by one principle: relevance. Whether it's advancing climate-smart technologies, informing policy, or empowering rural livelihoods, our work must respond to real needs on the ground.

I commend the teams and communities featured here, and I thank you our readers and partners for your continued support in this shared mission.

Together, we are cultivating resilience, equity, and impact one breakthrough at a time.

Sincerely,

**Dr Titus Alicai**

Director of Research  
NACRRI



Enoch Wembabazi- Biochemist analysing a cassava sample under infrared light to measure its starch content.

## Illuminating Innovation: Infrared Light in Breeding for Consumer-Driven Crops

In the heart of sub-Saharan Africa, where agriculture pulses as the lifeblood of rural communities, crops like cassava, sweet potatoes, and yams are more than food, they are survival, income, and tradition. Yet, as consumer preferences evolve and climate change alters the growing landscape, the demand for smarter, faster, and more nutritious crop development has never been greater.

**E**nter a new wave of innovation: infrared light technology, quietly transforming the future of crop breeding.

At the National Crops Resources Research Institute (NaCRRI) in Namulonge, a team of plant scientists and nutrition-

ists gather in a modest but high-tech lab. Their mission? To revolutionize the way cassava, sweet potato, and yam varieties are selected making the process faster, more efficient, and centered around what consumers want.

Traditionally, evaluating crop quality

like sweetness in yams, dry matter in cassava, or beta-carotene levels in orange-fleshed sweet potatoes—meant harvesting, peeling, boiling, and sending samples to costly and time-consuming chemical labs. This process could take weeks, even months, delaying the release of better crop varieties.

But now, using Near-Infrared Spectroscopy (NIRS), researchers shine harmless beams of infrared light onto sliced roots and tubers. In mere seconds, the device reads the “light signature” bouncing off the crop, revealing key quality traits like starch content, sugar levels, moisture, and nutritional components without destroying the sample.

This breakthrough allows scientists to screen thousands of samples a day, right in the field or breeding stations, rapidly identifying the varieties that consumers enjoy cassava with the perfect texture for consumption & processing, sweet potatoes rich in vitamin A for child nutrition, and yams with the traditional taste demanded in local markets.

One of the Research leads at NaCRRI, Enock Wembabazi, reflects on the impact:

Infrared technology is a game changer. We're no longer breeding in the dark,

**At NaCRRI, a team of plant scientists and nutritionists gather in a modest but high-tech lab. Their mission? To revolutionize the way cassava, sweet potato, and yam varieties are selected making the process faster, more efficient, and centered around what consumers want.**

we're aligning our breeding targets with what mothers, cooks, and market vendors prefer. And we're doing it in real-time.”

This consumer-first approach marks a major shift in agricultural science. Instead of only selecting crops for disease resistance or yield, breeders are now de-

signing crops around taste, texture, nutrition, and cultural relevance traits that matter to the people who grow, cook, and eat them every day.

The benefits ripple out: shorter breeding cycles, reduced research costs, increased farmer adoption, and stronger food systems. Farmers are more likely to grow varieties that people want to buy, and consumers get crops that are healthier and more satisfying.

As the sun sets on the station and scientists pack up for the day, the infrared devices rest quietly on their desks. Silent, precise, and glowing with potential, they're lighting the way toward a future where innovation meets tradition, and technology serves the everyday needs of African communities.

In the age of smart farming, the future isn't just high-tech, it's consumer-driven, data-informed, and infrared-illuminated.



A cassava sample is being analysed and processed using a mobile application connected to an infrared light source.  
January-June 2025



Infrared spectrum results analyzed from monitor



NaCRRI Scientists together with farmers monitoring a black rice field

## Boosting Wellness Through Black Rice: A Nutritional Revolution in the Making

The global rise in white rice consumption has been linked to increased risks of chronic health conditions such as type 2 diabetes, cardiovascular disease, and certain cancers. This is largely due to white rice's high glycemic index, low dietary fiber, minimal antioxidant levels, and its role in raising blood cholesterol. As a refined grain, white rice undergoes processing that strips it of essential nutrients, including flavonoids and other bioactive compounds.

To counteract these nutritional shortcomings, scientists and plant breeders are turning to black rice, an ancient grain renowned for its high anthocyanin content, a potent antioxidant responsible for its dark purple-black hue. Anthocy-

anins have been shown to protect cells against oxidative stress, reduce inflammation, and lower the risk of metabolic and degenerative diseases, including cancer, diabetes, and heart disease.

