

# Cassava Matters

Issue No. 012

30 April 2018

## The verdict: Views from outside and weed management in cassava



*Dr May-Guri Saethre, IITA Deputy Director General (Research-for-Development) declares the 2018 IITA-CWMP Annual Review and Work Planning meeting open in Ibadan*

The 2018 Annual Review and Work Planning Meeting of the IITA Cassava Weed Management Project (IITA-CWMP), which was held 19 - 20 March 2018 in Ibadan attracted about 100 participants drawn from policymakers, researchers, regulators, farmers, and journalists.

From a review and planning meeting, the event dovetailed into a scorecard/assessment of project accomplishments and achievements in the last four years.

After series of presentations, commissioners from 14 states of Nigeria expressed their verdict in a communique with the following 14 points:

1. Commended IITA and its partners (NRCRI, FUNAAB, UAM, ADPs in Abia, Benue, Ogun and Oyo; JDPM, KOLPING) for the excellent

research in weed management in cassava farming systems.

2. Recognized weeds as a major driver of poor yields in cassava farming systems.

3. Agreed that to tackle the problem of weed menace requires collaborative efforts with IITA, Federal Government, State Governments, the Private sector, national research institutes, universities, and other stakeholders.

4. Accepted the commissioners' decision to make proposals to their state executives to include a budget for weed control in their 2019 budgets. The budget will capture areas such as radio jingles and training of extension agents, agriculture officers and other officials in weed control. This will help in the dissemination of the findings of the

project.

5. Frowned at the use of unsafe herbicides and endorsed the ban on use of paraquat and other unsafe herbicides in Nigeria but accepted that the use of herbicides has benefit to farmers.

6. Gave invitation to IITA Cassava Weed Management Project and partners to come over and expand the project to the various states.

7. Called on the IITA Cassava Weed Management Project to publish results of the findings as part of dissemination efforts.

8. Praised the chemical companies for their efforts in making some of the proven herbicides available (Lagon from Bayer, and Fusilade Forte from Syngenta) for farmers. Syngenta attributed the re-entry of Fusilade to the Nigeria market as part of efforts from the project and agreed to work with the Project to make Gardoprim Plus Gold available. All the chemical companies also agreed to support the training of farmers and spray service providers.

9.Appealed to agrochemical companies to ensure availability of their unadulterated products to farmers at reasonable prices throughout Nigeria.

10. Suggested the consideration of alternative ways of distributing their products to mitigate the mischief of distributors or dealers through

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## GCP21: Send a photo and stand a chance to win a prize



Hernan Ceballos

The International Scientific Committee of the Global Cassava Partnership for the 21st Century (GCP21) has nominated Dr Alfred Dixon of the International Institute of Tropical Agriculture (IITA); and Dr Hernan Ceballos of the International Center for Tropical Agriculture (CIAT) as winners of the 2018 Golden Cassava prize.

The prestigious scientific award recognises the exceptional contributions of individuals to the development of the cassava crop.

Announcing the winners of the prize, the Director of GCP21, Dr



Alfred Dixon

Claude Fauquet said Drs Dixon and Ceballos were selected from a line up of six qualified researchers across the world.

"We are proud of the achievements of both Drs Dixon and Ceballos to the cassava community. This is in recognition of their work but also a motivation to other upcoming researchers," Dr Fauquet said.

The two will receive the award during the Fourth Global Cassava Conference being organised by the Global Cassava Partnership for the 21st Century (GCP21) in Cotonou, 11-15 June 2018.

### Announcements

1. Hurry!!! GCP21 registration is about closing. Register and reserve a space.

Please check out <http://www.gcp21.org/beninconference/index.html> for all other information.

