RESEARCH ARTICLE

Levels of adoption and encountered barriers of Thiruvarur district farmers of Tamil Nadu on implementation of recommended biofertilizer technologies

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ABSTRACT

Extent of adoption refers to measure how far a particular technology was adopted by an individual correctly without any distortion of message. Efficient transfer of innovative technologies and their adoption to field situations is the key to National agricultural development. Hence, a study was under-taken to assess the levels of adoption and encountered barriers of rice growers on recommended biofertilizer technologies in rice cultivation. The study was taken up in the rice predominant district of Thiruvarur in Tamil Nadu with a sample size of three hundred growers selected based on the random sampling method. The findings revealed that majority of the respondents (51.67 per cent) were found to had medium level of adoption about recommended biofertilizer technologies in rice cultivation followed by low and high level. Out of eight major recommended biofertilizer technologies in rice cultivation, majority of the respondents had high level of adoption on soil application of azospirillum, soil application of phosphobacteria, azospirillum seed treatment and phosphobacteria seed treatment. The study revealed that the major barriers faced by the rice growers 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

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 is 4.36 tones per hectare, which is low when compared to countries like Japan (6.54 tones per hectare), China (6.35 tones per hectare) (FAO, 2007). Inadequate and improper maintenance of soil health is one of the major causes for poor rice yields in most rice growing tracts. In most of the rice growing areas yield either stagnate or decline due to decrease in organic content in soil (Nambiar and Ghosh, 1984).

After the introduction of inorganic fertilizer in the last century, farmers were happy of getting increased yield in agriculture in the beginning. But slowly inorganic fertilizer started displacing their ill-effects such as leaching out, and polluting water basins, destroying micro-organisms and friendly insects, making the crop more susceptible to the attack of diseases, reducing the soil fertility and thus causing irrepairable damage to the overall system. A number of intellectuals through out the world started working on the alternatives and found that biofertilizer can help in increasing the yield without causing the damage associated with inorganic fertilizers. And also, 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 deficiet of about 7.2 million tones (Datta, 2009). Increasing costs of inorganic fertilizers are getting unaffordable by small and marginal farmers.

To overcome the deficiet 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. Therefore complementary use of biofertilizer was essential to maintain and sustain a higher level of soil fertility and rice productivity. Keeping this in view, an attempt has been made to know the extent of adoption and barriers faced by the rice growers on recommended biofertilizers technologies in rice cultivation.

METHODOLOGY

The study was conducted in the rice predominant district of Thiruvarur in Tamil Nadu state. Thiruvarur district consist of ten blocks namely Thiruvarur, Nannilam,