

Relationship between Profile Characteristics and Knowledge level of State Agricultural University (SAU) and Farmers Practice (FP) Respondents on Nutrient management in rice

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Abstract - The research study was carried out to know relationship between profile characteristics and knowledge level of State Agricultural University (SAU) and farmers practice (FP) respondents on nutrient management in rice in Nalgonda district of Telangana state. The data was collected from 90 respondents randomly representing 15 villages of 3 mandals during the year 2015 using structured interview schedule. The findings revealed that the independent variables viz. farm size, farming experience, irrigation water supply, extension contact, capacity enhancement activities exhibited positive and significant relationship at five per cent level of significance whereas education, information seeking behaviour exhibited positive and significant relationship at one per cent level of significance whereas age, annual income, machinery ownership, profit oriented behaviour exhibited non-significant relationship with knowledge level of SAU respondents. With respect to FP respondents variables like education, annual income, farm size, extension contact, capacity enhancement activities exhibited positive and significant relationship at five per cent level of significance whereas age farming experience, irrigation water supply, information seeking behaviour, machinery ownership, profit oriented behaviour exhibited non-significant relationship with knowledge level of FP respondents.

Keywords: Nutrient Management, Farmers Practice.

I. INTRODUCTION

Rice (*Oryza sativa*.L) is an important staple food for about 70 per cent of the Asian population (nearly 3 billion people). More than 75 per cent of rice worldwide is produced in irrigated rice lands and 90 per cent of these irrigated lands are found predominantly in Asia. In the present days, the different nutrient management packages followed in rice crop includes Site Specific Nutrient Management (SSNM), Recommendations from State Agricultural Universities (SAUs), Research stations as well as farmers are adopting different doses of fertilizers (FP) based on their experience and other different socio economic reasons. There is no single recommendation for rice fertilization which will fit all situations. Fertilizer application will vary considerably,

depending on crop requirements, the availability of fertilizers, the financial resources of the farmer, and most importantly, the ability of the farmer to follow application schedules (some of which can be quite complicated). Tests and field experience under State Agricultural Universities, have shown that the application of 40 kg/acre of nitrogen, 24 kg/acre of phosphorus, and 16 kg/acre of potassium gives optimum results under most local conditions of Telangana state. Of course many farmers will be either unwilling or unable to purchase this amount of fertilizer; they will end up fertilizing at a much lower rate (or not at all).

Decreasing the amount of fertilizer will result in more modest yields, but keep in mind that any amount of fertilizer, no matter how small, will help. If a farmer deeds to fertilize but can afford only one bag of N-P-K 15-15-15 kg per acre, don't necessarily discourage him/her. If applied properly, even this relatively small amount of fertilizer will affect favourable results. Some of the farmer's appear to be skilled in adopting fertilizer application practices. Instead of following the recommended practice, they slightly reduce the amount of NPK or mix NPK and urea fertilizers. The practices are guided by economic incentives; both the need to reduce labour inputs (i.e. to reduce labour costs in the case of mixing fertilizers) and the need to reduce cash outlays (fertilizer input is delivered as credit so farmers reduce the quantity of fertilizer used and increase margins when they sell their cotton).

Therefore, the current practice needs to be guided by identifying threshold level of minimum rate of fertilizer. Keeping these things in view, the present study was undertaken to find out relationship between profile characteristics and knowledge level of State Agricultural University (SAU) and farmers practice (FP) respondents on nutrient management in rice.

II. OBJECTIVE

Relationship between Profile characteristics and Knowledge level of State Agricultural University (SAU) and Farmers Practice (FP) respondents on Nutrient management in rice

