ISSN: 0975-833X

Available online at http://www.journalcra.com

INTERNATIONAL JOURNAL OF CURRENT RESEARCH

International Journal of Current Research
Vol.7, pp.018-020, August, 2010

RESEARCH ARTICLE

CONSTRAINTS EXPERIENCED BY THE RICE FARMERS IN ADOPTING RECOMMENDED BIOFERTILIZER PRACTICES

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ARTICLE INFO

Article History:
Received 11th May, 2010
Received in revised form
27th May, 2010
Accepted 29th June, 2010
Published online 3rd August, 2010

Key words:
Biofertilizer,
Rice farmers,
Constraints

ABSTRACT

After green revolution the modern agriculture is getting more and more dependent upon the steady supply of inorganic fertilizers. But the recent energy crises and consequent price hike of fertilizers due to withdrawal of subsidy on fertilizers coupled with low purchasing power of farming community force the need to exploit other less expensive nutrient sources to the maximum. In order to raise their income and living standards of these farmers must maximize the crop productivity per unit area in the most effective manner. Bio fertilizer based on renewable energy sources are the cost effective supplement to inorganic fertilizer and it can help to economise on the high investment needed for fertilizers use as far as nitrogen and phosphorus nutrients are concerned. In this paper an analysis of various constrains experienced by the rice farmers in adopting recommended biofertilizer practices are studied. Findings revealed that the major constraints faced by rice farmers were, non availability of labour, lack of interest, lack of confidence towards various biofertilizer practices, lack of technical guidance, lack of training programme and non-availability of viable culture at Government depots.

INTRODUCTION

It is estimated that by 2020, to achieve the targeted production of 321 million tones of food grain, the requirement of nutrient will be 28.8 million tones, while their availability will be only 21.6 million tones being a deficit of about 7.2 million tones (Subhendu Datta, 2009). Increasing costs are getting unaffordable by small and marginal farmers. Excessive and imbalanced use of inorganic fertilizers has adversely affected the soil causing decrease in organic carbon, reduction in microbial flora and fauna of soil, increasing acidity and alkalinity and hardening of soil. Moreover, excessive uses of nitrogenous and phosphatic fertilizers are contaminating water bodies thus affecting health hazards for human beings and animals. And also production of inorganic fertilizers adds to the pollution. To overcome the deficit in nutrient supply and to overcome the adverse effects of inorganic cultivation, it is suggested that efforts should be made to exploit all the available resources of nutrients under the theme of integrated nutrient management. Under this approach the best available option lies in the complimentary use of biofertilizer, organic manures in suitable combination of inorganic fertilizer.Rice is the most important and extensively grown food crop of India. India ranks second (26.00 per cent) in world rice production next to china (32.70 per cent).

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In India rice is grown in an area of 44 million hectares with a production of about 132 million tones. In Tamil Nadu rice is the major crop it is cultivated in an area of 2.12 million hectares with a production of 9.34 million tones. The national average productivity as only 3.21 tones per hectare and the average rice productivity in Tamil Nadu are 4.36 tones per hectare (FAO, 2007).

In most of rice growing areas yield either stagnate or decline due to decrease in organic content in soil. Thus the emerging issues being shifted on to alternate renewable sources of nutrient supply to the crop having biological origin. So that, the complementary use of biofertilizer (Prasad, 1994) was essential to maintain and sustain a higher level of soil fertility and rice productivity. However the biofertilizer faces the problems such as quality control, inconsistent field performance, lack of technical knowledge about the biofertilizer while adoption at farm level (Tandon, 1995). Keeping this in view, the present study was carried out with a specific objective to identify the constraints experienced by the rice farmers in Thiruvarur District of Tamil Nadu (India).

METERIALS AND METHODS

The study was conducted in the rice predominant district of Thiruvarur in Tamil Nadu state. All the ten blocks of the district, i.e. Thiruvarur, Nannilam, Kudavasal, Koradacherry, Thiruthuraipoondi, Mannargudi, Kottur, Muthupettai, Needamangalam and Valangaiman were

selected. A total number of 300 rice farmers were selected following the random sampling method. The constraints were categories (i) lack of interest (ii) lack of confidence towards various biofertilizer practices (iii) non availability of labour (iv) lack of technical guidance (v) lack of training programme and (vi) non-availability of viable culture at government depots. The data were collected with the help of well structured and pre-tested interview schedule. The frequency of respondents indicating each of the constraints was found out and expressed in percentage.

RESULTS AND DISCUSSION

The findings on the constraints experienced by the rice farmers in the adoption of recommended biofertilizer practices are presented in Table 1 and Fig. 1. Table 1 revealed that majority of the respondents (92.33 per cent) reported "non-availability of labour" as their first and foremost constraint followed by "lack of interest" as their second constraint (80.00 per cent). "Lack of confidence towards various biofertilizer practices" was the third important constraint experienced by 75.00 per cent of the respondents. "Lack of technical guidance", "lack of training programme" and "non-availability of viable culture at Government depots" whereas found to be the fourth, fifth and sixth constraints expressed by 66.00, 60.66 and 46.66 per cent of the respondents respectively.

The first foremost constraint expressed by 92.33 per cent of the respondents was "non-availability of labour". During the peak period of every season all the farmers would start their work at the same time hence they would have been a heavy demand for labours. Further now-a-days the agricultural labour prefere to work on the NREGA, Ministry of Rural Development scheme. In addition these, absence of adequate number of family labourers due to the nuclear family systems would have also contributed the labour scarcity. This finding is accordance with findings of Sathasivam (1997).

