

Nigeria cites weeds as major productivity drawback in cassava farming

Commissioners of Agriculture in Nigeria's cassava growing belt have declared weeds a major cause of low yield in cassava and the main constraint limiting the competitiveness of cassava farmers in the country.

The declaration was made in a communiqué signed by 14 commissioners of agriculture and issued at the 2018 Annual Review and Work Planning Meeting of the [IITA Cassava Weed Management Project](#) held in Ibadan, 19-20 March.

[Kenton Dashiell](#), Deputy Director General, Partnerships for Delivery at IITA, said the declaration was a step in the right direction. "The first step to solving a problem is identifying and recognizing that you have a problem," he said.

Though Nigeria is the world's largest producer of cassava, the yield of cassava is low with [FAO](#) reporting a national average for Nigeria of 9.1 tons per hectare compared to Asian countries where yields are more than twice Nigeria's national average. Consequently, Nigerian cassava farmers can't compete with their counterparts in Asia and Latin America.

The commissioners noted that to change the cassava narrative, there was an urgent need for collaborative efforts with the IITA Cassava Weed Management project, the Federal Government, state governments, the private sector, national research institutes, universities, and other stakeholders.

Mr Monday Osaigbovo, Commissioner for Agriculture, Edo State, said that it was high time attention was given to weed control. "If we do nothing to address weeds, we won't be able to transform cassava in the country," he said.



IITA Cassava Weed Management Project Leader, Alfred Dixon addressing delegates.

Among the cost variables to cassava production, weed control takes 50–80 percent of the labor budget. A do-nothing approach to weed management in cassava ends up being a disaster with farmers losing almost everything.

Over the last four years, the IITA Cassava Weed Management Project with donor support from the [Bill & Melinda Gates Foundation](#) has developed innovative packages to control weeds in cassava. Implementation partners include the National Root Crops Research Institute (NRCRI), Umudike; the [University of Agriculture, Makurdi](#); and the [Federal University of Agriculture, Abeokuta](#). Other partners are the state Agricultural Development Programs (ADPs), government representatives, international cassava scientists, and private sector partners.

Lawrence Kent, Senior Program Manager with the Gates Foundation, noted that poor weed control is a major factor affecting cassava yield.

Results presented by the Project Leader of the IITA Cassava Weed Management Project, [Alfred Dixon](#), showed that by switching to the innovative packages developed by the project, Nigerian farmers could record more than 20 tons per hectare.



Annual review and planning meetings of three RTB projects held in Ibadan

Three RTB projects funded by the Bill & Melinda Gates Foundation held their annual review and planning meetings at IITA headquarters in Ibadan in March. These included Yam Improvement for Income and Food Security in West Africa phase two (YIIFSWA-II) on 5-8 March, [Building an Economically Sustainable Integrated Seed System for Cassava](#) (BASICS), 14-16 March, and [Cassava Weed Management Project, 19-20 March](#).

YIIFSWA II commended for “great start!”

The 2nd annual progress review and planning meeting of the Yam Improvement for Income and Food Security in West Africa phase two (YIIFSWA-II) project was held 5-8 March at IITA Headquarters in Ibadan, Oyo State, Nigeria.

The focus of the meeting was to review, assess, and plan based on the implementation and the delivery of outcomes of the first year of the project.

The meeting was attended by 43 participants from the following organizations: IITA, Context, Sahel Capital, the Alliance for a Green Revolution in Africa (AGRA), the National Root Crops Research Institute (NRCRI), National Agricultural Seeds Council (NASC), the National Centre for Genetic Resources and Biotechnology (NACGRAB), the Federal Ministry of Agriculture and Rural Development (FMARD), the Technical Committee on Nigeria Yam Export Program, the Crops Research Institute (CSIR-CRI), Savanna Agricultural Research Institute (CSIR-SARI), Plant Protection and Regulatory Services Directorate (PPRSD), Biocrops Biotechnology Limited, Da-Allgreen Seeds Limited, Nwabudo Agro Seeds Limited, PS Nutraceuticals International Limited, and Heritage Seeds Company Limited.

A significant achievement of the project this year was the presence of four seed companies who had all signed contracts with the project affirming their desire to participate in the production of high-quality, early generation seed yam using the aeroponics system (AS). Two seed companies are currently building their aeroponics facilities and will be receiving training on AS production of foundation seeds. PS Nutraceuticals, an agribusiness initiative established by youth, completed the establishment of an AS in Ogun State last September and received 500 pre-basic plantlets from IITA for planting in AS.