Recognizing its potential, researchers at

Uganda's National Crops Resources Research Institute (NaCRRI) have launched initiatives to develop nutrient-rich black rice varieties suited to local agro-climatic conditions and consumer preferences. These efforts aim to create hybrid rice lines that combine the high anthocyanin

**Black rice is rich in dietary fibers such as resistant starch, cellulose, hemicellulose, and pectin, and is naturally gluten-free, making it suitable for individuals with celiac disease or gluten sensitivity. The high fiber content improves digestive health by reducing constipation, increasing satiety, and lowering the glycemic index of meals.**

in and micronutrient levels of black rice with the high yield and adaptability of conventional white rice.

Black rice is also rich in dietary fibers such as resistant starch, cellulose, hemicellulose, and pectin, and is naturally gluten-free, making it suitable for individuals with celiac disease or gluten sensitivity. The high fiber content improves digestive health by reducing constipation, increasing satiety, and lowering the glycemic index of meals. These fibers act as a barrier to enzymatic digestion in the small intestine, slowing carbohydrate absorption and helping regulate blood sugar levels, an essential function in preventing type 2 diabetes.



**Black rice panicle being displayed.**



**Milled black rice grains.**

Moreover, black rice contains significantly higher levels of essential minerals compared to white and brown rice, including calcium, phosphorus, manga-

nese, iron, and zinc. These nutrients are crucial for various physiological functions: calcium and phosphorus for bone health; iron for red blood cell formation and oxygen transport; zinc for immune system function; and manganese for metabolism and antioxidant defenses.

The promotion and cultivation of black rice in Uganda and beyond offer a sustainable solution to malnutrition, rising non-communicable diseases, and economic dependence on imported rice. Encouraging its production through farmer training, improved seed distribution, and consumer awareness can contribute to national food and nutrition security while diversifying income sources for smallholder farmers.

# From Vision to Action: NARO's Oil Palm Research Success Story

In June 2020, the National Agricultural Research Organisation (NARO) and the Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) signed an MoU to implement research activities under the National Oil Palm Project (NOPP). The goal: to strengthen Uganda's oil palm sub-sector through innovation and science over a 10-year period.

**F**ive years in, NARO has achieved significant milestones across research, farmer support, pest and disease management, and capacity building.

A key early achievement was the development of the Oil Palm Research Plan, now integrated into the upcoming NARO Strategic Plan 2025–2030. This framework prioritizes oil palm research in national agricultural planning and funding.

**To expand production potential, NARO established 26 acres of adaptive trials in West Nile and Mid-North regions, building on previous site identification in the Lake Victoria Crescent. Promising growth and adaptation results now support the future expansion of commercial oil palm growing zones.**



Farmers tending to oil palm nursery, Kalangala



Demonstrations of Post harvest handling Oil palm.



Dr. Ddamulira Gabriel-Program Leader Horticulture &amp; Oil palm Speaking to Media

To expand production potential, NARO established 26 acres of adaptive trials in West Nile and Mid-North regions, building on previous site identification in the Lake Victoria Crescent. Promising growth and adaptation results now support the future expansion of commercial oil palm growing zones.

On the disease front, Fusarium wilt and

Ganoderma trunk rot were identified as critical threats in Kalangala. Through continuous surveillance and the introduction of five resistant oil palm varieties from CIRAD-Benin, disease incidence has dropped. Over 113 farmers and 7 extension workers have been trained in disease management.

Pest control has also advanced, with in-

terventions targeting African palm weevils and the emerging nettle caterpillar. Recommended pesticides were tested, and 40+ farmers trained in safe handling. Lab results confirmed pest species and supported evidence-based recommendations.

Soil studies in Kalangala revealed nutrient deficiencies, prompting ongoing fertilizer trials to enhance productivity. At the same time, NARO established six best practice demonstration plots across Kalangala and Buvuma to showcase effective field management techniques to smallholders.

Efforts to support long-term sustainability include evaluating indigenous palm genotypes for a future breeding programme and testing elite varieties from PalmElite Benin in various agro-ecological zones. A partnership with OPRI-Ghana has also strengthened researcher capacity.

