

Tricot Results Feedback Handbook Benue State



A feedback handbook on the results of the agronomic and food products evaluations of cassava tricot trials by the tricot farmers and processors

Introduction

Dear participating citizen scientist partners,

This document sums up the results of the tricot experiment you have been taking part in. The project included 120 participating partner farming households from 6 states in Nigeria and we now present you with the evaluation results that are the results of the combined evaluation by all the farmers. We will present to you the overall results: best varieties across all states as well as the best varieties in your state.

Informed by these results we have formally released two varieties, which will be multiplied and promoted across the country. This guide provides you with information about who had these best varieties in their tricot trial of three varieties, so you will know how to access these best varieties instantly. You are of course free to further experiment with the other varieties given to you and use them to your advantage. However, the shared effort by all tricot participants across 6 states provides you with unique information on which varieties did the best and which ones did not do so well informed by the 120 participating farmer households who each had a tricot trial in their field.

The tricot on-farm trials have played a crucial role in participatory variety evaluation and selection by actively engaging men, women, and youth cassava farmers. As you know, in 2023 – 2024, the tricot trials were conducted and this was done across six states in Nigeria; Abia, Akwa-Ibom, Benue, Imo, Oyo, Osun states with 120 farmers comprising of 69 men and 51 women. Together with the lead farmers, the International Institute of Tropical Agriculture (IITA) managed 60 farmers selected from Oyo, Osun and Benue states while National Root Crops Research Institute (NRCRI) supervised another 60 farmers across different communities in Abia, Akwa-Ibom and Imo states.

The tricot trials provided you with access to newly bred cassava varieties by IITA and NRCRI, and allowed you to compare them based on agronomic and product quality traits. Farmers actively participated in both harvesting and post-harvest evaluation processes. These evaluations provided useful insights into the performance of different cassava varieties with regards to agronomic and processing traits such as: adaptability to your environment, yield and processing suitability and potential market demand.

As you know data were collected at five growth stages; 1Month After Planting (MAP), 3 MAP, 6 MAP, 9 MAP and 12 MAP. In addition, data was collected during the processing of the roots into food products on gari processing, gari quality, eba quality and eba quality after storage showing the performance of varieties and farmers' preferences. After farmers and processors experienced the whole trajectory from planting to the processing into food products they indicated their final preference among the three varieties that each farmer household evaluated.

Harvesting of the trials in Akwa Ibom, Imo and Abia (NRCRI-managed states) was conducted from June to July 2024 while in Osun, Oyo and Benue (IITA-managed states) took place from August to September 2024.

Table 1 gives an overview of the states and communities' selected by NRCRI and IITA for the tricot on-farm trials in Nigeria. These locations were chosen because of the predominance of cassava farming-processing-marketing activities in these areas.

Table 1: Tricot on-farm sites selected from six notable states for cassava production in Nigeria

State	Community names	Number of men	Number of women	Total participants
Oyo	Owotoro, Agunrege	8	2	10
Osun	Orolu, Okuku	16	4	20
Benue	Atlo, Mbayon-Gboko, Buruku, Daudu	17	13	30
Akwa Ibom	Ikot Akpa Nkuk, Ikot Enang, Ikot Andem	18	12	30
Imo	Umualumaku, Umuezegu, Ubomiri, Obibi Ezinna, Umunnam, Umuebo	9	11	20
Abia	Umulu Ibere, Ndoro, Azueke Ibeku, Mbawsi, Umuosu	5	5	10

The following table 2 gives an overview of the varieties tested. Each of the farmers obtained a specific combination of only three out of these 8 varieties. Officially released varieties are highlighted in bold. The varieties 'Renewed Hope' and 'Biggie' were released last year informed by your evaluations.