YIIFSWA Project Leader, Norbert Maroya, giving a presentation at the meeting.

After the three-day progress review and work planning, Gates Foundation Senior Program Officer commended the project for the good start, “Robert Asiedu, IITA’s West Africa hub director,

commonly says ‘well done’, but I will say ‘great start!’ We have a good start here. This is a dynamic learning experience. We are seeing the maturing of what happened in the last stages of



Growing yam using aeroponics in the greenhouse.

YIFSWA, when the aeroponics system and the temporary immersion bioreactor were developed. As these technologies continue to be refined we are still learning from things like the micro tubers.”

He continued, “The success of the project depends on good coordination, especially as you continue to define what an efficient seed supply chain can be. Different market actors are reliant on the outputs of others. Systematic coordination is critical between seed production to offtake marketers who need assurance that their growers

can access new seed. This requires facilitating sustainable linkages-- especially with those national partners, NASC, NACGRAB, NRCRI in Nigeria and parallel partners in Ghana--to the private sector. There is a big task ahead, but also an enormous opportunity, so this coordination needs to be a priority,” he said.

“You must also continually advocate to government the value and business case for increasing the commercialization of yam. It is one thing to keep emphasizing the high value of the crop, but now

you must demonstrate that there is a scaling pathway for the seed system. In the past, we have all heard that yam is important and a lot of people eat yam, but the lack of a formal seed system has been hampered by a low multiplication rate. Now we are saying there are some technical breakthroughs in the seed system, offering a new vision for an economically sustainable seed system. Through this, enormous value can be realized by farmers, while helping drive agricultural growth at a national level in Nigeria and Ghana,” he concluded.

BASICS Project stakeholders strategize ways to improve cassava productivity in Nigeria

To build an economically sustainable seed system that is profitable for the entire cassava seed value chain and in due course, the Nigerian farmers and community, the project, [Building an Economically Sustainable Integrated Seed System for Cassava](#) (BASICS) hosted stakeholders for a three-day annual review and planning meeting (ARPM), on 14-16 March, at [IITA](#) Headquarters in Ibadan, Nigeria.

The meeting, facilitated by [Sue Davison](#), Director of [Pipal Limited](#), was themed “CONSOLIDATE” with the aim of (1) Developing shared understanding of the

cross-cutting dependencies between breeder, foundation, and commercial seed producers and agree on quantities of seed flows over the next three years; (2) Finalizing coordinated work plans for all project components for 2018; (3) Socializing and strengthening the key building blocks of seed system being developed in the project; and (4) Planning for sustainability in all the key project interventions.

In his address, BASICS Project Director Hemant Nitturkar, gave a run-down of the achievements and challenges of the 4-year project so far. He stated

that Nigeria is the largest producer of cassava in the world with a production of about 54 million tons, but its yield per hectare of roots is only about 8 tons, less than half of the realizable yields of more than 20 tons. Based on research, one of the reasons for low yields in cassava is the poor adoption of clean and healthy seeds of improved varieties by farmers. It is therefore expedient to plan to regularize the production of breeder seed materials, foundation seed, and quality commercial seed to be sold to cassava farmers.

“We want to focus on strengthening all the pioneering project interventions and ensure durability and legacy of the project assets as BASICS intends to lessen, and eventually withdraw from direct support to the grassroots seed value chain stakeholders in Nigeria,” Nitturkar said.

[Lawrence Kent](#), Senior Program Officer, [Bill & Melinda Gates Foundation](#) reaffirmed the Foundation’s financial support for the project saying; “Gates Foundation is very supportive of the government of Nigeria’s plan for inclusive agricultural transformation. The government is trying to increase the productivity of farmers, particularly smallholder farmers in the country. In the same vein, the Gates Foundation is helping to create a sustainable way to disseminate improved seed varieties of cassava to farmers to improve their productivity as cassava is an important staple crop for consumption and economic development in Nigeria.”



Lawrence Kent, Senior Officer from Bill & Melinda Gates Foundation, providing comments during the breakout session.

[Kenton Dashiell](#), IITA Deputy Director General, Partnerships for Delivery, emphasized IITA's commitment in improving cassava production in Africa, while highlighting the efforts of BASICS in transforming the cassava value chain in Nigeria: "For 50 years, IITA has been breeding cassava; we will continue and improve tremendously in what we do, we will continue to support the Nigerian government in transforming agriculture and improving livelihoods," Olusegun Ojo, Director General, [National Agricultural Seeds Council](#) (NASC), expressed his excitement about the development and deployment of an innovative digital tool: "The Cassava Seed Tracker, which is an innovation from IITA, is actually very good and NASC will take it to a new dimension by transforming it from just cassava to a national seed tracker; we want to entrench it into the national seed system because it is going to help in the value chain."