Over 940 farmers, 45 extension officers, 2 master's students, and 65+ interns have received oil palm training. NARO has published 7 journal articles, a book chapter, and developed practical guides and training materials widely shared at events and exhibitions.

As Uganda's oil palm sector continues to grow, NARO's evidence-based approach is shaping a more sustainable, productive, and resilient future.

NARO's impactful work under NOPP is not just shaping Uganda's oil palm sector, it is laying the groundwork for self-sufficiency, farmer empowerment, and sustainable development. With continued research, strategic partnerships, and farmer-centered innovations, Uganda is steadily advancing toward becoming a regional leader in oil palm production.



Poo women's group happily display rice value added products.

## From Grain to Gain: The Rise of Poo Women's Group in Maracha District

In the quiet hills of Kojimori Sub- County in Uganda's West Nile region, a powerful transformation is unfolding. Until 2022, rice was an unfamiliar crop in the community; untapped, untested, and unused. That changed when the Eco-PRiDe Project, led by the National Crops Resources Research Institute (NARO NaCRRI), introduced rice cultivation through the Promotion of Rice Development (PRiDe) initiative.

**A**t the heart of this change is the Poo Women's Group, a resilient community of women farmers who embraced rice farming with open arms and curious minds. With support from NaCRRI, Abi ZARDI, and the local government, the women joined NARO's innovative Musomesa Field School (MFS) a Uganda-tailored version of the Farmer Field School model that combines

hands-on learning with peer-to-peer teaching.

Together with local leaders and researchers, they set up rice demonstration plots right in their own fields. Throughout the season, they participated in guided sessions on improved seed varieties, upland rice cultivation practices, and post-harvest handling. At the end of the cycle, several women were certified as Musomesa com-

munity-based farmer instructors who now train fellow farmers in their villages.

The results were immediate and inspiring.

Rice, once a non-existent crop in the area, is now a thriving source of household income. Many women from the group have adopted upland rice farming, and their newfound knowledge has



Poo Women's Group showing off rice grain alongside Dr. Kisho (JICA).



Women in Maracha fertilizing their rice field.



Happy Farmers in a rice field

turned once-idle land into productive farms. But their success didn't stop at the harvest.

The Poo Women's Group has since ventured into value addition, creating products like rice flour, rice bread, cookies, and even rice wine; healthy, affordable alternatives to wheat-based goods. Their innovations are drawing attention, and more women are joining the group, eager to be part of this grassroots transformation.

"I'm so happy I can now pay school fees," says Ms. Ilean, one of the group's members. "Rice has not only improved our income, but also strengthened our sense of community."

Under the ongoing Eco-PRiDe Project, NARO is now guiding the group toward certified seed production and agribusiness development, positioning them not just as farmers, but as entrepreneurs.

From learning how to plant their first rice seed to becoming change agents in their community, the women of Poo have shown what's possible when knowledge meets opportunity. Their journey is only beginning but already, it's a story of growing hope.

**"I'm so happy I can now pay school fees," says Ms. Ilean, one of the group's members. "Rice has not only improved our income, but also strengthened our sense of community."**

# NaCRRI Welcomes New Advisory Committee: Planting Seeds of Strategic Leadership

On March 31, 2025, the National Crops Resources Research Institute (NaCRRI) ushered in a new chapter of strategic leadership as its newly appointed Advisory Committee officially assumed office. The event, hosted at NaCRRI, was graced by the Director General of NARO, Dr. Yona Baguma, and attended by stakeholders from across the agricultural research community.

In his keynote remarks, Dr. Baguma honored the **out-going committee** for their exemplary six-year tenure, commending their role in elevating NaCRRI's visibility and positioning it as a beacon of agricultural innovation in Uganda and beyond.

"NARO appreciates your outstanding contributions that have enhanced NaCRRI's

impact and visibility," he shared, adding that the new team is expected to steer the institute with clarity, collaboration, and vision.

The transition was marked by a heartfelt moment of reflection from **Dr. Gad Gumisiriza**, outgoing Chairperson, who passed the baton with optimism:

"It has been an honor to serve. I am confident that the new team, under **Dr. De-**

**nise Kyetere's** capable leadership, will elevate NaCRRI to even greater heights."

Incoming Chairperson **Dr. Kyetere** pledged her commitment to strategic, inclusive leadership and reaffirmed support for NaCRRI's mission:

"I look forward to working closely with the team to uphold NaCRRI's vision as a center of excellence in crop research."



