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Uzma Rashid

Division of Agriculture Extension and Communication, Faculty of Agriculture, Sher-e-Kashmir University of Agricultural Sciences and Technology of Kashmir, Srinagar, Jammu and Kashmir, India

Sheikh Muzaffar Ahmad

Division of Agriculture Extension and Communication, Faculty of Agriculture, Sher-e-Kashmir University of Agricultural Sciences and Technology of Kashmir, Srinagar, Jammu and Kashmir, India

Hilal Malik

Division of Agriculture Extension and Communication, Faculty of Agriculture, Sher-e-Kashmir University of Agricultural Sciences and Technology of Kashmir, Srinagar, Jammu and Kashmir, India

Sibat Fayaz

Division of Agriculture Extension and Communication, Faculty of Agriculture, Sher-e-Kashmir University of Agricultural Sciences and Technology of Kashmir, Srinagar, Jammu and Kashmir, India

Naqeeb Raja

Division of Agriculture Extension and Communication, Faculty of Agriculture, Sher-e-Kashmir University of Agricultural Sciences and Technology of Kashmir, Srinagar, Jammu and Kashmir, India

Dawood Yousuf

Division of Agriculture Extension and Communication, Faculty of Agriculture, Sher-e-Kashmir University of Agricultural Sciences and Technology of Kashmir, Srinagar, Jammu and Kashmir, India

Correspondence

Uzma Rashid

Division of Agriculture Extension and Communication, Faculty of Agriculture, Sher-e-Kashmir University of Agricultural Sciences and Technology of Kashmir, Srinagar, Jammu and Kashmir, India

Adoption of manure and fertilizers in rice nursery: A study of Baramulla district of J&K

Uzma Rashid, Sheikh Muzaffar Ahmad, Hilal Malik, Sibat Fayaz, Naqeeb Raja and Dawood Yousuf

Abstract

The study conducted on a random sample of 160 rice growers of Baramulla district of Jammu & Kashmir revealed that a majority of respondents (52%) had applied recommended doses of urea. Those who had applied recommended doses of Diammonium Phosphate were about 38 percent and an equal percentage of them were found to apply Muriate of Potash in their rice nursery.

Keywords: Adoption, manures, fertilizers, urea, diammonium phosphate, Muriate of potash

Introduction

Rice (*Oryza sativa*) is extensively grown as a cereal crop in the world and is staple food of about 2.9 billion people (Lal, 2011) [4]. As a matter of fact, Rice is the life line of people in the Asian countries and India is one of the most important producer as well as consumer of rice. In India, rice is cultivated over an area of 42.65 million hectares with a production of 104.32 million tones and productivity of 2228 kg/ha (Economic Survey 2013-14) [2]. The crop accounts for about 43 percent of total food grain production and 55 percent of cereals production of the country (FAOSTAT, 2013) [3]. It is the staple food in Kashmir and plays a significant role in livelihood of the farmers. Area under the rice crop in the Kashmir valley is about 0.27 million hectares and its productivity is 3.2MT/ha. In District Baramulla of J& K, the area under the crop during 2011-12 to 2014-15 has increased by 5.1 percent but the production during the same period has decreased by 25.72 percent (Directorate of Economics & Statistics, J&K 2015-16) [1]. This might be due to the imbalance use of nutrients which might have adversely affected soil health, nutrient reserve and ultimately the yield. Keeping this in view, the present investigation was conducted with the following specific objectives:

- ❖ To determine the adoption of recommended manures and fertilizers in rice nursery
- ❖ To find out the deviation of manures and fertilizers from the recommendations of SKUAST-Kashmir.