Table 2: Cassava varieties evaluated by farmers across tricot trials in Nigeria

Varieties Names	Common / released name	Year of Official release
TMSIBA000070	Baba-70	2020
TMSIBA30572	30572	1984
TMS14F1306P0015	None	Not released
TMS18F1297P0008	None	Not released
K195	Give me chance	Not released
TMEB7	Oko Iyawo	Not released
TMS14F1036P0007	Renewed hope	2024 (released informed by Tricot results)
TMS17F1387P0008	Biggie	2024 2024 (released informed by Tricot results)

Results of the experiment based on all the 120 participating tricot farmers' households' evaluation, the varieties that performed the best across the 6 states

The figure 1 below shows the varieties that were evaluated by you all across 6 states as the best. The table 3 below shows the complete ranking of the varieties from best to worst (1 is the best). The varieties 'Biggie' and 'Renewed hope' share the first place followed by Baba 70. As 'Biggie' and 'Renewed hope' performed best according to your evaluation they were officially released by the National Variety Release Committee seated in NACGRAB in Ibadan. NACGRAB stands for the National Centre for Genetic Resources and Biotechnology. The names 'Biggie' and 'Renewed Hope' were chosen based on your feedback.

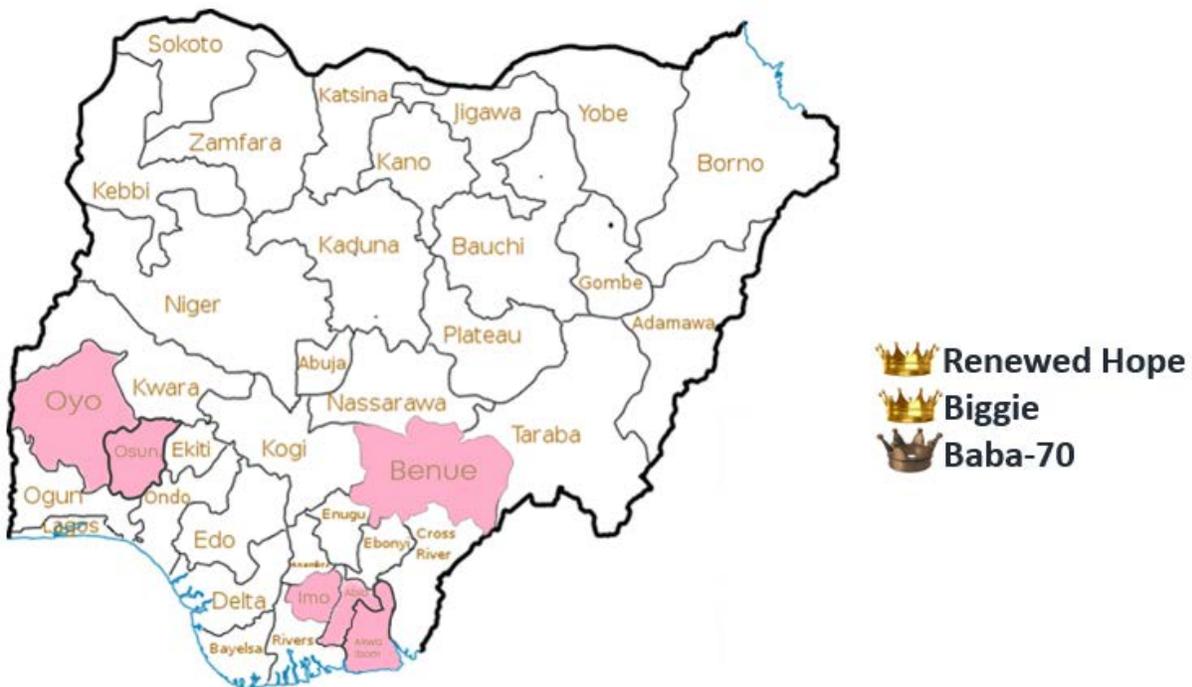


Figure 1: Outstanding Cassava Varieties from tricot on-farm trials across six states in Nigeria

Cassava varieties	Ranking
Renewed hope	1 st
Biggie	1 st
Baba-70	3 rd
TMS18F1297P0008	4 th
TMS14F1306P0015	5 th
Give me chance	6 th
Oko Iyawo	7 th
TMSIBA30572	8 th