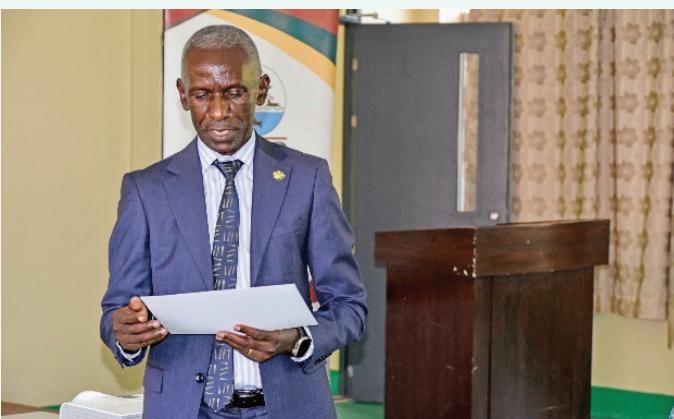
A group photo of the outgoing and incoming members of the NaCRRI Advisory Committee



Dr. Gad Gumisiriza-Outgoing Chairperson Advisory committee (L) and Dr. Denis Kyetere-New Chairperson NaCRRI Advisory Committee(R)



Group Pic of Outgoing Advisory Committee Members



Dr. Yona Baguma- DG NARO



Dr. Titus Alicai- Director NaCRRI

Welcoming the new committee, **NaCRRI**

**Director Dr. Titus Alicai** expressed excitement about the road ahead:

"We are thrilled to have the new advisory team on board. Their insights and experience will be invaluable in shaping the institute's future."

To mark the occasion, outgoing members received **Certificates of Appreciation** and **commemorative plaques**. The ceremony concluded with a **symbolic tree planting**, representing renewal, growth, and the institute's deep-rooted commitment to sustainability.



Tree planting ceremony to mark the ascension into office of the new Advisory committee.

# Kampala CAADP 2025 Declaration: A Bold Vision for Africa's Agrifood Future

From January 9–11, 2025, Uganda proudly hosted the African Union's Comprehensive Africa Agriculture Development Programme (CAADP) meeting at Speke Resort Munyonyo. This landmark event, officially opened by H.E. President Yoweri Kaguta Museveni and closed by Vice President Jessica Alupo, brought together a distinguished delegation of leaders and stakeholders from across the continent.

**D**uring the Extraordinary AU Summit held in Kampala, the CAADP Strategy and Action Plan (2026–2035) was formally adopted, marking a pivotal moment for Africa's agricultural transformation. This milestone was encapsulated in the **Kampala CAADP Declaration**, themed "*Building Resilient and Sustainable Agrifood Systems in Africa*."

Drawing on two decades of CAADP implementation—which has spurred economic growth, reduced poverty, improved nutrition, and expanded agricultural trade—the new declaration sets a bold course for the future.

## Key Targets of the Kampala CAADP Declaration (2026–2035)

**Boosting Agricultural Productivity:** Achieve a 45% increase in agrifood output through sustainable intensification and modernization.

**Reducing Post-Harvest Losses:** Cut food losses by 50% through improved infrastructure for storage, transport, and processing.

**Promoting Sustainable Land Management:** Ensure 30% of agricultural land is sustainably managed to combat soil degradation and desertification.



NARO staff in front of the NaCRRRI exhibition booth at the CAADP event in Munyonyo, 2025.



NaCRRRI Staff: Dr. Benard Yada (L), Dr. Charles Kasozi (M), Dr. Gabriel Ddamulira (R), featured on UBC CAADP media engagement.

**Achieving Zero Hunger:** Eliminate hunger and reduce malnutrition by 25% across the continent.

**Mobilizing Investments:** Secure \$100 billion in public and private investments to drive innovation and modernization in agriculture.

The Kampala CAADP Declaration will officially take effect on **January 1, 2026**, ushering in a decade of transformation aimed at building agrifood systems that are resilient, inclusive, and environmentally sustainable.



Group Photo of APA Participants with the Chief Guest Hon Frank Tumwebaze in Munyonyo.

