

FERTILIZER USE BEHAVIOUR OF RICE FARMERS

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Abstract: Fertilizer use behaviour of rice farmers was analysed through a study conducted in the five National Agricultural Research Project zones of Kerala. Majority of the farmers had satisfactory level in their composite fertilizer use behaviour. But wide variations and low use were noticed in the case of potassic fertilizer and also in the case of split application. Very few farmers were found adopting the specific recommended methods of nitrogenous fertilizer application.

Key words: Fertilizer use behaviour, fertilizer use efficiency, rice farmers.

INTRODUCTION

Fertilizer use efficiency by the farmers is very much related to their fertilizer use behaviour. There are various practices recommended for efficient fertilizer management aimed at increased nutrient availability to the crops and higher yield to the farmers. In order to understand the acceptance and use pattern of these recommended practices among the rice farmers, it is necessary to analyse in detail the fertilizer use behaviour of rice farmers. With this objective, a study was conducted among the rice farmers of Kerala.

MATERIALS AND METHODS

The study was conducted in five National Agricultural Research Project (NARP) zones of Kerala viz., southern, central, northern, high ranges and problem area zones. From the districts with highest rice area in the five zones, a sample of 300 rice farmers was selected following a multistage random sampling procedure.

The fertilizer use **behaviour** of farmers was measured by developing a composite fertilizer use behaviour index (CFUBI). This index was formulated and **standardised** through identification of the major dimensions of nitrogenous, phosphatic and potassic fertilizers and organic manure use behaviour by the rice farmers.

Using a structured and pretested interview schedule, relevant data were collected from the selected respondents. The data were then

analysed using percentages and cumulative root 'P' method.

Table 1. Distribution of farmers based on indices of composite fertilizer use behaviour and those of nitrogenous, phosphatic and potassic fertilizers and organic manures (n = 300)

Sl. No	Fertilizer use index	Category	Freq - uency	Perce - ntage
1	Composite fertilizer use	Very poor	32	10.67
		Poor	73	24.33
		Satisfactory	101	33.67
		Good	94	31.33
2	Nitrogenous fertilizers	Very poor	33	11.00
		Poor	65	21.67
		Satisfactory	111	37.00
		Good	91	30.33
3	Phosphatic fertilizers	Very poor	43	14.33
		Poor	68	22.67
		Satisfactory	94	31.33
		Good	95	31.67
4	Potassic fertilizers	Very poor	64	21.33
		Poor	75	25.00
		Satisfactory	87	29.00
		Good	74	24.67
5	Organic manures	Very poor	77	25.67
		Poor	54	18.00
		Satisfactory	100	33.33
		Good	69	23.00

RESULTS AND DISCUSSION

Table 1 presents the distribution of the respondents under the four categories viz.,

Table 2. Distribution of farmers based on the dimensions of fertilizer use behaviour (n = 300)

Sl. No.	Dimension	Category	Fertilizer/manure							
			Nitrogenous		Phosphatic		Potassic		Organic manure	
			F	%	F	%	F	%	F	%
1	Quantity	Very poor	62	20.67	49	16.33	72	24.00	98	32.67
		Poor	69	23.00	61	20.33	38	12.67	81	27.00
		Satisfactory	122	40.67	142	47.33	129	43.00	67	22.33
		Good	47	15.67	48	16.00	61	20.33	54	18.00
2	Time of application	Very poor	37	12.33	44	14.67	71	23.67	73	24.33
		Poor	55	18.33	74	24.67	16	5.33	43	14.33
		Satisfactory	99	33.00	71	23.67	88	29.33	62	20.67
		Good	109	36.33	111	37.00	125	41.67	122	40.67
3	Split application	Very poor	74	24.67	-	-	70	23.33	-	-
		Poor	66	22.00	-	-	97	32.33	-	-
		Satisfactory	60	20.00	-	-	23	7.67	-	-
		Good	100	33.33	-	-	110	36.67	-	-
4	Type of fertilizer	Very poor	20	6.67	15	5.00	66	22.00	-	-
		Poor	86	28.67	65	21.67	57	19.00	-	-
		Satisfactory	153	51.00	178	59.33	27	9.00	-	-
		Good	41	13.67	42	14.00	150	50.00	-	-
5	Method of application	Very poor	279	93.00	-	-	-	-	-	-
		Poor	14	4.67	-	-	-	-	-	-
		Satisfactory	7	2.33	-	-	-	-	-	-
		Good	0	-	-	-	-	-	-	-
6	Related Management Practices	Very poor	26	8.67	25	8.33	74	24.67	85	28.33
		Poor	102	34.00	84	28.00	69	23.00	112	37.33
		Satisfactory	136	45.33	171	57.00	94	31.33	74	24.67
		Good	36	12.00	20	6.67	63	21.00	29	9.67

