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ADOPTION OF RECOMMENDED PADDY PRACTICES BY THE FARMERS OF BISHNUPUR DISTRICT OF MANIPUR STATE

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ABSTRACT

In Manipur, most of the farmers plow paddy. But the success of paddy cultivation depends upon the knowledge and adoption of recommended paddy cultivation practices by the farmers which will reduce the yield gap; a current problem faced by the farmers. Majority of the respondents adopted the recommended variety. Also majority of respondents adopted seed rate, nursery area, age of seedling in nursery, weedicide application in main field, pest and disease management in nursery, manuring in nursery, maintain plant population in main field, weedicide application in nursery, pest and disease management in main field and manuring and fertilizer application in main field.

KEY WORDS: Adoption, Recommended Practices, Food Crop, Yield.

INTRODUCTION

Rice is the most important and extensively grown cereal food crop in India and it is the staple food for more than half of the world population. Rice is grown in world in an area of above 43.5 million hectares. More than 90-95 percent of this area is in Asia. In India, rice is cultivated in an area of about 43.66 million hectares with a production of 91.79 million

tonnes (Siddiq *et al.*, 2001). Rice research programmes in earlier years focused primarily on low inputs and relatively poor crop management practices. Irrigation and drainage were poorly developed throughout the region (Barker *et al.*, 1995). After the introduction of semi-dwarf high yielding rice varieties for the tropics by IRRI during 1984-86, the average rice yields in

south and south-east Asia were 57.00 per cent higher than of 1964-66, The demand for rice will increase by 2.00-3.00 percent annually until at least the year 2020, when growth may stabilize. But by then, the world will have 8,000 million people and 4,300 million of them will be rice consumers (Hargrove, 1990). Since achieving self-sufficiency in rice in the early 1980's, India has successfully sustained this situation. However, given the absence of many of the favorable growth factors of the 1970s and 1980's some indicators of decreasing production and growth over the last ten years was seen. Meeting the projected demand of 130 million tonnes of milled rice by the year 2020 without undue environmental and economic cost is the most challenging task. As there is a minimal scope for horizontal growth, raising the yield levels closer to the genetic ceiling and raising the ceiling itself are the only means for future growth (Siddiq *et al.*, 2001).

Thus, it is useful to delineate problem and non-problem areas of entire ecosystem and to formulate suitable strategies to increase food production. This approach will naturally call for identifying areas for providing specific and multi-pruned stimuli in a given time frame. Various studies indicate that there is a wide gap between available technology and its adoption. So suitable measures to bridge the gap are needed. Hence, there is an urgent need to channelize our efforts to increase the adoption level in lower adopted regions. In view of these, a study to assess the adoption level may be useful to generate technologies and to design promotional strategies.

SPECIFIC OBJECTIVE OF THE STUDY

Keeping these views, the present study for the adoption of paddy farmers on improved paddy practices.

REVIEW OF LITERATURE

Rajivgandhi (2010) pointed that more than two-fifth of the proportion (44.17 per cent)

had medium level of adoption followed by low (37.50 per cent) and high (18.33 per cent) level of adoption.

Mullaivendan (2012) reported that majority of the respondents (41.67 per cent) were found to be medium adopters followed by low (36.66 per cent) and high (21.67 per cent) adopters.

Guna (2013) reported that majority of the paddy growers (80.00 per cent) come under medium level of adoption category. The respondents under low and high levels of adoption category were (19.17 per cent) and (0.83 per cent), respectively.

RESEARCH METHODOLOGY

Bishnupur district of Manipur state was selected for the study. Bishnupur district consists of two blocks namely Bishnupur and Moirang. Among two blocks, Bishnupur block was selected for the study as this block has more area under paddy cultivation. There are three sub-divisions in Bishnupur block namely Nambol sub-division, Moirang sub-division and Bishnupur sub-division. Nambol sub-division was selected for the study based on highest area under paddy cultivation. There are 24 revenue villages in Nambol sub-division. From the list, five villages were selected based on the maximum area criteria. The selected villages are Leimapokpam, Keinou, Pukhrambam, Maibam and Oinam of Nambol sub-division. A sample size of 120 respondents was considered adequate for the study. The number of respondents to be selected in each village was decided by following proportionate random sampling procedure.