## Uganda Hosts APA 2025: A Landmark Gathering for Potato Research and Innovation

Uganda successfully hosted the 13th Triennial African Potato Association (APA) Conference from May 25-30, 2025, at the Speke Resort Munyonyo in Kampala. Organized under the theme “Fostering Climate-Smart Cropping Systems for Sustainable Potato and Sweetpotato Value Chains,” the conference emphasized the urgent need to align agricultural practices with environmental sustainability and resilience.

**T**he event brought together over 300 delegates, including researchers, policymakers, private sector stakeholders, and development partners engaged in potato and sweetpotato value chains. Participants hailed from across the African continent—including South Africa, Kenya, Tanzania,

Nigeria, Malawi, Zambia, Zimbabwe, Somalia, South Sudan, Ethiopia, Sierra Leone, Ghana, the Democratic Republic of Congo, Burundi, Rwanda, Mozambique, and Uganda—as well as from international institutions in the USA, UK, Netherlands, and beyond.

Since its inception in 1987, the APA

Conference has evolved into a premier platform for sharing scientific research, innovations, and strategies to enhance the production, processing, and marketing of potato and sweetpotato in Africa.

The 2025 edition was officially opened by the Minister of Agriculture, Animal Industry and Fisheries, Hon. Frank



Hon Frank Tumwebaze (MAAIF) opens the APA conference



NARO DG &amp; APA president Dr. Yona Baguma speaking at APA Conference

Tumwebaze. In his keynote address, he emphasized the vital role of potato and sweetpotato in improving food security and livelihoods across the continent.

"Potato and sweetpotato are not just food crops; they are strategic assets in achieving climate resilience, nutrition, and rural transformation," Hon. Tumwebaze stated.

He also lauded the National Agricultural Research Organization (NARO) for its pivotal role in driving agricultural innovation. With its network of 16 public agricultural research institutes, NARO has been instrumental in developing improved seed varieties, promoting disease resistance, and advancing climate-smart agricultural practices. Hon. Tumwebaze cited Uganda's strong research capabilities and the rising importance of sweetpotato, now the country's third most important crop as indicators of national progress.

Dr. Yona Baguma, Director General of NARO and President of the African Potato Association, highlighted Uganda's leadership in agricultural research,



A group photo of participants from NaCRRI taken on the final day of the APA Conference.

especially in breeding climate-resilient, high-yielding crop varieties.

"Uganda has developed improved potato varieties, including purple-fleshed and beta-carotene-rich types, which are playing a key role in combating Vitamin A deficiency across Africa," said Dr. Baguma.

He further stressed the importance of sustainable funding for agricultural research to ensure future generations have access to nutritious food sources.

"The generations ahead need sustainable sources of nutrition and protein for both humans and animals. To achieve this, we must secure dedicated and consistent funding for agricultural research," he added.

The 13th APA Conference served as a critical platform for knowledge exchange, policy dialogue, and partnership-building paving the way for a more resilient and food-secure Africa.

# Ministry of Agriculture Inaugurates Agribusiness Expo & Trade Symposium 2025 at NaCRRI

The Agribusiness Expo & Trade Symposium 2025 officially opened today at the National Crops Resources Research Institute (NaCRRI) in Namulonge, marking a significant moment for Uganda's agricultural and agribusiness sectors. The event was inaugurated by Hon. Frank Tumwebaze, Minister of Agriculture, Animal Industry and Fisheries, who underscored the critical role of research and innovation in transforming the country's agriculture.

**H**eld from April 11-12, the two-day expo is organized by the National Agricultural Research Organisation (NARO) in partnership with the East African Grain Council (EAGC). This year's theme "Fostering Wealth Creation, Resilience, and Sustainable Agriculture through Agribusiness and Innovations"—reflects the growing emphasis on leveraging technology, market

systems, and partnerships to drive agricultural development.

"This exhibition is for learning. Research institutions like NaCRRI play a pivotal role in equipping farmers with appropriate technologies that enhance productivity and meet quality standards," said Hon. Tumwebaze.

He also highlighted the importance of

involving schools in such expos and stressed the need to strengthen grain security as part of the country's food systems.

**Dr. Kassim Sadik**, NARO's Deputy Director General for Technology Promotion, elaborated on the organization's efforts to develop stress-tolerant and nutrition-fortified crops, as well as agro-industrial innovations designed to



Dr. Yada Benard Program leader Rootcorps Updating the Hon. Frank Tumwamaze (MAAIF) about ongoing Value addition work



Chief Guest, Hon. Frank Tumwamaze inspecting exhibition stalls at NARO-EAGC Agribusiness Expo

meet the needs of smallholder farmers. However, he pointed to ongoing challenges, including limited funding for early generation seed multiplication and delays in the enactment of key agricultural policies like the biosafety law.