Material and Methods

The present study was conducted in Baramulla District of Jammu and Kashmir. Out of 26 development blocks in District Baramulla, four Development Blocks were selected randomly for the present study. Two villages were randomly selected from each of the four Development Blocks. A list of all the rice growers in eight selected villages was prepared in consultation with the field level extension functionaries of the State Department of Agriculture, Baramulla. Out of the list so prepared, 160 farmers were selected through Stratified Random Sampling technique. The size of the sample from each stratum was proportional to the number of farmers in it. The data were collected through personal interview technique with the help of well structured and pretested interview schedule. The data were digitized, processed and analyzed by applying suitable statistical tools.

Results and Discussion

The main findings of the study are discussed as under:

I. Adoption of Urea in nursery

A perusal of the data presented in Table 1 reveals that majority of the respondents (51.88%) used 75-100% of the recommended dose of urea in nursery followed by 25.62 percent respondents who used 50-75% of the recommended dose of urea. Only 22.50 percent respondents had applied below 50% of the recommended dose.

Table 1: Distribution of respondents according to deviations from the recommended dose of urea applied in rice nursery (n=160)

Dose of urea applied	Number of respondents	Percentage
i) 75-100% of recommended *	83	51.88
ii) 50-75% of recommended	41	25.62
iii) Below 50% of recommended	36	22.50
* Recommended dose of Urea = 275 g/25m ²		

II. Adoption of DAP in rice nursery

The data presented in Table 2 indicated that more than one-thirds of the respondents applied 75-100% of the recommended dose of DAP in nursery followed by 34.38

percent who applied 50-75% of the DAP. Those who had applied below 50% of the recommended dose in nursery were 28.12 percent.

Table 2: Distribution of respondents according to deviations from the recommended dose of DAP applied in rice nursery (n=160)

Dose of fertilizer, DAP applied	Number of respondents	Percentage
i) 75-100% of recommended*	60	37.50
ii) 50-75% of recommended *	55	34.38
iii) Below 50% of recommended	45	28.12
* Recommended Dose of DAP = 450 g/25 m ²		

III. Adoption of MOP in rice nursery

A perusal of data in Table 3 reveals that majority of the respondents (66.88%) applied 50-75% of the recommended

dose of MOP in nursery followed by 33.12 percent of the respondents who applied 75-100% of the MOP of the recommended dose in nursery.

Table 3: Distribution of respondents according to deviations from the recommended dose of MOP applied in rice nursery (n=160)

Dose of fertilizer, MOP	Number of respondents	Percentage
i) 75-100% of recommended *	53	33.12
ii) 50-75% of recommended	107	66.88
* Recommended Dose MOP = 200 g/25 m ²		

IV. Adoption of time of application of fertilizers in rice nursery

A perusal of the data in Table 4 reveals that majority of the respondents had applied Urea (59.37%), DAP (61.25%), and MOP (55.62%) at the recommended time. It was further

observed that 40.63 percent respondents applied Urea 3-5 days after the recommended time. Further, it has been noticed that 38.75 percent and 44.38 percent of the respondents applied DAP and MOP, 3-5 days after recommended time respectively.

Table 4: Distribution of respondents according to deviations from the recommended time of application of fertilizers applied in rice nursery. (n=160)

Time of application	Distribution of respondents according to time of application of fertilizers					
	Urea		DAP		MOP	
	No. of farmers	%age	No. of farmers	%age	No. of farmers	%age
Recommended time	95	59.37	98	61.25	89	55.62
3-5 days after recommended time	65	40.63	62	38.75	71	44.38

Conclusion

It has been concluded from the study that majority of the respondents had applied 75-100% recommended dose of Urea, DAP and 50-75% recommended dose of MOP. About 60 percent of the respondents had applied fertilizers at the recommended time. Therefore, the study implies that awareness camps should be organised by the State Department of Agriculture / KVK's to motivate the farmers to apply the recommended dose/s of Urea, DAP, MOP at the recommended time in rice nursery so that the healthy seedlings may be produced by the farmers. Kisan Goshtis should also be organised before the sowing of paddy nursery so that the farmers may be motivated to apply the recommended doses of fertilizers at the recommended time, besides educating them to get their soil tested and apply fertilizers on soil test basis.

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