Prof Joseph Ukpabi, Acting Executive Director, [National Root Crops Research Institute](#) (NRCRI), during the panel

discussion said NRCRI is working to strengthen its wholly owned subsidiary, NRCRI Consult Limited, to produce certified breeder and foundation seed to serve the seed value chain. "NRCRI will continue the use of semi-autotrophic hydroponics (SAH) technology for rapid multiplication of early generation seeds and continue what we are doing with processors. We want to encourage the processing aspect which we are doing with the private sector and individuals," he said.

Aaron Baldwin, Head, Farms and Agronomy, [Flour Mills of Nigeria](#), stated that cassava is a major crop of high value proposition for the Nigerian market: "We need to have a large volume of certified stems and we truly support having certified stem systems going on along its value chain," he said. Concerning inputs, Aaron further explained: "FMN is aiming to establish a minimum of five nursery sites across Nigeria to produce good quality seeds with improved agronomic practices. We want to look at how we can use herbicides together with good agronomic practices to be

able to achieve high quality cassava and high yield."

The meeting was attended by national and international partners, policy makers, and development experts from Catholic Relief Services (CRS), NRCRI, the National Agricultural Seed Council (NASC), the Food and Environment Research Agency (FERA), the Federal Ministry of Agriculture and Rural Development (FMARD), the International Potato Center (CIP), CGIAR Research Program on Roots, Tubers and Bananas (RTB), and IITA.

BASICS in Nigeria is a 4-year project funded by the Gates Foundation that seeks to create a commercially viable private sector cassava seed system in Nigeria that is compliant with improved seed certification standards implemented by NASC.

More information on the project can be obtained from <http://www.rtb.cgiar.org/basics>. Watch snippets from the Annual Review Meeting here: <https://www.youtube.com/watch?v=7EdUIE8N2kw>.

Stakeholders map out strategies to outscale proven weed management technologies to farmers

[IITA Cassava Weed Management Project](#) held its 2018 annual review and work planning meeting, on 19–20 March, at IITA HQ, to discuss achievements over the years and draw a roadmap on how to actively engage stakeholders to help outscale proven weed management technologies to farmers.

The workshop themed: "Unveiling of new technologies for weed control in cassava farming systems," was attended by 14 Commissioners of Agriculture, agricultural development partners, policymakers, scientists, researchers, farmers, and chemical companies. The aim was to share new findings on weed management from an integrated perspective covering areas such as best-bet agronomy, use of motorized mechanical weeders, and use of safe and environmentally friendly herbicides, to enable farmers to obtain optimal cassava yield while minimizing the drudgery of hand weeding usually done by women and children.



IITA DDG Kenton Dashiell giving his opening remarks at IITA-CWMP annual review and planning meeting.

In her welcome address, IITA Deputy Director General, Research for Development, [May-Guri Saethre](#) applauded the participants for their commitment and cooperation in creating time to attend the CWMP meeting. “You all know that cassava is a major staple food in the developing world, with Nigeria as one of the global leaders in the overall production of cassava by over 50 million tons. The average yields in Nigeria are only about half of those in leading countries in Asia. This is as a result of the challenge of weeds against Nigeria’s agricultural transformation. I encourage you all to act in synergy and make the best out of this gathering.”

In a similar vein, IITA Deputy Director General, Partnership for Delivery, [Kenton Dashiell](#) emphasized the importance of delivery to reach millions of smallholder farmers. “And the best way to do that is to engage stakeholders in disseminating innovations and relevant knowledge to farmers, while helping to meet the government’s goals for sustainable intensification of agriculture and avoiding food insecurity in the face of population growth, urbanization, climate change, and climate variability,” he said.

Giving his remarks, [Lawrence Kent](#), Senior Program Officer from the [Bill & Melinda Gates Foundation](#) commended the efforts

of the IITA-CWMP team in providing solutions to the labor-intensive weeding and increasing cassava productivity for about 125,000 Nigerian farm families.

“Weed control is one of the important factors determining cassava yield, and I am thrilled to see that the IITA-CWMP is at the forefront in ensuring that integrated technologies such as good agronomic practices, safe use of herbicides, and weed management practices are in the hands of farmers,” he said.

He added: “Nigeria stands as one of the largest producers of cassava in the world with a recorded production of about 54.8 million tons per annum with 4.5 million farmers in Nigeria engaged in cassava farming. However, the presence of weeds and poor agronomic practices limit the productivity of cassava, and negatively impact farming families. If these key issues are not addressed, the smallholder farmers will be unable to improve their livelihoods through farming.”

