

*Short Communication*

Evaluation of Alternate Rice Variety for Replacement of BPT 5204 Suitable for Samba Season in Southern Zone of Tamil Nadu

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ABSTRACT

In Pudukkottai district, Rice is the major crop which is cultivated nearly on 75,000 ha in rabi season (Sep-Oct). In this season, very old and most disease susceptible variety BPT 5204 is predominantly used by Pudukkottai farmers which has become susceptible to attack of insect pest and diseases. To overcome this problem, Krishi Vigyan Kendra, Pudukkottai conducted on farm testing (OFT) on alternative rice variety for BPT 5204 during 2015-16. Five trials were laid out at different locations in Pudukkottai. Critical inputs of Paddy varieties like CO 50 and TKM 13 were distributed to the farmers. The parameters like per cent disease incidence (PDI), productive tillers and yield (q/ha) were recorded. The results revealed that rice variety TKM 13 recorded the lowest PDI (5.64) compared to control BPT 5204 (18.84), number of productive tillers was also higher (15.6) in TKM 13 and thus higher (60.04 q/ha) yield was recorded compared to control (54.14 q/ha). It was concluded that, farmers were satisfied with Rice TKM 13 variety due to lower pest and disease incidence and higher yield.

Key Words: Percent Disease Incidence, Productive tillers, Rice, Samba season, Yield.

INTRODUCTION

Rice (*Oryza sativa* L) is the most important grain with regard to human nutrition and caloric intake, providing more than one-fifth of the calories consumed worldwide by humans. Rice is the principal crop extensively cultivated in all the districts of the Tamil Nadu having a unique three-season pattern viz., Kuruvai (April to July), Samba (August to November) and Summer (December to March).

In Tamil Nadu, rice is cultivated in an area of 17.26 lakh ha with the production of 71.15 lakh tonnes. In Pudukkottai district, rice is the major crop which is cultivated nearly in 75,000 ha during samba season. In this season, very old and most disease susceptible variety, BPT 5204 is predominantly grown by Pudukkottai farmers which increase the plant protection cost, leads to reduction in yield and income. To overcome this problem, Krishi Vigyan

Kendra, Pudukkottai conducted an on farm testing (OFT) on assessment of alternative high yielding Samba Rice variety for replacement to BPT 5204.

MATERIALS AND METHODS

On Farm Trails were conducted at Aranthanki, Manamelkudi and Aavudaiyarkovil blocks of Pudukkottai where direct sowing of rice was followed. The trial was conducted at five locations. Three technological options were imposed for this on farm trail and critical inputs of rice varieties viz., CO 50 and TKM 13 were distributed to the farmers.

Table 1. Technological Options.

Technology Option	Variety	Source of technology
TO 1	BPT 5204	Farmers' practice
TO 2	CO 50	TNAU
TO 3	TKM 13	TNAU

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Table 2. Characteristics of Rice varieties selected for On Farm Trial.

Name of the variety	Characters of the variety
Rice CO 50	Parentage : CO 43 / ADT 38, hybridization and pedigree method of selection Duration : 130 – 135 d Season : Late samba / Thaladi Yield : 6338 kg/ha [10.11% increased over ADT(R)46] Moderately resistant to blast, sheath blight, brown spot, bacterial leaf blight and rice tungro disease
Rice TKM 13	Parentage: WGL 32100 /Swarna Duration: 130 days (which is 7-10 d earlier than BPT 5204) Season : Late samba / Thaladi Yield: 5938 kg/ha Moderately resistant to leaf folder, stem borer, green leaf hopper, blast, rice tungro disease, brown spot and sheath rot.

Table 3. Performance of Rice varieties at farmers’ field (Average of five trials).

Sr. No.	Parameter	BPT 5204	CO 50	TKM 13
1.	Percent disease incidence (Blast)	18.84	7.10	5.64
2.	Productive tillers (Nos.)	12	14	15
3.	Yield (q/ha)	54.1	59.0	60.0
4.	BCR	2.43	2.65	2.71

The observations viz., percent disease incidence (PDI), productive tillers (Number), Yield (q/ha) and benefit to cost ratio (BCR) were recorded.

RESULTS AND DISCUSSION

The result (Table 3) revealed that, among the three varieties evaluated, rice TKM 13 recorded the lowest percent disease incidence (5.64) compared to control BPT 5204 (18.84), more productive tillers (15.6) in rice TKM 13 and lowest in control BPT 5204 (12.0). Similarly, rice TKM 13 recorded the highest yield of 60.04 q/ha which was 10 per cent more over the control BPT 5204 (54.1 q/ha) followed by CO 50 (59.0 q/ha). Among these varieties, rice TKM 13 registered the highest benefit:cost ratio (2.71:1) compared to control BPT 5204 (2.43). The findings were in agreement with Banumathy *et al* (2016)

CONCLUSION

Rice variety TKM 13 recorded more number of productive tillers which is the most important yield contributing parameter, lowest percent disease incidence which reduced the plant protection cost, higher yield and higher BC ratio. Hence, Farmers were satisfied with TKM 13 cultivation. Moreover, it matures in 130 d which is 7-10 d earlier than BPT 5204. Since the grain is of very fine quality; it has more commercial value and high marketable price. Hence, it is concluded that TKM 13 is the suitable rice variety alternate to BPT 5204 during samba season for rice cultivating area of Pudukkottai district.

REFERENCES

Banumathy S, Saraswathi R, Sheeba A and Agila R (2016). Rice TKM 13: a high yielding medium duration fine grain variety. *Electronic J Plant Breeding* 7 (3):626-633.

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