Table 3: Ranking of eight cassava varieties evaluated by tricot participant across six states in Nigeria

The Figure 2 below shows 6 key cassava traits and which variety performed best on these traits across six states in Nigeria

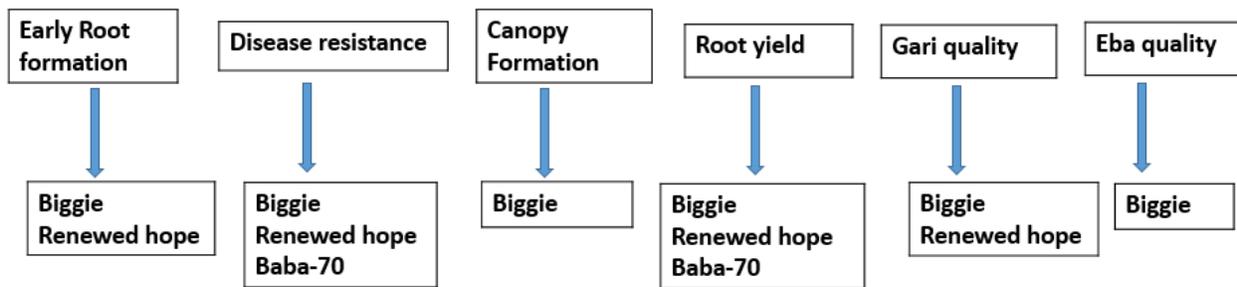
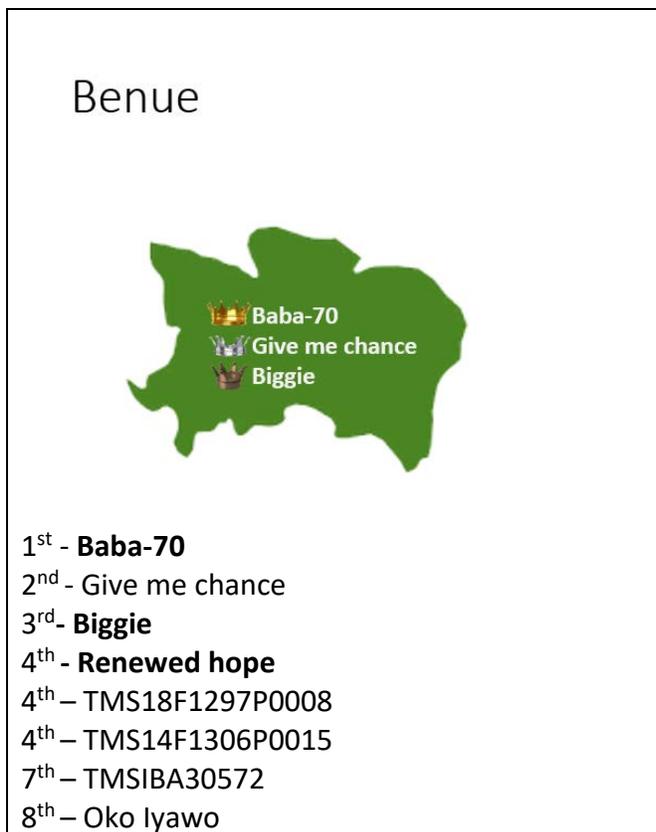


Figure 2: Farmers preferred cassava varieties across six states in Nigeria for six different traits

Results per state

Apart from the overall results based on all participants across 6 states we also provide you with the results only looking at the participants in your state. This is helpful to inform you on certain varieties that might do specifically well in your state. The figures below show the best performing varieties in your state.



Who had which varieties in your community? And who has the winning varieties?