In his presentation on the overview of the project from inception, Project Leader of IITA-CWMP, and Director for Development & Delivery, [Alfred Dixon](#) highlighted the Institute’s renewed commitment to creating impact at the farm level, and also responding to Africa’s agricultural realities in the context of food security and wealth creation, while emphasizing the need for

strong partnership. Corroborating Dixon’s statement, [Godwin Atser](#), Communication and Knowledge Expert, IITA-CWMP stated: “If only the innovations can be disseminated to millions of farmers, we will double the national average of cassava production from 9 tons per hectare to about 25 tons per hectare, thereby ensuring sustainability.”

Presentations were made on the output of cassava agronomy, weeding frequency and mechanical weeding trials, the output of integration of herbicides, delivery of project outputs, and innovative strategies to translate findings into extension messages and widespread delivery. There was a special session titled “The beauty of on-farm trials: Challenges as opportunities,” by Prof Kaku Sagary Nokoe, Deputy Vice-Chancellor (Academic Affairs), [Catholic University of Eastern Africa](#), Karen, Nairobi, Kenya.

Dashiell in his closing remarks said: “The unveiling of this innovative technology should not be kept secret. We must build synergy with the public, private, and government stakeholders to help redefine the narrative of cassava in Africa by training and mentoring millions of smallholder farmers within the various states. This is going to be a major step forward in transforming African agriculture.”

Events

- Induction/Networking Session and Training of AgResults Aflasafe Pilot Year 5 Project Implementers, 4–6 April, IITA, Ibadan, Nigeria
- ToS workshop, 5–6 April, IITA, Ibadan, Nigeria
- Country Alignment 4 Agricultural Transformation - Consultative Meeting for Nigeria, 10–12 April, Abuja, Nigeria
- IITA Board Meeting, 24–26 April, [Center for Development Research of Bonn University](#) (ZEF), Bonn, Germany
- Special event on “African agricultural transformation: The IITA Agripreneur Approach to Job Creation”, 26 April, ZEF, Bonn, Germany
- 7th International Food Legume Research Conference, 6–8 May, Palais des Congrès, Marrakech, Morocco

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WorldFish seeks collaboration on hosting agreement and TAAT initiative

As a follow-up on the stakeholder workshop on the development of the WorldFish Nigeria program with the Nigerian Government, representatives from [WorldFish](#) visited [IITA](#) Ibadan, on 22 March, to seek collaboration to move their agenda forward.

A team of four led by [Dr David Shearer](#), Director, International Partnership, and Dr Harrison Karisa, Country Director of Nigeria and Egypt, was received by IITA Management, and representatives of [IITA Youth Agripreneurs](#) (IYA). In her welcome remarks, [Hilde Koper-Limboung](#), Deputy Director General, Corporate Services, gave a breakdown of IITA's achievements and success stories to date and emphasized IITA's commitment with various partners across Africa to uplift the face of agriculture. "We are indeed glad to have you in our midst, and I am looking forward to a productive collaboration as it is essential to achieve development impact," she added.

Stating the purpose of the visit, Shearer said: "With a similar aim of reducing hunger and poverty for millions of smallholder farmers, we would like to collaborate with IITA on a hosting agreement, and also leverage on the [Technologies for African Agriculture Transformation](#) (TAAT) initiative to enable us to handle priority issues as regards aquaculture in Nigeria.

"Although WorldFish is present in Nigeria, there is a need for us to grow our presence in the region. Fish consumption worldwide is about 20 kilograms per person per year. In Africa, it is only 10 kilograms per person per year. Forecasts over the next 10–20 years indicate that



Dr David Shearer, WorldFish Director, International Partnership, giving a presentation during a visit to IITA.

Africans will eat less fish. Hence, to change the trend for fish gain, there is a role for WorldFish to play in improving the consumption of fish over the long term," he added.

The delegates held discussions with the Institute's management regarding their hosting agreement, which covers office space, housing within the campus, financial management, internal auditing, and possibilities of partnering with TAAT to help scale out proven technologies in Nigeria and other countries like DR Congo, to solve farmers' problems. Discussions were also raised on how "aquapreneurs" of the IYA model can tap into the collaboration to expand their scope of horizon while learning from their wealth of experience.

