

FARMERS REACTION AND PREFERENCE OF ADVANCED RICE VARIETIES

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Abstract

Farmers' participatory varietal selection (PVS) is a tool that facilitates varietal selection and adoption by farmers. In this study farmers were allowed to evaluate two sets of trials in two different locations. The first set was the varieties used in the advanced yield trials for both the upland and rain fed lowland ecologies. Here farmers were asked to select the best three varieties and give reason for their selections. Another set was the evaluation of five varieties that are at pre-released stage. Nine farmers participated in this exercise ranking the varieties according to preference. In the first category FARO 39 and ITA 324 were the best choices of farmers for the upland and rain fed lowland respectively while in the second category WITA 4 ranked the best among farmers preference.

Key words: Farmers, participatory, rice, selection and grain yield.

INTRODUCTION

The new participatory approach to varietal selections has been accorded much priority in recent times. Farmer's information on a particular variety could be a useful tool for identifying farmer's acceptable cultivars (Joshi and Witcombe, 1996). The conventional breeding methods allow the breeder to adjudge a variety that will be released to farmers alone without due consideration on other traits that might be required by farmers. This has often led to lower adoption rate of the improved varieties. Witcombe *et al* (1996) noted that only few farmers in most developing countries especially those in marginal areas adopt improved varieties probably because they have not been exposed to acceptable alternatives to their landraces. Maurya and colleagues (1988), tested advanced lines of rice in villages in Uttar Pradesh, India and successfully identified superior materials that were required by farmers. In Rwanda, farmers first selected a wide range of bean cultivars from on-station trials and then selected twenty-one out of these from trials they grew in their fields (Sperling *et al*, 1993). Witcombe *et al.*, (1996) noted that if adoption rates were to be improved, farmers need to try a wide range of novel cultivars in their fields through their involvement in participatory varietal selection programs. Joshi and Witcombe (1996) concluded that findings from PVS work revealed that the domains of released cultivars are defined inadequately; appropriate cultivars are not reaching farmers and inadequate cultivars which were preferred by farmers in the areas where the PVS project was sited but are recommended for another location. The purpose of this evaluation is to provide useful information on farmers need as a guide in pushing the varieties to farmers.

MATERIALS AND METHODS

Structured questionnaire was administered to farmers at Badeggi and Bachita. At Badeggi farmers were asked to go round the advanced yield trials for both upland and rainfed lowland. This was done at crop maturity. Ten farmers participated in both trials. Farmers were interviewed to make choices of three best varieties from the trials. Their reasons for choosing those varieties were recorded. The trials were composed of fifteen entries with a plot size of 5x2 m². At Bachita five elite rice varieties that are at pre release stage were ranked by farmers as to the varieties they considered best. Nine farmers participated in the ranking of the varieties. Farmers gave reasons as to why they ranked one variety above others. Grain yield records of all the varieties were taken.

RESULT AND DISCUSSION

Tables 1 and 2 contain the grain yield records of the advanced yield trials for both upland and rain fed lowland. The varieties selected by the ten farmers with frequency of selection are presented in Tables 3 and 5. A total of ten and twelve varieties were selected from the upland and rainfed lowland respectively. In the upland nursery FARO 39 had the highest frequency of selection. This is already a variety released in Nigeria. The implication of this is that none of new lines surpass this released variety in farmers view. The variety was the second best in yield in this trial. One could see that yield is not necessary a guide in farmers selection because varieties like WAB 506-72-2 which was the second best in farmers selection ranked 8th in grain yield. For the upland most farmers prefer bold grain, good height, a variety that can easily fill their sack and acceptable in the market. In the rainfed lowland yield trial ITA 324 was the most preferred variety. It was also

the best in terms of yield. From Tables 3 and 4 one will note that varieties like WITA 1 chosen as the 6th variety with a frequency of 3 (Table 4) had the lowest yield records (Table 2), also varieties like SIK 131 and SURAKSHA with more than 3 tons per hectare were not selected by farmers.