"We are grateful for the Minister's continued support to agriculture," Dr. Sadik noted. "But more investment is needed to strengthen our internal capacity and ensure timely delivery of innovations to farmers."

Hosting the expo, **NaCRRI's Director of Research, Dr. Titus Alicai**, described the event as "a major dissemination platform" for sharing research outputs with the wider agricultural community.

"In the last 10 years, NARO has released over 90 improved crop varieties rich in nutrients, resistant to pests and diseases, and resilient to climate change," said Dr. Alicai, emphasizing NaCRRI's central role in securing food and nutrition across the country.

Bringing in a regional market perspec-



Group photo of NARO Top Management, MAAIF Officials together with Hon. Frank Tumwebaze

tive, **Gerald Masila**, Country Director of the East African Grain Council, noted that the expo provides a strategic platform for stakeholders to connect, exchange ideas, and drive productivity across value chains.

"Our focus is on increasing cereal productivity and strengthening market linkages to boost agribusiness resilience," he said.

This year's expo highlights **NARO's** ongoing commitment to bridging the gap between research and real-world agribusiness practices. By bringing together policymakers, researchers, agripreneurs, farmers, and private sector players, the symposium aims to catalyze impactful partnerships and innovations that can drive **sustainable agriculture and wealth creation** in Uganda and the broader East African region.

# Capacity Building at NaCRRI: Empowering Agricultural Transformation

At NaCRRI, capacity building remains at the heart of our mission to transform agriculture through knowledge and innovation. Over the past period, we were honored to host a series of learning and training visits from a diverse range of stakeholders. These included farmer associations from within Uganda and neighboring countries, District Local Government leaders from Soroti, Kumi, and Butambala, as well as representatives from the Prisons Service Commission, the Uganda People's Defence Forces (UPDF), cultural and religious leaders, and learners from both primary and secondary schools.

<p><b>E</b>ach visit was designed to provide hands-on, practical training in critical areas of crop production, with a focus on:</p> <ul style="list-style-type: none"> <li>• Seed selection and access to quality planting material</li> <li>• Good agronomic practices</li> <li>• Pest and disease management</li> </ul>	<ul style="list-style-type: none"> <li>• Post-harvest handling and value addition</li> <li>• Machinery use and operations.</li> <li>• Screen house management.</li> </ul> <p>These sessions reflect our continued commitment to equipping stakeholders with the skills and knowledge required to boost productivity, strengthen food</p>	<p>security, and support sustainable agricultural development.</p> <p>As a national hub for agricultural research and innovation, NaCRRI remains dedicated to fostering cross-sector collaboration and accelerating the adoption of transformative farming technologies across Uganda and beyond.</p>
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NaCRRI Technician Training Farmers on Rice Cultivation



Photo of NaCRRI staff attending a scientific talk at the Institute

# NaCRRI Science Seminars: Cultivating Knowledge, Innovation, and Collaboration

At the core of NaCRRI's mission to advance agricultural research lies a strong culture of continuous learning and knowledge exchange. To promote internal collaboration and professional development, NaCRRI hosts monthly science seminars where staff share insights, innovations, and experiences from their ongoing research and development work.

**T**hese sessions foster interdisciplinary understanding and empower teams to transform scientific knowledge into real-world impact for farmers, partners, and stakeholders across the agricultural value chain. In recent months, the seminars have featured a wide array of topics, showcasing NaCRRI's dynamic, forward-thinking approach to agricultural transformation:

## 1. Sustainable Pest Management

"Advances in Research and Capacity Build-

ing for Sustainable Management of Fall Armyworm (FAW) in Uganda." Presented by Dr. Michael Hilary, Entomologist

## 2. Genomic Innovation

"Accelerated Crop Improvement and Trait Discovery in the Genomic Trait Editing Era." Presented by Dr. John Odipio

## 3. Research Communication

"How to Use Social Media to Foster Research Communication." Presented by Christine Elong, Development Communication Officer

## 4. Climate-Resilient Rice

"Accelerating the Delivery of Climate-Resilient and Nutrient-Dense Rice Varieties to Farmers." Presented by Samson Ojok, Plant Breeder

## 5. Digital Agriculture:

"NaCRRI IT Service Readiness for Agriculture 4.0: IoT and Big Data." Presented by Jonathan Lwanga, IT Technician

## 6. Demand-Driven Breeding:

"Phenotyping Root Quality Traits to Support Breeding of Demand-Driven RTB Crops." Presented by Enoch Wembabazi, Biochemist

Through these knowledge-sharing platforms, NaCRRI continues to cultivate a vibrant learning environment where science meets practical solutions, and research not only grows in laboratories but thrives in the hands of farmers.