2. Send a photo and stand a chance to win a prize

3. Increase the visibility of your work: Send us a video to: [g.atser@cgiar.org](mailto:g.atser@cgiar.org)

4. Training on weed management in cassava, 2-3 July 2018,

Venue: IITA-Ibadan

# ACAI to start validation of Decision Support Tools

The IITA led African Cassava Agronomy Initiative (ACAI) project has set the 2018 calendar of activities around running validation trials for the six Decision Support Tools (DSTs) that the project is developing. The first validation trials were set up in late March through April in Nigeria with similar plans organised in Tanzania from mid-year until when the planting season peaks in late 2018.

Details of the 2018 plans were discussed in a series of meetings held in Nairobi, Kenya by the joint management team and later on in Ibadan by the Nigerian project activities' coordinators together with partners.

ACAI has developed prototypes of the six

DSTs that will be tested during the validation phase to ascertain their functionalities and improve on their prediction and recommendation accuracy.

"We are keen on the feedback from the field to understand how users interact with the tool, about the features of the tools, interface and what else that is needed. We shall then incorporate the feedback toward improving the tools," states Pieter Pypers, ACAI Project Leader.

The validation of the tools brings to the fore the project's primary partners whose needs the tools have been modelled to respond to within the cassava value chain in their respective countries. ACAI is developing

site specific fertilizer recommendation and fertilizer blending recommendation tool to optimize cassava root yield, scheduled planting recommendation tool to ensure a sustainable year-round supply of cassava to the processing industry, and the high starch recommendation tool for optimum starch content in the cassava roots.

Other decision tools include the intercropping recommendation tool for cassava intercropped with maize and sweet potatoes, and the best planting practices support tool.

Speaking after the Nairobi meeting, Dr Geoffrey Mkamilo, who coordinates ACAI activities in Tanzania among the national systems, described the move into validation as a good one.

"The first results and development of version one of the recommendation tools is a big step, there is still a long way to go but what we have achieved is significant within such a short time," explains Mkamilo.

The same sentiments were shared by Adeyemi Olojede, ACAI activities coordinator in south east Nigeria, who added that the ACAI primary partners will now play more roles in testing the tools first hand.

The validation exercises will be the first time that end users practically apply the decision support tools within their local areas of operation. In Nigeria, ACAI is working with PSALTRY limited, CAVA-II, 2SCALE, NOTORE, NIJI Farms, and SG2000. The project is spread across 8 states in the southern region of the country. In Tanzania, ACAI partners are Minjingu, FJS, CAVA-II, MEDA, and Farm Concern International.



ACAI team in discussions during the project's planning meeting in Kenya

## "We will mainstream IITA-CWMP findings in Fadama III project"

The Cross River State Commissioner for Agriculture and Natural Resources, Prof. Egrinya Eneji, says the government will be mainstreaming the weed management options developed by the IITA Cassava Weed Management Project into the state's FADAMA III project.

The Commissioner dropped the hint in an interview during the conference tagged: "Unveiling of new Technologies for Weed Control in Cassava Farming Systems." The conference was held at the Conference Centre at the IITA headquarters in Ibadan.

"I came in here purposely to take away something that will benefit that project," Prof. Eneji said.

In the last 4 years, the IITA-CWMP working in four states, has developed weed control options drawing from the use of best bet agronomic practices, use of motorized weeders, and the use of safe and environmentally friendly herbicides.

Although Cross River is not one of the states in which the IITA-CWMP is being piloted, Prof. Eneji said he came to the conference hoping to get information

needed to boost the cassava revolution in his state.

The Commissioner lauded the IITA-CWMP for the novel technologies introduced and called on the researchers to ensure sustainability by working more on technologies that were "cost effective, safe, and environmentally friendly."

Prof. Friday Ekeleme, Principal Investigator to the IITA-CWMP, explained that the project was about sustainable weed management technologies for cassava farming systems.

"And improving the production of the crop, reducing dependence on imports of food and moving towards export to sustain the nation, is the basic idea," he said.



Compare and contrast: On the left: A farmer practice plot infested with weeds. On the right: On-farm demo with good weed control



# Creating a sustainable cassava seed value chain in Nigeria



A visit to the field in Benue with farmers discussing the business opportunities in cassava seed multiplication.