'very poor', 'poor', 'satisfactory' and 'good' with respect to their composite fertilizer use behaviour indices (CFUBI) and use of nitrogenous, phosphatic and potassic fertilizers and organic manures. It could be observed from the Table 1 that more than 64 per cent of the farmers were above 'poor' level of fertilizer use behaviour (i.e., 33.67% with 'satisfactory' and 31.33% with 'good' use behaviour). Similar trends were observed in the case of nitrogenous and phosphatic fertilizers and organic manure use behaviour. Only in the case of potassic fertilizer use behaviour, none of the four categories had any observable majority. This directly reflected farmers' low level of use of potassic fertilizers, in comparison to other fertilizers. The observed low level of use could be attributed to lack of

knowledge in different aspects of potassic fertilizer use among the farmers. The NARP Status Report of KAU (1989) pointed out that rice farmers of Kerala were not fully aware of the benefits of balanced nutrition and had observed low adoption.

Table 2 presents the distribution of farmers based on the different dimensions of the nitrogenous, phosphatic and potassic fertilizers and organic manure use behaviour. Based on the quantity of fertilizer used, majority of the farmers were above 'poor' use behaviour. In the case of quantity of organic manure use it could be noticed from the table that majority of the farmers were below satisfactory level (27.00% with 'poor' and 32.67% with 'very poor' use behaviour with respect to the

quantity of organic manure used). This demands serious attention for the promotion of organic manure production and popularisation.

With regard to the time of application of the fertilizers and organic manure, majority of the farmers were above 'poor' level of use behaviour (33.00% with 'satisfactory' and 36.33% with 'good' use behaviour for nitrogenous fertilizers, 23.67% with 'satisfactory' and 37.00% with 'good' use behaviour for phosphatic fertilizers, 29.33% with satisfactory and 41.67% with good use behaviour for potassic fertilizers and 20.67% with 'satisfactory' and 40.67% with 'good' use behaviour for organic manures).

While analysing the split application of the fertilizers, it was noticed that majority of the farmers were below 'satisfactory' level in the case of potassic fertilizers, and almost 46 per cent in the case of nitrogenous fertilisers. The major constraint posed by the farmers for the split application of these nutrients was lack of conviction about the relative advantage of the practice.

It was further noticed from Table 2 with regard to the type of fertilizer used that 50 per cent of the farmers had 'good' level of use behaviour while in the case of the nitrogenous fertilizers and phosphatic fertilizers, majority of the farmers were in satisfactory category only (51% and 59% respectively). Since under the type of fertilizers used, the quantification was done in relation to the straight, complex and mixture fertilizers, the present observation was an indication of the prevalent use of the straight type of potassic fertilizers among rice farmers.

Another interesting observation that could be made from Table 2 is 93.00 per cent of the

farmers were in the 'very poor' use behaviour category with regard to the 'method of application' of nitrogenous fertilizers. There was not even a single farmer under the 'good' level of use behaviour of the method of application and only 2.33 per cent of them came under 'satisfactory' level. The major constraints pointed out by the farmers in this context were lack of knowledge about the specific methods of application, non-availability of the materials and their perceived impracticability. This calls for concerted attention on the part of both the researchers and extension workers.

A very low percentage of farmers had 'good' use behaviour with reference to the dimension of 'related management practices' (12.0%, 6.67%, 21.00% and 67% for nitrogenous, phosphatic, potassic fertilizers and organic manures respectively). This trend underlines the emphasis to be given to the related management aspects of the fertilizer use such as irrigation, drainage, water level maintenance, soil sampling, soil testing and modification in fertilizer use, green manuring, crop rotation, weed control, plant protection etc.

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REFERENCE

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