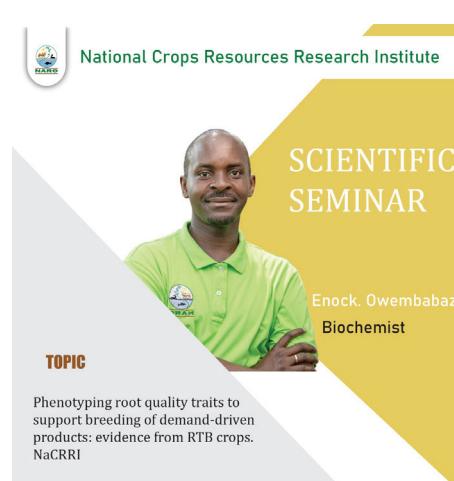
**NATIONAL CROPS RESOURCES RESEARCH INSTITUTE**

## Scientific Seminar

**TOPIC**  
NaCRRI IT services readiness for Agriculture 4.0- IoT and Big Data

**Speaker**  
**JONATHAN LWANGA**  
IT Technician  
28th March 2025  
9:00 am - 12:00 pm  
Cereals Training Hall

**TOPIC**  
NaCRRI IT services readiness for Agriculture 4.0- IoT and Big Data



**National Crops Resources Research Institute**

## SCIENTIFIC SEMINAR

**TOPIC**  
Enock. Owembabazi  
Biochemist

Phenotyping root quality traits to support breeding of demand-driven products: evidence from RTB crops.  
NaCRRI



**NATIONAL CROPS RESOURCES RESEARCH INSTITUTE**

## Scientific Seminar

**Grant Catalytic**

**TOPIC**  
Accelerating delivery of Climate Resilient and Nutrient Dense Varieties of Rice to Farmers in Uganda

**TOPIC**  
**SAMSON OJOK**  
Plant Breeder

9:00-12:00noon  
28th March 2025  
Cereals Training Hall

## Community Voices

### Chairperson Parliamentary Agricultural Committee

"Every time we conduct a field visit to NARO, we leave fully equipped and satisfied. I commend you for your patriotism and improving the agriculture sector."



### Airo cassava growers' cooperatives. Farmer Voice

"We have 100million shillings in our account from Cassava thanks to the training we have received from NaCRRI we have transitioned growers to processors".



### Farmer from Soroti during the BRAINS project launch

"With NARO's support in providing weather guidance and certified seeds, we can increase high yields and sustain production".



# Celebrating Excellence: Dr. Asea Geoffrey Named the Face of Uganda's Science Week 2025

The grand finale of Science Week 2025, held on June 20th at Kololo Independence Grounds, marked a proud milestone for Uganda. The Ministry of Science, Technology and Innovations unveiled the Faces of Uganda's Science — eight standout innovators selected from over 300 registered participants across the country.

**A**mong the honorees was Dr. Godfrey Asea, renowned maize breeder and former Director of Research at the National Crops Resources Research Institute (NaCRRI) under NARO. Recognized for his remarkable 18-year contribution to agricultural science, Dr. Asea was celebrated for developing commercial germplasm that continues to combat hunger globally.

His legacy includes:

- 33 improved maize varieties, now grown commercially across Uganda
- 75 published journal articles and contributions to 4 academic book chapters
- Expertise in breeding and seed systems development, earning him both NARO royalties and widespread acclaim in the global science community



Dr. Asea Godfrey receiving a certificate as the Face of Uganda's Science, 2025 from the Deputy Speaker of Parliament Hon. Thomas Tayebwa

Described as a visionary in maize breeding, Dr. Asea was officially awarded a certificate of recognition by Deputy Speaker of Parliament, Rt. Hon. Thomas Tayebwa, in a ceremony presided over by Hon. Dr. Monica Musenero Masanza, Minister of Science, Technology and Innovations.