Traditionally, farmers in Nigeria plant cassava from year to year using planting materials from their own fields or via farmer to farmer exchange. Cassava stems were considered by the average farmer to be of little value and hence were discarded at the end of the planting season or given away for free. Because of this system of seed distribution, cassava seeds are recycled over time leading to build up of diseases and loss of genetic vigor, which affect yields. Again, because the planting materials are obtained as a byproduct from fields intended for cassava root production, there is usually no specialized seed production. This leads to poor quality of stems of mixed or unknown varieties being traded, with no control or certainty of volumes and timing of availability. While the low

and slow multiplication ratio of cassava stems and its easy re-usability makes it unattractive to commercial seed producers, its bulkiness makes long distance transport uneconomical. Hence, even though cassava is critical for food and livelihood security of over 500 million people, its seed system has been weak and mostly informal, thus contributing to its low productivity. The Bill & Melinda Gates Foundation funded Building an Economically Sustainable, Integrated Cassava Seed System in Nigeria (BASICS) project is working to change this by developing an economically sustainable cassava seed value chain in Nigeria.

Catholic Relief Services (CRS) has been implementing the Village Seed Entrepreneur (VSE) component of the BASICS project in Benue state since 2015.

The BASICS project is coordinated by the CGIAR research program on Roots, Tubers, and Bananas (RTB) and implemented by six partners in Nigeria. CRS trains and supports VSEs to produce cassava seeds commercially. VSEs learn basic cassava agronomic and business management practices, to enable them successfully establish and manage their fields. While strengthening the supply-side, the project also creates demand pull through demonstration plots and mass media messages to create market awareness.

A key challenge of the multiplication and dissemination of cassava planting materials is its low multiplication rate and the long time needed to produce them. BASICS is addressing this challenge using a unique rapid multiplication technology called Semi-Autotrophic Hydroponic (SAH). A 20 sqm SAH lab has the capability to produce high quality, virus free planting material sufficient to plant over 20 ha in one year. In comparison, to obtain enough planting material to plant the same 20 hectares, it will take about 2.4 hectares of traditional seed multiplication field, and the same will be open to virus exposure (assuming 12,500 plant density and 500 bundles stem yield per hectare).

CRS, in collaboration with the International Institute of Tropical Agriculture (IITA), carried out the first laboratory-to-farmer field trials of this licensed technology. SAH plantlets were transported from IITA, Ibadan by road to Benue state and planted in open fields in the year 2017.

## ...Stories from the field

Lawrence Kent, the Senior Program Officer for the Gates Foundation, visited BASICS project sites in Benue state in March 2018 to see the project's fields and to interact with seed entrepreneurs network members. While visiting the SAH Cassava Trial plot in Abinsi, Guma local government area (LGA) of Benue State, Lawrence was impressed with how well the plantlets were growing, especially in Benue which is a low rainfall area. Dr. Alfred Dixon of IITA, a renowned cassava breeder, who accompanied Lawrence noted that stems from SAH compete favorably with those from normal cassava stems.

In an interactive session with VSEs from across the state, the VSEs explained that so far, they have not had any difficulty procuring the needed foundation planting materials. The VSEs said after the BASICS project ends, they would use their contacts with IITA and NRCRI to secure planting materials and leverage the networks they have been supported to establish to market their stems. One VSE, Emmanuel Tuu, talked about how profitable the business of selling cassava seed has been for him:

"I am now known as the cassava Oga (big man). I have established a large customer



A meeting with village seeds entrepreneurs in Benue base who I call when my stems are ready to harvest. I call my previous year's customers on phone, many of whom are outside my immediate community," he says. Every year Tuu sets aside a few stem bundles which he shares to farmers in his village. This has secured goodwill for him in the community, and they help watch his farm when he is away.