[Chrys Akem](#), TAAT Project Leader, gave an overview of the components, work plan, and plans of TAAT. On that note,

Shearer said: "Aquaculture is one of the key compacts of TAAT, and it has a special focus around self-sufficiency of inland fisheries, which is also one of our objectives. Through our engagement with the TAAT program, I believe WorldFish will predominantly be established in Nigeria and Africa at large. This will enable us to achieve our aim of improving the biodiversity of fish in people's diet.

While commending IITA for its support, Karisa stated: "Having selected Nigeria as a focal country for WorldFish to grow its presence, it would have been difficult starting from scratch without IITA's support. I think that is a very positive move from IITA. We implore IITA's continuous commitment, to ensure efficient delivery of our program in Nigeria. I can say for sure that we have been very successful in our mission!"

AfDB team visits Liberia

The [AfDB](#) team, lead by Mr Philip Boahen (Task Manager), visited Liberia to evaluate the activities of the [Smallholder Agricultural Productivity Enhancement and Commercialization](#) (SAPEC) project. The AfDB team held a meeting with the SAPEC coordinating office staff and [IITA](#) and [AfricaRice](#) teams with a presentation on project achievements by the Monitoring and Evaluation Officer, Mr Harry Wonyene. The team then visited the IITA

demonstration farm at Kakata, Margibi County and the Women of Destiny (WODY) cassava processing center at Benton city, Montserrado County.

At the IITA demonstration farm, Boahen interacted with the cassava farmers trained by the Extension Agronomist of the project, [Michael Edet](#). The farmers thanked the AfDB team for the assistance and promised to sustain the achievements of the project, after

showcasing some of the cassava roots harvested from the demonstration farm. With the AfDB team was the SAPEC coordinating office team, the County Agricultural Coordinator (CAC), and the SAPEC Focal Person of the County.

At WODY, the AfDB team met the staff working on the production of high quality cassava flour (HQCF), as introduced to them by the Postharvest Specialist of the project, [Wasiu](#)

[Awoyale](#). Products displayed during the visit were fufu powder, HQCF, cassava starch, *depah* (fermented cassava flour), and fortified gari. The team with the SAPEC Coordinator, Mr William Kawalawu, interacted with Madam Comfort Jalah, the CEO of the factory. The AfDB team was impressed with the level of technology transfer, especially the operation of all the machines by the women. However, the team made some comments on the completion of the other processing centers, use of safety wear, proper branding and packaging, and the sustainability of the centers, among others. On the factory's sustainability, Edet and Awoyale wrote three concept notes which cover the establishment of the cassava outgrowers' scheme around the centers, training of factory workers on equipment troubleshooting and maintenance, and the use of HQCF for bread and other baked products. Cooked fufu powder and groundnut soup were tried by the AfDB Task Manager during the visit.



AfDB team at IITA demonstration farm in Kakata Margibi County responding to issues raised by the cassava farmers.

SAPEC Project takes on corporate social responsibility activity in Liberia

The [IITA](#) postharvest specialist of the [Smallholder Agricultural Productivity Enhancement and Commercialization](#) (SAPEC) project is currently conducting a study in collaboration with the Central Agricultural Research Institute (CARI), to ascertain the suitability of the IITA introduced cassava varieties to produce gari and fufu powder in Liberia. The yield of the products for each of the varieties was calculated and samples collected for laboratory analyses at the Food and Nutritional Sciences of IITA. The remaining products were then packaged and branded for distribution to orphanages as part of the IITA's corporate and social responsibility (CRS) activity. The homes visited were the Children Ministry, Balama Bong County; Children Future Program Orphanage, Kakata, Margibi County; and Children Aid Liberia, Monrovia, Montserrado County.

The Children Ministry orphanage has more than 100 orphans, 85% of them females. Welcoming the IITA/CARI team, Mrs Elizabeth William, who manages the home, told the team about how she started and where she is at present. She added that there is a need for the government of Liberia to continue

to visit and support orphanages. Mrs Christina Famata Blamo of the Children Future Program and Mr Victor Dahn of Children Aid Liberia, both appreciated the team's visit, hoping that the government of Liberia will continue to support the orphanages. The Children Aid Liberia had 22 children with 6 males; the remaining are females. This home trains the children on soap making, tailoring, and baking. Some

IITA training materials like the Training manual for the production of cassava products and the Cassava recipe book were shared with the home.

In addition to the 5-kg gari and fufu powders packaged in well-branded polypropylene woven sacks, a bag of salt, a pack of seasoning, and 2 rolls of bath soap were given to each of the homes.



The IITA/CARI team presenting fufu powder, gari and training materials to the CAC and SAPEC Focal Person during the visit to the orphanage home at Kakata Margibi County.