

Maize variety trial summary and policy recommendations

Mbere na mbere abahinzi



Summary and Main Points:

- Results of variety trials run in 2014A showed that the best hybrids had average yields of 45-65 kg/are, compared to 39 kg/are for ZM 607.
- Based on these results Tubura has formulated a list of the hybrid varieties and OPVs it would like to offer to its clients in each different zone where we work.
- Where the Government of Rwanda continues to supply we recommend that it consider these variety recommendations as well.
- An adoption survey also indicated that 77% of Tubura farmers would purchase some type of maize seed under a privatized market: 52% want hybrids and 46% want OPVs.
- Tubura would need a total of around 100 tons each of OPV seed and hybrid seed to fulfill our base client demand in 2015A.
- If Tubura were also to sell maize seed through our agro-dealer partners then we would need an additional 230 tons each of OPVs and hybrids to meet farmer demand.
- Tubura needs to be made aware of how the maize seed system will operate in 2015A as soon as possible so that we know whether the government will supply the varieties needed to meet this demand or whether Tubura needs to purchase this on our own.
- Because of the uncertainty Tubura has not yet placed any maize seed orders, but time is running out since distribution to our clients is schedule to commence August 1, 2014. We would ideally like to receive seed in our warehouses by July 1, 2014.

TUBURA's Desired Maize Seed Orders for 2015A:

Region	District	2015A Projected Clients	Hybrid variety	Hyb adoption %	Hyb adopter order (kg)	Total Hybrid Order (kg)	OPV variety	OPV adoption %	OPV adopter order (kg)	Total OPV Order (kg)
WEST	Rutsiro	12,600	PAN 691	37.93%	3.1	15,007	Pool 9A	24.14%	3.6	10,950
WEST	Karongi	12,200	SC 637	82.14%	1.7	17,036	H 071	80.36%	2.6	25,490
WEST	Mugonero	7,200	SC 637	60.00%	3.5	15,120	H 071	48.80%	2.6	9,135
SW	Nyamasheke	13,000	SC 637	45.55%	2.3	13,619	H 071	46.67%	3.0	18,201
SW	Rusizi	14,800	SC 637	36.45%	2.0	10,789	H 071	50.00%	3.6	26,640
SW	Bugarama	4,750	PAN4M21	49.25%	6.0	14,036	ZM 607	28.36%	5.1	6,870
SOUTH	Gisagara	3,060	SC 403	81.25%	3.4	8,453	ZM 607	56.25%	4.0	6,885
SOUTH	Huye	4,950	PAN 63	73.21%	2.4	8,697	ZM 607	25.00%	3.1	3,836
SOUTH	Nyamagabe	3,600	PAN 691	100.00%	4.5	16,200	Pool 9A	9.52%	2.0	685
SOUTH	Nyanza	2,550	PAN 63	66.66%	8.8	14,959	ZM 607	7.40%	12.5	2,359
SOUTH	Nyaruguru	3,060	PAN 691	50.00%	1.6	2,448	Pool 9A	50.00%	1.9	2,907
EAST	Gatsibo	2,700	PAN 4M21	67.74%	6.9	12,620	M 101	67.74%	8.9	16,278
LWH	LWH West	3,750	PAN 63	42.86%	5.6	9,001	ZM 607	46.43%	6.0	10,447
LWH	LWH East	5,850	PAN 4M21	9.58%	1.2	673	M 101	60.83%	11.3	40,212
ALL TUBURA AVG.		94,070	Various	52.20%	3.8	186,036	Various	46.10%	4.9	212,495

Field Trial Overview:

- The 2014A field trials included 17 different maize varieties and included 120 farmers in 12 cells across 8 districts.
- Every farmer participant had 3 ares in the trial, with three different varieties planted side-by-side on 1 are each.
- All plots were grown with 75 cm x 40 cm spacing, with two plants per hole, 1 kg/are of DAP applied in the hole at planting, compost applied at planting, and 0.5 kg/are of urea applied 40 days after planting.
- All varieties were not tested in every cell, instead varieties were chosen based on what was expected to work in that cell based on altitude and rainfall patterns.
- In every cell a “control” variety was used which was the variety distributed free of charge by the government in the sector in 14A. For the most part this was ZM 607.
- Profits were determined by converting harvests into dry weight, using a market price of 236 FRw/kg to calculate revenue, and subtracting by the actual price Tubura paid for the seed used in the trial.

Field Trial Results (lumped across cells):

Row Labels	Yield	Profit	% Preferred	Days to Harvest
SC 637	65.7	11,922	94.4%	148
PAN 691	63.0	12,161	91.7%	152
PAN4M21	56.2	10,281	65.6%	122
PAN7-4M21	55.1	10,026	0.0%	139
WH403	54.1	10,966	29.4%	131
PAN 7-4M89	51.4	9,157	24.0%	148
H 629	48.3	9,607	42.1%	150
SC 403	48.2	7,797	21.9%	123
SC 791	48.0	7,502	0.0%	156
SC 513	47.4	6,830	6.3%	149
Grand Total	46.1	8,445	30.5%	138
M101	44.8	8,772	27.7%	130
H071	44.5	8,692	15.0%	150
PAN 683	43.9	7,388	15.4%	141
PAN 63	43.4	7,250	56.3%	149
ZM 607	38.9	7,442	22.1%	135
Pan 67	38.3	6,030	23.5%	144
M 103	32.5	5,863	6.9%	124
Pool 9A	32.3	5,816	45.5%	155

Adoption Survey Overview:

- 900 Tubura clients in 15 districts were surveyed.
- Participants were shown a catalog of potential Tubura products, including price information, and were asked to place a mock order.
- For pricing we assumed a 70% government subsidy, with 135 FRw/kg price for OPV seed and 450 FRw/kg for hybrid seed.

Adoption Survey Results:

- 77% of farmers were willing to buy at least one kind of maize.
- 46% wanted to buy OPV seed with an average order per adopter of 2.3 kg.
- 52% wanted to buy hybrid seed with an average order per adopter of 2 kg.
- Demand varied by district.
- Based on the projected 2015A clients and adoption by district total orders of different varieties were estimated and are shown in the table at the beginning of this report.
- We currently serve an additional 220,000 farmers through agro-dealers. If we assume the same adoption levels for these clients then we would need to supply an added 230 tons of hybrid seed and 233 tons of OPV seed.

Questions from Tubura to the Government of Rwanda:

- Will privatization occur in 2015A, or not?
- What will the size of the subsidy be? How will it be administered (through vouchers or discount at purchase)?
- Will the subsidy apply only to OPV varieties from RAB Rubilizi or also to hybrid varieties from private seed companies?
- Does the government wish Tubura to act as a maize seed distributor, both to our clients and to agrodealers in our service areas?
- Will other actors, including sector governments, continue to also supply maize seed, or will Tubura be the sole supplier in these areas?
- Is Tubura responsible for placing orders directly with RAB Rubilizi, SeedCo, Kenya Seed, Pannar and other companies, or will we acquire the necessary seed through the Government?
- If the government is supplying the seed to Tubura, will we be able to request specific quantities of specific varieties, per the chart above, or has the Government already determined different set varieties which it will give us?
- Have orders already been placed for these seed by the Government?
- When will the seed be made available to Tubura? Can we have it by July 2, 2014?