Evaluation and Preference Analysis of Improved Rice Genotypes in Thar Ga Ya Village, Tharsi Township, Myanmar

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Introduction

Myanmar is an agricultural country, and agriculture is the backbone of its economy. Since rice is staple crop, having high yielding varieties that are adaptable for different agro-ecosystems is a crucial. Varieties developed from plant breeders are often not suitable for marginal farm conditions (Singh *et al.*, 2014). Therefore, participatory varietal selection (PVS) facilitates development of varieties suitable for marginal soils and farmers' interests. Farmers became a part of the genotype selection and testing process in order to incorporate their preferences, which were crucial for the large-scale adoption of the selected genotype. PVS trails are conducted on farms under the complete management of farmers and evaluation of advanced promising lines from breeding program. It helps plant breeders to learn which genotypes farmers preferred and the reasons.

Objectives

● to identify high yielding and acceptable improved rice genotypes adapted to TharGaYa village, Tharsi Township, Myanmar through farmers' participation

Materials and Methods

◊ Randomized Complete Block Design with 3 replications
◊ 18 genotypes including 2 check varieties
◊ Transplanted at 21 days after sowing with 20 ×20 cm spacing
◊ Yield and its components characters were recorded
◊ Statistical analysis by using STAR software (STAR, 2014)
◊ Preference analysis through casting votes was conducted and determined by using positive votes, negative votes and total votes casted according to Paris (2011).
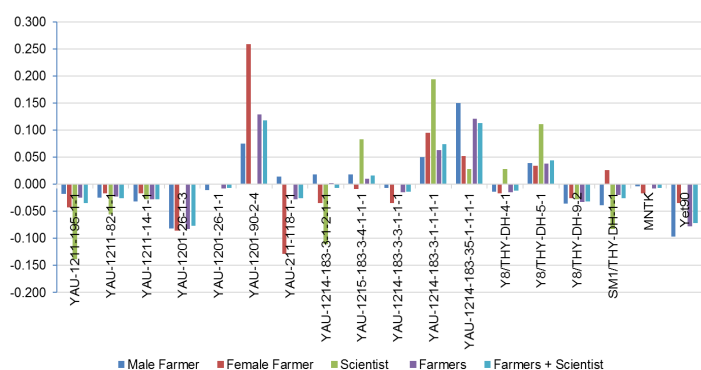
Results and Discussion

Fig. 1. Preference between farmers and researchers on improved rice lines at pre-harvest stage in TharGaYa village, Tharsi Township

Table 1. Correlation analysis of preference scores between farmers (male and female) and scientist

	Male Farmer	Female Farmer	Farmer	Scientist
Male Farmer	1	0.586*	0.930**	0.293
Female Farmer	0.586*	1	0.843**	0.256
Farmer	0.930**	0.843**	1	0.311
Scientist	0.293	0.256	0.311	1

* , ** = significant at 5% and 1% level, respectively

Table 2. Correlation analysis of preference scores and yield

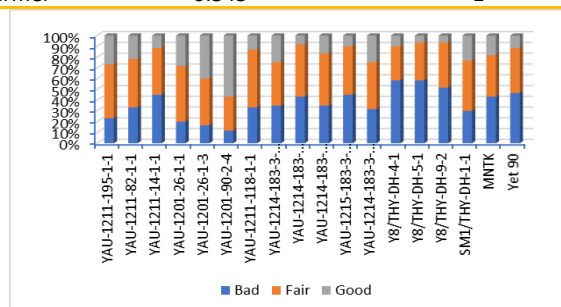|	Yield per plant	Farmer
Yield per plant	1	0.345
Farmer	0.345	1

Fig. 3. Frequency on sensory evaluation of tested rice varietal lines in TharGaYa village, Tharsi Township

Conclusion

Farmers and researchers selected YAU-1211-90-2-4 was the best followed by YAU-1214-183-35-1-1-1 and YAU-1214-183-3-1-1-1-1 at pre-harvest stage. According to the sensory evaluation test, the best line was YAU-1201-90-2-4. Therefore, YAU-1201-90-2-4 line should be selected as the farmer preference line. At pre-harvest stage, a weak correlation between scientists and farmers were identified. This indicated that farmers' and scientists' set different criteria on selecting the good performing lines. Therefore, it is important to include farmers' preferences in a variety selection process.

References

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Acknowledgements