Important, for you, is now to know who had the best performing varieties in your community. This will allow you to benefit from these results and source the winning varieties from those farmers in your community or neighboring community that replanted or multiplied these varieties among the three varieties that each of you evaluated. The table below shows the name of the farmer in your neighbouring community and the varieties they had in their field. This will allow you to know who had the winning varieties. **Note that these winning and recently released varieties are again highlighted in bold.** Highlighted in yellow are the favorite varieties chosen by each of the participating farmers' households based only on the three varieties they had in their plot. Note that many times people also chose one of these released varieties as their best if they had them among their three varieties A, B and C.

Best Cassava Varieties Chosen by Tricot Participants in Atlo LGA, BENUE STATE

Tricot package number	Names	Community	Sex	Variety A	Variety B	Variety C
61		Atlo	M	Baba-70	TMS18F1297P0 008	Renewed hope
62		Atlo	M	Biggie	Renewed hope	Baba-70
63		Atlo	M	TMS14F1306P0 015	Oko Iyawo	TMSIBA30572
64		Atlo	M	Biggie	Give me chance	TMS18F1297P0 008
65		Atlo	W	Oko Iyawo	TMS18F1297P0 008	Renewed hope
66		Atlo	W	TMSIBA30572	Baba-70	Give me chance
67		Atlo	W	Renewed hope	TMS14F1306P0 015	Biggie
68		Atlo	W	TMS14F1306P0 015	Baba-70	Biggie
69		Atlo	W	TMS18F1297P0 008	Give me chance	Oko Iyawo
70		Atlo	W	Biggie	TMSIBA30572	TMS18F1297P0 008

Best Cassava Varieties Chosen by Tricot Participants in Guma LGA, BENUE STATE

Tricot package number	Names	Community	Sex	Variety A	Variety B	Variety C
71		Daudu	M	Give me chance	Oko lyawo	TMS14F1306P0015
72		Daudu	W	Baba-70	Renewed hope	Oko lyawo
73		Daudu	M	Renewed hope	Biggie	TMSIBA30572
74		Daudu	M	TMS14F1306P0015	Baba-70	TMSIBA30572
75		Daudu	W	TMS18F1297P0008	TMS14F1306P0015	Give me chance
76		Daudu	W	Oko lyawo	Biggie	TMS18F1297P0008
77		Daudu	W	TMSIBA30572	Give me chance	Baba-70
78		Daudu	M	Give me chance	Renewed hope	TMS14F1306P0015
79		Daudu	M	Baba-70	TMS18F1297P0008	Renewed hope
80		Daudu	M	Oko lyawo	TMSIBA30572	Biggie

Best Cassava Varieties Chosen by Tricot Participants in Gboko and Buruku LGAs, BENUE STATE

Tricot package number	Names	Community	Sex	Variety A	Variety B	Variety C
81		Gboko Mbayion	W	Biggie	TMS14F1306P0015	Baba-70
82		Gboko Mbayion	M	TMS18F1297P0008	Give me chance	Oko Iyawo
83		Gboko Mbayion	M	Renewed hope	Oko Iyawo	TMSIBA30572
84		Gboko Mbayion	M	Baba-70	Biggie	Renewed hope
85		Buruku	W	TMS14F1306P0015	TMSIBA30572	Give me chance
86		Buruku	W	TMS18F1297P0008	Baba-70	TMS14F1306P0015
87		Buruku	W	TMSIBA30572	TMS18F1297P0008	Biggie
88		Buruku	W	Give me chance	Renewed hope	Oko Iyawo
89		Buruku	W	TMS14F1306P0015	Give me chance	TMS18F1297P0008
90		Buruku	W	Oko Iyawo	Renewed hope	Baba-70

Best cassava varieties chosen by tricot participants from 9 MAP (Months After Planting) to Final overall evaluation: how did your preference evolve during the evaluation of your trials?

We would like to share the best cassava varieties based on your evaluations from 9 MAP in the fields to their agronomic performance at 12 MAP which considers how the varieties performed throughout their entire growth cycle, including 1 MAP, 3 MAP, 9 MAP, 12 MAP, both before and after harvest. This provides you with an overview on how your varietal preferences evolved during the growing cycle. We have included the names of the three recently released cassava varieties in the overall final selection to show their performance in your field.

