

## POPULARIZATION OF IMPROVED VARIETY OF RICE MAHISAGAR THROUGH FRONTLINE DEMONSTRATIONS IN GUJARAT

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### ABSTRACT

*Rice remains the most staple food on the planet since it feeds roughly half the world's population on a daily basis. About 90% of the area under rice is conformed to South and Middle Gujarat representing the Agro-climatic Zones, I, II and III. Attempts are made to improve productivity and to increase area under rice by adopting improving new rice variety mahisagar in Gujarat Condition. In order to compare check variety, 80 front line demonstrations were carried out in systematic manner on farmer's field to show the worth of a new improved variety in comparison to local check and there by convincing farmers about potentiality of improved production management practices of rice for further adoption, involving feasible and effective scientific package of practices. The demonstrations clearly showed enhancement of productivity per cent. The yield was found to be increase from 4360 kg/ha in local check to 4685 kg/ha in demonstrations. Similarly, the per cent increase of new improved rice variety Mahisagar was found 7.5 % in Gujarat condition. The impact of FLDs was analysed which showed improvement of knowledge and satisfaction of farmers as the main reason for mass scale adoption.*

**Keywords:** rice, frontline demonstrations, mahisagar variety of rice

### INTRODUCTION

Rice is the most important cereal crop. Rice production in India is an important part of the national economy. The adoption of green revolution varieties has helped many nations to increase their food production in the face substantial increase in human population. It occupies first rank in area and second rank in production and consumption next to china. In India it accounts for about 65% of the total cropped area under food grains. It is the staple food of the people of the eastern and southern parts of the country. Rice occupies about 5% of the gross cropped area in the Gujarat state and it is being grown on an average about 6.5 to 7.0 Lakh hectares of land, comprising nearly 45-50% of transplanted and 50-55% drilled rice areas. About 90% of area under rice is confined to middle and south Gujarat representing the Agro climatic Zones I, II and III. The cropping sequence under which the rice crop is sown in different agro-climatic zones is also different. Such variations seem to have direct impact on the production and productivity of the rice crop. In the year 2013-14, the total area, production and productivity worked out to be 7.87 lakh hectares, 16.16 lakh tones and 2054 kg/ha, respectively. The productivity of rice per unit

could be increased by adopting recommended scientific and sustainable management practices using a suitable improved high yielding variety. Taking into account the above consideration, frontline demonstrations were undertaken in a systematic manner on farmer's field to show the worth of a new variety and convince the farmers to adopt improved production management practices of rice for enhancing productivity. The study was aimed to find out yield, % increase over affecting the adoption of new improved variety.

### OBJECTIVE

To know the popularization of improved variety of rice mahisagar through frontline demonstrations in Gujarat

### METHODOLOGY

The study was conducted in Kheda, Anand, Ahmedabad, Mahisagar, Sabarkantha, Tapi, Dahod and Mehsana district of Gujarat. To popularize the improved Mahisagar variety of rice.

In this methodology, Recommended agronomic practices were used for FLDs in 0.5 ha area. A one fifth area was also devoted to grow local standard check. To study

the impact of front line demonstrations, 80 farmers were participating under the ICAR programme. In this total 20 ha area were covered in front line Demonstrations. Besides, out of 173 participating farmers, a total of 113 farmers were selected as respondent through proportionate sampling under state improvement programme, in this total 28.25 ha area were covered in this study. Production data such as average grain yield of Mahisagar, range of yield, average grain yield of check, range of check and % increase over for FLDs and local practices were collected and analyzed.

## RESULTS AND DISCUSSION

### Performance of FLD

A comparison of frontline demonstrations based on farmers practice was analyzed and presented under ICAR programme in table 1. In this total 20 ha area was covered in front line Demonstrations. During the period of study, it was observed that in front line demonstrations, the improved Rice variety mahisagar recorded the higher average grain yield (4685 kg/ha) as compared to local check (4360 kg/ha). Similarly, the per cent increase new improved rice variety Mahisagar was found to increase 7.5 % in Gujarat condition

**Table 1: Yield and per cent increase over of Front line demonstrations under ICAR programme**

Sr. No.	District	Variety	No. of farmers	Total Area (ha)	Av. G.Y. of M. sagar (kg/ha)	Range (kg/ha)	Av. Yield check (kg/ha)	Range (kg/ha)	% increase over
1	Kheda	Mahisagar	33	8.25	4685	3640-5760	4360	3230-5330	7.5
2	Anand		18	4.50					
3	Ahmedabad		19	4.75					
4	Mahisagar		06	1.50					
5	Sabarkantha		01	0.25					
6	Tapi		01	0.25					
7	Dahod		01	0.25					
8	Mahesana		01	0.25					
<b>Total</b>			<b>80</b>	<b>20.00</b>	-	-	-	-	-

Besides, A comparison of front line demonstrations based on farmers practice were analyzed and presented under state improvement programme in different districts in table 2. Therefore, out of 173 participating farmers, a total of 113 farmers were selected as respondent through proportionate sampling under state improvement programme, in this total 28.25 ha area was covered in this study. During the period under study, it was observed that in front line demonstrations, the improved Rice variety mahisagar recorded the higher average grain yield (5048 kg/ha) in Ahmadabad district as compared to local check (4726 kg/ha). Similarly, the per

cent increase or new improved rice variety Mahisagar was found to increase 6.9 % in Ahmadabad district which was higher as compare other districts. Anand District recorded 4806 kg/ha grain yield as compared to local check (4530 kg/ha). And % increase was found to 6.1 %. Kheda district recorded 4525 kg/ha grain yield as compared to local check (4270 kg/ha), and It % increase was found 6.0 %. When on the basis of overall performance of below mentioned districts of Gujarat, the improved Rice variety mahisagar recorded the higher average grain yield (4796 kg/ha) as compared to local check (4516 kg/ha). Similarly, the per cent increase was found to 6.3%.

**Table 2: Yield and per cent increase over of Front line demonstrations under State programme**

Sr. No.	District	Variety	No. of farmers	Total Area (ha)	No. of farmers Responded	Total Area (ha)	Av. G.Y. of M. sagar (kg/ha)	Range (kg/ha)	Av. Yield check (kg/ha)	Range (kg/ha)	% increase over
1	Kheda	Mahisagar	84	21	54	13.50	4525	3640-5640	4270	3380-5370	6.0
2	Ahmedabad		43	10.75	31	7.75	5048	3940-5780	4726	3620-5520	6.9
3	Anand		34	8.50	20	5.00	4806	3760-5780	4530	3380-5460	6.1
4	Arvalli Chhotaudepur Vadodara, Mahisagar Mahesana, Dahod, Surat, Navsari		12	3.00	8	2.00	4805	4450-5500	4536	4150-5220	6.0
<b>Total</b>			<b>173</b>	<b>43.25</b>	<b>113</b>	<b>28.25</b>	<b>4796</b>	-	<b>4516</b>	-	<b>6.3</b>

From these results it is evident that the performance of improved variety was found better than the local check under local conditions.

### **CONCLUSION**

The study revealed that the productivity, production and area under Rice cultivation can be improved by adopting new improved Mahisagar variety of rice which can be popularized through front line demonstrations in the different districts of Gujarat. In the ICAR programme it was observed that average grain yield of rice in demonstration was 4685 kg/ha as compared local check (4360 kg/ha). The per cent increase was found 7.5 %.

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