

## RESEARCH

Three projects were entertained by SAURES in the year 2004-2005. The results of the ongoing research projects and completed research projects are presented as summary form in this report.

### ONGOING RESEARCH PROJECTS

#### CULTIVATION OF RICE USING DIFFERENT PLANTING TECHNIQUES

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##### Extended Summary

Rice (*Oryza sativa* L.) is the most important crop of tropical and subtropical world and in Bangladesh. There are different methods of planting rice such as direct seeding (haphazard and line sowing), transplanting of seeding (haphazard and line sowing), transplanting of clonal tillers and SRI (System of Rice Intensification). The effectiveness of these methods is reported by many researchers (Biswas and Salokhe, 2001; Roy *et al.*, 1990; Biswas and Salokhe, 2002; Sharma, 1992; Alauddin, 2004; Laulanie, 1993; Roknuzzaman, 1997; Varughese *et al.*, 1993). A 2-years research was thus conducted during June 2005 to May 2007 with the financial support of SAURES (Sher-c-Bangla Agricultural University Research System) where the first experiment entitled "Influence of planting materials and planting methods on yield and yield attributes of inbred and hybrid rice" was conducted in Aman season, 2005 and the second experiment entitled " Influence of different cultivation methods on growth and yield of hybrid and inbred rice" was conducted in Boro season, 2005-2006. The other two experiments were conducted in the second year (Aman season, 2006). The objective of the project was to compare the performance of hybrid and inbred variety under different cultivation methods along with the performance of clonal tillers. The rice varieties included in the first year studies were Sonarbangla -1 as a hybrid variety and BR-11 (Mukta) in Aman season and BRR1 dhan 29 in Boro season. Three planting materials viz. sprouted seeds, nursery seedlings and clonal tillers were used in the first experiment along with two planting methods viz. line and haphazard planting.

Five cultivation methods viz. sprouted seeds broadcasted, sprouted seeds in line, nursery seedlings, SRI and clonal tillers were included in the second experiment. In the first experiment, clonal tillers performed better compared to other planting materials.

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Planting in line showed better performance with highest grain yield (4.81 t ha<sup>-1</sup>) than haphazard method (4.32 t ha<sup>-1</sup>). The combined effect of planting materials, varieties and planting method resulted in the highest grain yield (5.42 t ha<sup>-1</sup>) in clonal tillers of hybrid variety with line sowing method that followed by clonal tiller of inbred variety with line sowing method and it was statistically similar with nursery seedlings of hybrid variety with line sowing method (Table 1). The lowest grain yield (3.73 t ha<sup>-1</sup>) was observed in sprouted seeds of inbred variety in broadcast method. The second experiment was started from November 2005.

**Table 1. Interaction effect of planting materials, varieties and planting methods on different parameters of Aman rice**

Treatments	Tillers/hill	Grains/ panicle (No.)	Wt.of 1000 grains (g)	Grain yield (t/ha)	Straw yield (t/ha)	Harvest Index (%)
M <sub>1</sub> V <sub>1</sub> T <sub>1</sub>	8.15	139.05	26.10	3.87	5.61	41.20
M <sub>1</sub> V <sub>1</sub> T <sub>2</sub>	8.48	157.65	26.60	4.21	5.38	46.21
M <sub>1</sub> V <sub>2</sub> T <sub>1</sub>	7.70	146.00	26.85	4.13	5.84	41.78
M <sub>1</sub> V <sub>2</sub> T <sub>2</sub>	9.70	147.60	27.79	4.88	5.05	48.47
M <sub>2</sub> V <sub>1</sub> T <sub>1</sub>	8.95	158.40	25.53	4.28	4.66	48.89
M <sub>2</sub> V <sub>1</sub> T <sub>2</sub>	8.30	150.82	28.93	4.38	5.34	46.92
M <sub>2</sub> V <sub>2</sub> T <sub>1</sub>	9.65	152.23	29.95	4.24	5.64	44.38
M <sub>2</sub> V <sub>2</sub> T <sub>2</sub>	8.35	149.05	30.73	4.91	5.16	48.20
M <sub>3</sub> V <sub>1</sub> T <sub>1</sub>	9.25	159.70	27.32	4.80	5.14	45.75
M <sub>3</sub> V <sub>1</sub> T <sub>2</sub>	8.30	152.55	28.03	5.07	5.03	50.29
M <sub>3</sub> V <sub>2</sub> T <sub>1</sub>	9.15	160.80	28.00	4.89	5.07	48.32
M <sub>3</sub> V <sub>2</sub> T <sub>2</sub>	7.30	200.50	26.61	5.42	5.64	49.77
LSD (0.05)	NS	30.19	2.60	0.79	NS	8.09

M<sub>1</sub>- Sprouted seeds, M<sub>2</sub>- Nursery seedlings, M<sub>3</sub>- Clonal tillers; V<sub>1</sub>- BR 11, V<sub>2</sub>- Sonar Bangla 1 T<sub>1</sub>- Broadcast, T<sub>2</sub>- Line

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