Your evaluations have helped us understand important traits such as disease resistance, early root formation, ease of harvesting, root yield, root shape, root size and how well the varieties are suited for making gari, fufu, and other food products. We sincerely appreciate your feedback, as it has provided valuable insights into the performance and your preferences for each cassava variety in your communities.

Best Cassava Varieties from 9 MAP to Final Overall Evaluation in Ohimini LGA, BENUE STATE

Package number	Farmer name	Community	Sex	9MAP	Agronomic evaluation (1 - 12 MAP)	Gari proc	Gari quality	Eba quality	Eba quality after storage	Overall Final choice
#61		Atlo	M	B	A	.	.	.	.	.
#62		Atlo	M	A	A	.	.	.	.	.
#63		Atlo	M	A	A	B	C	C	C	C
#64		Atlo	M	A	A	B	B	B	B	B
#65		Atlo	W	A	B	B	C	B	B	B
#66		Atlo	W	C	B	B	B	B	B	Baba-70 (B)

#67		Atlo	W	C	C	B	B	B	B	B
#68		Atlo	W	B	.	.	.	.	.	.
#69		Atlo	W	A	B	B	B	B	B	B
#70		Atlo	W	C	.	.	.	.	.	.

Best Cassava Varieties from 9 MAP to Final Overall Evaluation in Guma LGA, BENUE STATE

Package number	Farmer name	Community	Sex	9MAP	Agromomic evaluation (1 - 12 MAP)	Gari proc	Gari quality	Eba quality	Eba quality after storage	Overall Final choice
#71		Daudu	M	A	A	A	C	C	A	C
#72		Daudu	W	C	A	A	A	C	A	Baba-70 (A)
#73		Daudu	M	A	A	B	B	B	A	Biggie
#74		Daudu	M	B	B	B	B	A	B	Baba-70 (B)
#75		Daudu	W	B	C	B	C	A	A	A
#76		Daudu	W	C	B	B	C	C	C	Biggie (C)
#77		Daudu	W	C	A	C	A	C	A	Baba-70 (C)
#78		Daudu	M	A	A	B	B	B	B	Renewed hope (B)
#79		Daudu	M	B	A	A	A	A	B	Baba-70 (A)
#80		Daudu	M	B	C	C	C	C	B	Biggie (C)

**Best Cassava Varieties from 9 MAP to Final Overall Evaluation in Gboko and Buruku LGAs,
BENUE STATE**

Package number	Farmer name	Community	Sex	9MAP	Agronomic evaluation (1 - 12 MAP)	Gari proc	Gari quality	Eba quality	Eba quality after storage	Overall Final choice
#81		Gboko Mbayion	W	C	C	A	A	A	A	Biggie (A)
#82		Gboko Mbayion	M	A	B	C	C	A	A	B
#83		Gboko Mbayion	M	C	A	A	A	A	B	Renewed hope (A)
#84		Gboko Mbayion	M	A	A	B	B	B	A	Baba-70 (A)
#85		Buruku	W	A	A	A	A	A	A	A
#86		Buruku	W	C	B	C	C	A	B	Baba-70 (B)
#87		Buruku	W	A	C	A	A	B	B	B
#88		Buruku	W	A	A	A	A	A	A	A
#89		Buruku	W	C	B	B	B	C	B	B
#90		Buruku	W	A	C	C	B	B	B	Renewed hope (B)



See our video on tricot use in Nigeria: https://www.youtube.com/watch?v=W_jJYTa2Yuo



See the video on cassava weed management:

<https://www.youtube.com/channel/UCmbDVyaw9YreMFufvLRuDzQ>



Advanced access to the released varieties.

For advanced access to the released varieties, you can contact IITA GoSeed or Umudike Seed depending on which Organisation is closest to you. However, as the varieties have just been released it will take some time before enough quantities will be multiplied.

Umudike Seed contact: +234 810 549 7442

GoSeed contact: +234 803 978 4234

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