In the second category of this work, farmers ranked WITA 4 as the best variety (Table 6), it gave the best grain yield records (Table 5), probably it has other features that the farmers preferred in this variety apart from yield. Suakoko 8, which gave the lowest yield records, was considered last by the farmers. For rainfed

lowland, farmers prefer varieties with high tillering, good yield, slender grain, variety that can fill sack and easily sold in the market.

CONCLUSION

From the result of this study one can conclude that farmers have varied objectives as what they like in varieties. Farmers in adopting varieties considered grain yield and other attributes.

Tab. 1.: Grain yield of entries used in the upland rice yield trial

Entries	Grian yield Kg/ha	Freq. of selection	% Freq.
WAB 337-B-B-20-H3	808	0	0
Faro 39	746	7	25.9
Faro 46	738	0	0
WAB 249-B-B-6-H3-1	655	4	14.8
WAB 450-1-B-P-38-HB	627	1	3.7
WAB 32-59	599	3	11.1
WAB96-31	599	0	0
WAB 506-72-2	571	5	18.5
WAB570-35-53	491	1	1
WAB 96-3	487	1	3.7
WAB 56-50	484	1	3.7
WAB 224-4-8-H3	446	0	0
IDSA 46	390	3	11.1
WAB 963-3AI-1	376	1	3.7
IDSA 10	334	0	0

Tab. 2.: Grain yield of entries used in the rainfed lowland rice trial

Entries	Grain yield Kg/ha	Freq. Of selection	% Freq.
ITA 324	3664	6	20
BR 50-120-2	3261	5	16.7
SIK 131	3172	3	10
SURAKSHA	3081	1	3.3
CK 73	3080	0	0
MASHURI	2854	1	3.3
BW 348-1	2627	0	0
WITA 1	2627	3	10
TOX 3566-6-1-1-3-1-1-2	2265	3	10
FARO 35	2265	0	0
TOX 4251-WAT-102-3	2240	0	0
WITA 3	2240	1	3.3
TOX 3052-41-E1-2-1-2	2129	1	3.3
TOX 4008-34-1-1-2	2174	1	3.3
WITA 1	1812	3	10

Tab. 3.: List of varieties selected by farmers in the upland rice advanced yield trial Badeggi, 2000.

Entries	Frequency of selection	%
Faro 39	7	25.9
WAB 506-72-2	5	18.5
WAB 249-B-B-6-H3-1	4	14.8
IDSA 46	3	11.1
WAB 32-59	3	11.1
WAB506-72-2	1	3.7
WAB 450-1-B-P-38-HB	1	3.7
WAB 96-3	1	3.7
WAB56-50	1	3.7
WAB 963-3A1-1	1	3.7

Tab. 4.: List of rice varieties selected by farmers in the rainfed lowland advanced yield trial Badeggi, 2000

Entries	Frequency of selection	% Freq. Of selection
ITA 324	6	20
BR 50-120-2	5	16.7
BW 348-1	3	10
TOX 3566-6-1-2-3-1-1-2	3	10
WITA 4	3	10
WITA 1	3	10
SUAKOKO 8	2	6.7
TOX 3052-41-E1-2-1-2	1	3.3
WITA 3	1	3.3
TOX 4008-34-1-1-2	1	3.3
SIK 131	1	3.3
MASHURI	1	3.3

Tab. 5.: Grain yield records of elite rice varieties at Bacita.

Entries	Grain yield Kg/ha
SUAKOKO 8	333
WITA 4	3668
BW 348-1	3499
WITA 1	3082
ITA 368	1666

Tab. 6.: Ranking of varieties by farmers at Bacita.

Variety	Ranking by farmers.					Total No of farmers
	1 st	2 nd	3 rd	4 th	5 th	
WITA 4	7(77)	2(22.2)	-	-	-	9
BW 348-1	2(22.2)	6(66.6)	1(11.1)	-	-	9
WITA 1	-	1(11.1)	5(55.5)	3(33.3)	-	9
ITA 368	-	-	3(33.3)	6(66.6)	-	9
SUAKOKO 8	-	-	-	-	9(100)	9

Figs. In parenthesis are percentages.

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