The second constraint expressed by 80.00 per cent of the respondents was "lack of interest". During the survey, majority of the respondents reported that they were not to change their usual culture operations followed traditionally. Moreover they felt that rice crop does not require any specific technology for its yield contribution and also they give more importance to plant protection aspects only. And they depend much on inorganic fertilizer for higher yield levels and hence they were not much interested in this unfamiliar technology. These may be them probable reasons for the above said constraint. This finding is in line with findings of Subashini (1996). "Lack of confidence towards biofertilizer practices" was reported by 75.00 per cent of the respondents. It is having demerit of lack of visual impact and hence it would not

Table 1. Constraints experienced by the respondents adopting the recommended biofertilizer practices in rice cultivation

(n=300)

S. No.	Constraints	Number or respondents	Per cent	Rank
1.	Lack of interest	240	80.00	II
2.	Lack of confidence towards various biofertilizer practices	225	75.00	III
3.	Non-availability of labour	277	92.33	I
4.	Lack of technical guidance	198	66.00	IV
5.	Lack of training programme	182	60.66	V
6.	Non-availability of viable culture at Government depots	140	46.66	VI

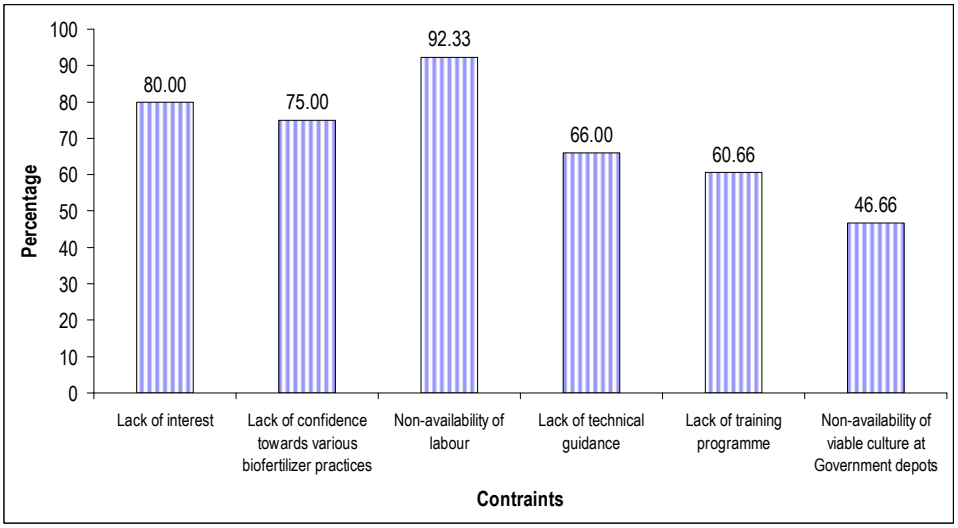

Fig. 1 Constraints experienced by the respondents adopting the recommended biofertilizer practices in rice cultivation

serve the principle of seeing is believing. These conditions might have tempted the respondents to express the constraint. Moreover incomplete information on biofertilizer practices in turn would have lead to lack of confidence. Sathasivam (1996) also reported that lack of confidence in the new biofertilizer technology was one of the most important constraints for adopting the biofertilizer practices in rice cultivation. The fourth constraint experienced by 66.00 per cent of the respondents was "lack of technical guidance" though the extension officials of State Department of Agriculture take intensive efforts to disseminate the biofertilizer practices, they did not provide the complete technical guidance on biofertilizer like the advantages of applying the specific biofertilizer, place of availability, its complementary nature, etc. further more they did not teach the farmers in time. The above said facts were reported by the respondents during the data collection hence this may be attributed reason for such a reported constraint. Sathasivam (1997) also reported that most of the rice farmers expressed lack of technical guidance about the certain new technology as one of the most important constraints in limiting production of rice in Cuddalore District of Tamil Nadu.

"Lack of training programme" was experienced as the fifth constraint by 60.66 per cent of the respondents. Even though the State Department of Agriculture organized various training programme for the farmers, but the number of trainings conducted on biofertilizer were meager as reported by the respondents. This may be the reason for above constraint. The results are accordance with findings of Thyagarajan (1996). "Non availability of viable culture at Government depots" was felt as constraint by 46.66 per cent of the respondents. Most of the respondents reported that they could get only the out dated packets of biofertilizer from the agricultural sales prints. They further reported there was no advantage of applying the out dated packets. This might have prompted the respondents to report this constraint.

CONCLUSION

Non-availability of labour (92.33 per cent), lack of interest (80.00 per cent), lack of confidence towards various biofertilizer practices (75.00 per cent), lack of technical guidance (66.00 per cent), lack of training programme (60.66 per cent) and non-availability of viable culture at Government depots (46.66 per cent) were the major constraints expressed by the respondents in the adoption of recommended biofertilizer practices in rice cultivation.

Prefer the early season in minimize the labour scarsity. Lack of interest, confidence, technical guidance and training programme were other major constraints reported by the respondents, it is suggested that the State Department of Agriculture may give suitable instruction at gross root level extension workers to deliberately intensify and contact all the farmers during the regular and frequent visits and progress achieved may be review periodically. And also State Department of Agriculture may conduct training programme on biofertilizer at village level.

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