Dr. Asea's work stands as a beacon of scientific excellence, placing him firmly as **the Face of Uganda's Science 2025**.

Congratulations to Dr. Asea and all celebrated innovators! Your work continues to shape Uganda's scientific future.



-Group photo of Deputy Speaker of Parliament Hon. Thomas Tayebwa with all award winners of Science Week, 2025.

-Dr. Monica Musenero - Minister of Science Technology and Innovation(second from left)

# Showcasing Uganda's Innovation: NARO Researchers Present Breakthrough Technologies in Japan

Between June 21–27, 2025, distinguished Ugandan scientists Dr. Godfrey Asea and Dr. Idd represented the National Agricultural Research Organization (NARO) on the global stage in Tokyo, Japan. Their presentation, delivered at the prestigious University of Tokyo, brought Uganda's agricultural innovation into sharp focus.

**A**ddressing an audience of eminent researchers and ambassadors from multiple African nations, the duo spotlighted cutting-edge technologies developed under NARO's research programs; ranging from climate-smart crop varieties to advancements in seed systems and value-chain optimization.

The visit underscored:

- Uganda's leadership in data-driven, science-based solutions for food security
- The power of regional and inter-

- national collaboration in transforming Africa's agrifood systems
- NARO's role as a continental hub of agricultural innovation

By sharing insights on Uganda's applied research, including varieties like drought-tolerant maize and nutrient-rich crops, the presentation sparked dialogue on cross-border adoption, investment, and shared learning, reaffirming the country's position as a driving force in Africa's agricultural future.



Ugandan Delegation that represented NARO in Tokyo, Japan.



Group Photo of some of the delegates who attended the event in Tokyo, Japan

# Pictorial



Dr. Teddy Asio, Commissioner NSCS–MAAIF, holding a pumpkin during a breeders' workshop field tour at NaCRRI.



NaCRRI staff engages with farmers at Eastern Agricultural Show in Soroti



Delegation of Gabonese Special Forces on a Visit to NaCRRI.



The Senior command of Uganda Prison Services on a visit to NaCRRI



NaCRRI, Research Officers, training West African Virus Epidemiology scientists (in white and green) on CBSD survey techniques

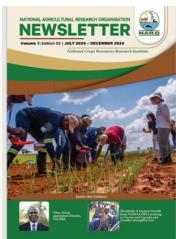


Ethiopian delegation on a study tour of seed production and quality management at NaCRRI.

# Publications & Resources

Links to recent reports, journal articles, toolkits

- Publications: <https://naro.go.ug/naris/nacrri/>
- Link To Previous NaCRRI Newsletter: <https://news.naro.go.ug/2025/07/08/nacrri-newsletter-edition-2-july-dec-2024/>

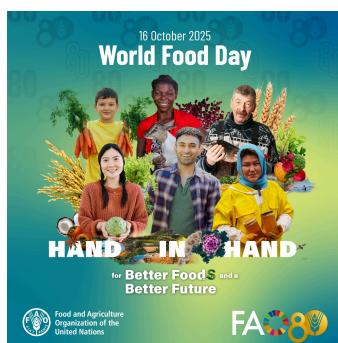


# Videos

- Cassava White Fly: <https://www.youtube.com/watch?v=zLy23hPo7hw&t=16s>
- Climate Resilience: <https://www.youtube.com/watch?v=nAFazEighws&t=117s>
- Agric Business Expo: <https://www.youtube.com/watch?v=VakpJj5bKy4&t=57s>

# Upcoming events

- NaCRRI at 75: 75 Years of Impact: 'Honoring Our Legacy, Inspiring Our Future'
- World food day celebrations in Rwebitaba ZARDI; October 16th, 2025



- Follow our social media handles for up-to-date information, alerts, and engagement. @NaCRRI -Namulonge, <https://naro.go.ug/naris/nacrri/>, [X @NARO\\_NaCRRI](https://twitter.com/NARO_NaCRRI), [director.nacri@naro.go.ug](mailto:director.nacri@naro.go.ug), [Tel: +256 414 573016](tel:+256414573016) | [Namulonge, Gayaza-Zirobwe Road - 27km Road](https://maps.google.com/?q=Namulonge,+Gayaza-Zirobwe+Road+-+27km+Road)



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