

**RESEARCH ARTICLE :**

Extent of adoption of recommended paddy production technology

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SUMMARY : The “adoption process” is the mental process through which an individual passes from first hearing of an innovation to its final adoption, while adoption is a decision to continue the full use of an innovation. Generally, the farmers do not adopt package of practices fully. There is only a partial adoption by them. As a result, the gap always appears between the recommended production technology and their use at farmer’s field. Considering the facts, an attempt was made to find out the extent of adoption of recommended paddy production technology by the farmers. To collect the information pertaining to the study 120 respondents were selected by proportionately from 10 randomly selected villages of Khambhat and Tarapur taluka of Anand district.

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BACKGROUND AND OBJECTIVES

Rice (*Oryza sativa* L.) is an important staple food crop grown worldwide. It belongs to Family Poaceae and Genus *Oryzae*. It is the most important food crop of the world, next to wheat for human consumption. Rice is one of the most important cereal crops of the country. In Gujarat most of the area under rice crop is confined to middle and south Gujarat comprising the districts of Kheda, Anand, Vadodara, Dahod, Godhra, Ahmadabad, Surat, Valsad, Dang and Navsari. Paddy is one of the important commercial crops of Anand district having with total area of 87700 hectares with total production of 1.85 million tonnes (Anonymous, 2011). Khambhat and Tarapur are major rice

growing taluka of the district. Majority of the farmers in the area has undertaken the cultivation of paddy since a very long time. Considering this facts, present study was formulated to find out the extent of adoption of recommended paddy production technology by the farmers.

RESOURCES AND METHODS

To identify the extent of adoption of recommended paddy production technology an interview schedule was developed with the help of experts working in the field and applied on 120 respondents selected from 10 randomly villages of Khambhat and Tarapur taluka of Anand district. Frequency and percentage were used to analyze the data to

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draw the meaningful conclusion.

OBSERVATIONS AND ANALYSIS

Practice wise extent of use (adoption) of paddy production technology followed by respondent paddy growers in study area is presented in Table 1.

Table 1 shows that, majority (66.66 %) respondents used Gujarat-11 and one fourth (25.00 %) respondents used Gurjari variety. Majority (58.32 %) of the respondents transplanted their paddy during the period of fourth week of July to first week of August as per recommendation. While 41.66 per cent respondents transplanted their paddy crop in third week of July.

In case of spacing 54.16 and 16.66 per cent of the respondents transplanted their paddy at the distance of recommended spacing 20x15 cm and 15x15 cm, respectively. While 29.16 per cent respondents followed wider spacing for transplanting. So far plant population is concerned, 62.50 per cent respondent used 33-35 hills/m² while 20.83 per cent of them used 30 hills/m² only 16.66 per cent respondents used 25 hills/m² which is not desirable for profitable cultivation.

In case of use of organic manure 41.66 and 50.00 per cent respondents used it as per recommendation and below recommendation, respectively. Very few (08.33 %) respondent paddy growers used caster cake in paddy field. The poor use of caster cake might be due to high cost and lack of knowledge about recommendation. In case of use of chemical fertilizer 54.16 per cent each of the respondents used nitrogenous and phosphoric fertilizers as per recommendation, respectively. While 33.33 and 29.16 per cent of them used it below recommendations. It might be due to the high prices and shortage of chemical fertilizers. It was also observed that majority (70.83 %) respondents did not use zinc phosphate in paddy field. This might be due to lack of knowledge about recommendation.

So far irrigation is concerned 37.50 and 45.83 per cent respondents applied one to two irrigations to paddy fields as per requirement. Cent per cent respondents followed manual weed control while 33.33 per cent of them followed herbicidal weed control. In case of plant protection measures 45.83, 29.16 and 08.33 per cent of the respondents followed pest control measures as per recommendations, more than recommendations and less than recommendations, respectively. It is interesting to note that 16.66 per cent did not take any pest control

Table 1 : Practice wise extent of technology utilization in paddy cultivation by the respondents (n=120)

Sr. No.	Technology	Frequency	Per cent	Rank
1.	Variety			
	Gujarat-11 (Gujarat-17)	80	66.66	I
	Gurjari	30	25.00	II
2.	Time of transplanting			
	Masuri	10	08.33	III
	Second week of July	00	00	00.00
	Third week of July	50	41.66	I
	Fourth week of July	35	29.16	II
	First week of August	35	29.16	II
3.	Spacing			
	Second week of August	10	08.33	III
	As per recommendation (15x15 cm)	20	16.66	III
4.	Plant population			
	As per recommendation (20x15 cm)	65	54.16	I
	Wider spacing (20x20)	35	29.16	II
5.	Organic manure			
	33-35 hills/m ²	75	62.50	I
	30 hills /m ²	25	20.83	II
6.	Chemical fertilizer			
	25-30 hills /m ²	20	16.66	III
	As per recommendation (10 tonnes FYM/ha)	50	41.66	II
7.	Nitrogenous fertilizers time			
	Below recommendation	60	50.00	I
	More than recommendation	10	08.33	III
	Phosphoric fertilizers			
	As per recommendation (100 kg N/ha)	65	54.16	I
	Below recommendation	35	29.16	II
	More than recommendation	20	16.66	III
	Zinc sulphate			
	As per recommendation (25 kg N/ha)	65	54.16	I
	Below recommendation	40	33.33	II
More than recommendation	15	12.50	III	
8.	Irrigation management			
	Applied as per recommendation	35	29.16	II
	Not applied	85	70.83	I
9.	Plant protection			
	One irrigation (if required)	45	37.50	II
	Two irrigation	55	45.83	I
10.	Weed management			
	Three irrigation	20	16.66	III
11.	Pest control			
	1. Manual weed control	120	100.00	I
	2. Chemical weed control	40	33.33	II
	Disease control			
	As per recommendation	55	45.83	I
	More than recommendation	35	29.16	II
	Less than per recommendation	10	08.33	IV
	Not Adopted	20	16.66	III
	As per recommendation	35	29.16	II
	More than recommendation	15	12.50	IV
Less than recommendation	20	16.66	III	
Not adopted	50	41.66	I	

measures. For control of disease occurred in paddy field 41.66 per cent of the respondents did not take care for diseases control. Remaining 29.16, 12.50 and 16.66 per cent respondents adopted diseases control measures as per recommendations, more than recommendations and below recommendations, respectively. Non-adoption or more and below adoption of pests and diseases control might be due to lack of knowledge about recommendations, high cost of pesticides and fungicides or non-availability of plant protection equipment.

Conclusion :

It can be concluded that majority of the respondents used variety Gujarat-17 and transplanted it during the period of forth week of July to first week of august with the recommended spacing *i.e.*, 20×15 cm or 15×15 cm with the use of 30-35 hills / m². More than half of the respondents used nitrogenous and phosphoric fertilizers as per the recommendation. More than three-fourth of the respondents used one to two irrigations to paddy field as per requirement. But vast majority of the respondents did not use zinc phosphate in paddy field. Cent per cent respondents followed manual weed control and very few of them used herbicides for weed control in paddy field. Nearly half of the respondents followed pest control measures as per recommendation. Whereas, slightly more than one forth paddy growers followed measures against diseases control.

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