Each individual was asked about adoption or non-adoption against each practice. The respondents were also asked to mention the reasons for non-adoption. A score of two was given for adoption and non-adoption was given one score. The score for all these items were added up for each respondent and the adoption score was arrived.

$$\text{Adoption quotient} = \frac{\text{Number of recommended practices adopted}}{\text{Total number of practices recommended}} \times 100$$

FINDINGS AND DISCUSSION

Adoption of recommended paddy practices by the respondents:-

The results on distribution of respondents according to their practice wise adoption are furnished in Table 1 and Fig. 1.

Table 1 reveals that majority of the respondents (85.00 per cent) adopted the recommended varieties for their cultivation. Remaining 15.00 per cent of the respondents did not adopt the recommended paddy variety. Lack of awareness might be the reason for non-adoption of the recommended variety. 78.33 per cent of the respondents adopted the recommended seed rate, whereas 21.67 per cent of the respondents did not adopt the practice. Some of the respondents felt that there may be the possibility of loss of seedling during germination due to heavy rain. Hence they have adopted higher seed rate than the recommended quantity. This might be the probable reason for non-adoption of recommended seed rate by 21.67 per cent respondents. 76.66 per cent of the respondents adopted the recommended nursery area in their cultivation, whereas 23.34 per cent of the respondents did not adopt the recommended nursery area. Some of the respondents expressed that they could not afford to take risk due to poor germination of seeds, pest and disease attack, root snapping problem during pulling out of seedling and hence they have adopted more nursery area. Majority of the respondents 69.16 per cent adopted the recommended number of seedling whereas 30.84 per cent did not adopt the practice. Non-adopters revealed that they were not prepared to take risk and also viewed that excess number of seedlings would result in higher yield. Majority (67.50 per cent) of the respondents adopted the

recommended weedicide application in main field, whereas 32.50 per cent of the respondents did not adopt the recommended weedicide in main field. Lack of conviction about the practice, non-availability of trained labour and high cost of inputs were the reason for non-adoption. Recommended pest and disease management practice in nursery were adopted by 65.00 per cent of the respondents and not adopted by 35.00 per cent of the respondents. Unawareness about pest and disease management techniques, dosage of chemicals, non-availability of labour, high cost of chemicals might be the reason for non-adoption. Majority of the respondents (62.50 per cent) applied the recommended quantity of organic manures in their nursery area. The remaining 37.50 per cent were found to be non-adopters. The non-adoption might be due to the non-availability of required quantity of farm yard manure at the time of sowing, high cost of farm yard manure due to the decreasing cattle population and non-availability of labour for application. Around sixty per cent (59.16 per cent) of the respondents adopted the recommended weedicide application in nursery area whereas 40.84 per cent of the respondents did not adopt then recommended weedicide in nursery area. Lack of conviction about the practice, non-availability of trained labour and high cost of weedicide were the reason for non-adoption. Recommended pest and disease management practices were adopted by 53.33 per cent of the respondents and not adopted by 46.67 per cent of the respondents. Unawareness about pest and disease management techniques, dosage of chemicals, non-availability of labour, high cost of chemicals might be the reason for non-adoption. Half of the respondents (52.50 per cent) applied the recommended quantity of organic manures and inorganic fertilizers in their main

field. The remaining 47.50 per cent did not adopt the practice. The probable reason for non-adoption might be due to the high cost of labour, lack of irrigation facilities etc. Only 44.16 per cent of the respondents adopted this practice and majority (55.84 per cent) of the respondents have not adopted seed treatment practice. This might be due to the fact that the non-adopters were not convinced of the practice. The non-availability of fungicides, lack of skill and high cost of labour at the village level might also be the reason for non-adoption. Only a smaller proportion of the respondents (11.66 per cent) applied the recommended number of Azospirillum packets before transplanting. Whereas 88.34 per cent of the respondents were not willing to adopt the practice even though the Azospirillum packets are cheap. Many of the respondents had pessimistic attitude towards bio-fertilizer. The invisible impact of bio-fertilizer may also be attributed as the reason for poor adoption.