Another VSE, John Yange, explained that he preferred to harvest only stems and ratoon his field last year because stem sales were more profitable than selling roots. This year,

he again hopes to focus on stem sales.

At the end of his visit, Lawrence remarked, "Your experiment with the SAH is good. Availability of virus free planting material, especially at foundation seed levels was a market gap and I think you have all the pieces necessary to make things work and ensure a sustainable supply of foundation seeds in future. We know that it was difficult to believe that farmers would buy cassava seeds. Your team and partners have proved that this is possible, and it is commendable."

# From the field: farmers excited over interventions in cassava weed management

From policymakers to farmers, there is a positive perception over the investments by the Bill & Melinda Gates Foundation. Stakeholders in Benue, north central state of Nigeria, which is commonly referred to as the 'food basket' say the interventions were having impact on the productivity of cassava and the livelihoods of the people.

The Governor of Benue State, Dr Samuel Ortom, while receiving a delegation of researchers working on IITA-CWMP and BASICS appreciated IITA and the Gates Foundation for their intervention in the state.

Out in the field at Howe in Gwer East Local Government, farmers were excited over the interventions in weed management in cassava and cassava seeds system. As a mark of appreciation, they honoured Lawrence Kent (Gates Foundation), Alfred Dixon (IITA), and Friday Ekeleme (IITA) for their unwavering support and excellent implementation of the IITA-CWMP in their community. As one passes by, it was striking to see the sharp contrast between the on-farm demos across communities and farmers' traditional practices.

This contrast is inspiring many farmers, who are planning to adopt improved weed management practices being promoted by IITA-CWMP, and the seeds from BASICS.



Lawrence Kent (2nd from left), Alfred Dixon (4th from left), and Friday Ekeleme (5th from left) being honored in Benue for their contribution to cassava transformation in Benue



L-R: Governor of Benue, Dr Samuel Ortom and Lawrence Kent during a courtesy visit in Makurdi

## ACAI introduces ID cards for extension agents and cassava growers

African Cassava Agronomy Initiative (ACAI) has introduced identity cards for cassava growers and extension agents involved in the project's activities. The project started issuing the cards at the onset of the baseline survey being conducted by the Monitoring and Evaluation team in Tanzania and Nigeria in January 2018.

The identity cards feature a unique barcode for every recipient that will be referenced to the bearer's details and demographic information. The cards will serve as a means to formally recognize the contribution of the farmers and extension agent to the project activities.

According to Dr Mark Tokula, from the National Root Crops Research Institute (NRCRI) in Benue State Nigeria, the exercise of registering farmers and extension agents (EAs) during the baseline survey with a photo capturing feature was successful.

"The ID cards have been highly acceptable to both EAs and farmers. It actually helped in stimulating farmers interest in participating in the survey. The respondents were very cooperative," says Tokula, who is overseeing

the ACAI baseline survey in the region.

Dr Deusdedit Peter Mlay of Agricultural Research Institute (ARI), in Tanzania commends the use of cards, especially the feature of scanning to retrieve reference data saying it significantly reduces the amount of time used in running analyses.

More than 4000 farmers and extension agents have been registered for the new cards in Nigeria and Tanzania. The number is projected to increase as ACAI intensifies activities around validation of the current versions of the decision tools in both countries.

Each card is integrated to the project's

open data kit (ODK) database and it is expected to help accelerate data analysis and learning through the standardized and harmonized data collection especially when repeating observations over time.

### The verdict...

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development of local dealers.

11. The advantage of the Mantis in time saving increases with increasing plot size and with increasing time required to hand weed. From a purely time saving point of view, the Mantis can be recommended.

12. The incorporation of best-bet agronomy, and use of safe and environmentally friendly herbicides was considered key for sustainable weed management

13. Endorsed the recommendations on weed management derived from the 5-year IITA Cassava Weed Management Project.

14. Noted the need to address the low extension ratio by employing more people in the extension systems.



The identity cards