CONCLUSION

Majority of the respondents (85.00 per cent) adopted the recommended variety. The adoption percentage of the practices are; seed rate (78.33 per cent), nursery area (76.66 per cent), age of seedling in nursery (69.16 per cent), weedicide application in main field (67.50 per cent), pest and disease management in nursery

(65.00 per cent), manuring in nursery (62.50 per cent), maintain plant population in main field (60.00 per cent), weedicide application in nursery (59.16 per cent), pest and disease management in main field (53.33 per cent), manuring and fertilizer application in main field (52.50 per cent), seed treatment with fungicides (44.16 per cent) and application of azospirillum before transplanting (11.66 per cent).

RECOMMENDATIONS

The extension workers of State Department of Agriculture and the scientists concerned to conduct mass awareness campaign as a suitable means to reach greater mass effectively and to create awareness among the paddy famers about new cultivation practices, subsequently increase their adoption level. Government and voluntary agencies should organize method demonstration and result demonstration in farmers holdings with less popular practices and to show the worthiness of various practices and thereby to increase the rice yield in this region.

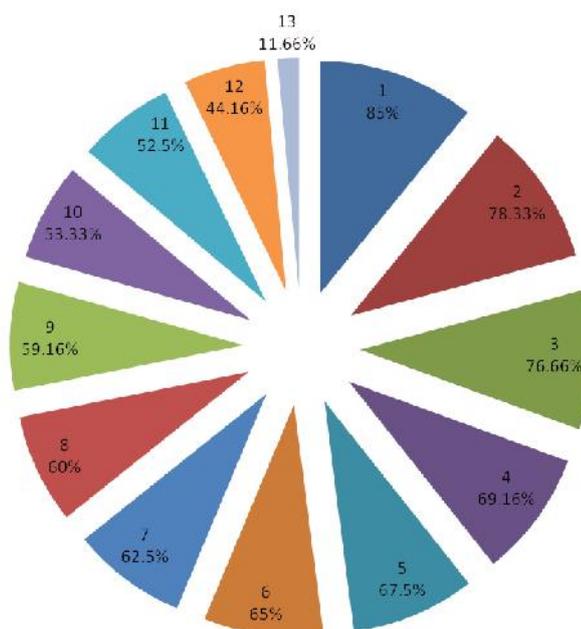
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Table 1. Distribution of respondents according to their practice wise adoption of recommended paddy practices

Sl. No	Recommended Practices	Number of Respondents	Per cent
1	Varieties	102	85.00
2	Seed rate	94	78.33
3	Nursery area	92	76.66
4	Age of seedling in nursery	83	69.16
5	Weedicide application in main field	81	67.50
6	Pest and disease management in nursery	78	65.00
7	Manuring in nursery	75	62.50
8	Maintain plant population in main field	72	60.00
9	Weedicide application in nursery	71	59.16
10	Pest and disease management in main field	64	53.33
11	Manuring and fertilizer application in main field	63	52.50
12	Seed treatment with fungicides	53	44.16
13	Application of azospirillum before transplanting	14	11.66

Fig.1 Distribution of respondents according to their practice wise adoption of recommended paddy practices



- 1- Varieties
- 2- Seed rate
- 3- Nursery area
- 4- Age of seedlings in nursery
- 5- Weedicide application in main field
- 6- Pest and disease management in nursery
- 7- Manuring in nursery
- 8- Maintain plant population in main field
- 9- Weedicide application in nursery
- 10- Pest and disease management in main field
- 11- Manuring and fertilizer application in main field
- 12- Seed treatment with fungicides
- 13- Application of azospirillum before transplanting

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