III. MATERIAL AND METHODS

The present study was carried out in Nalgonda district of Telangana state during 2015-16. Ex post facto research design is adopted and random sampling was followed for the study. From the Nalgonda district, three mandals were selected and from each mandal five villages were selected based on criteria of large extent of rice cultivation. From each village 3 SAU respondents and 3 FP respondents were selected randomly, making a sample size of 90 respondents. In the light of the objectives set for the study, the variables viz., knowledge of nutrient management in rice crop is the main item of investigation. A knowledge schedule was developed to measure the knowledge level of the respondents about the nutrient management in rice crop. The statements in knowledge schedule was prepared by discussing with experts from Agronomy, Agricultural Extension, KVK staff, Extension Education staff and by referring rice package of practices form book Vyavasaya Panchangam published by Professor Jayashankar Telangana State Agricultural University, Hyderabad, the independent variables like Age, Education, Annual income, Farm size, Farming experience, Irrigation water supply, Information seeking behaviour, Extension contact, Machinery ownership, Capacity enhancement activities and Profit oriented behaviour were the main items of investigation. A pre tested interview schedule was used to collect the data through personal interview method. The statistical tool used is correlation coefficient.

IV. RESULTS AND DISCUSSION

Age with Knowledge

Age was found to be negatively and Non-significantly related with knowledge level of both SAU and FP respondents. As age increases, knowledge level decreases because elderly people will be less educated and are low in recalling abilities, whereas middle aged are more innovative and gains more knowledge. It means that age oldness of the farmers keep them away from getting updated knowledge about nutrient management in paddy crop. This finding is in agreement with the results of Samuel (1993) and Sarma *et al.* (2011).

Education with Knowledge

The association between education and knowledge level of SAU and FP respondents was found to be significant and positive. It is known fact that formal education widens the horizons of an individual. In addition, the possible reason for significant association might be that literate people are more receptive and always in search for new information and technologies which help them to improve their socio economic conditions. Further the understanding of the information learnt from the different sources will be enhanced through education. This finding is on par with the findings of Dubey and Swarnkar (1993), Khan (1999) and Suleman *et al.* (2011).

Table 1: Relationship between independent variables with knowledge level of SAU and FP respondents n=90

Independent variables	SAU Respondents (n=45)	FP Respondents (n=45)
Age	-0.015NS	-0.063NS
Education	0.425**	0.292*
Annual Income	0.010NS	0.214*
Farm Size	0.231*	0.201*
Farming Experience	0.269*	0.135NS
Irrigation Water Supply	0.238*	0.004NS
Information Seeking Behaviour	0.420**	0.004NS
Extension Contact	0.306*	0.270*
Machinery Ownership	0.088NS	0.099NS
Capacity Enhancement Activities	0.236*	0.296*
Profit Oriented Behaviour	0.037NS	0.031NS

r = correlation coefficient, NS = Non significant

*= Significant at 5% **= Significant at 1%

Annual Income with Knowledge

A positive and significant relationship was noticed between the annual income and the knowledge level of the FP respondents. As the income level of the farmer's increases, the quantity of fertilizer utilized also increases. When farmers have enough funds at their disposal, there is the possibility that they purchase more of the fertilizers and hence increase agricultural productivity. Also high income level obtained from the farming boost their morale to search for more information relevant to their farming in order to increase his income. This finding is in accordance with result of Adolwa *et al.* (2006).

Farm Size with Knowledge

Farm size was found to be positively correlated with knowledge levels of both SAU and FP respondents. This inferred that farmers with different farm sizes had different knowledge levels regarding recommended nutrient management practices. With respect to farm size respondents tend to have knowledge about nutrient management practices. The increased farm size of a farmer acts as a driving force to search for new information on fertilizers, manures etc for application in the field. As the farm size increases farmer tunes his mind to cash from farm size by growing some commercial crops, for which he searches for new farming methods, commercial varieties etc. hence a significant relationship had observed between farm size and knowledge levels of SAU and FP respondents on nutrient management in paddy. This finding is in accordance with results of Borkar *et al.* (2000) and Prasad *et al.* (2007).

Farming Experience with Knowledge

A positive and significant relationship was noticed between the farming experience and the knowledge level of SAU respondents. Farming experience possessed by the farmer is one of the prerequisites to take up agriculture as a profession. The farming experience of a farmer will help him in identifying the upcoming problems in farming and in also search for proper solutions from different sources to encounter such problems, and farming experience also helpful in generating new ideas / concepts in farming. This might be the reason for a positive and significant relationship with knowledge levels of SAU respondents. This finding is in accordance with the results of Prasad *et al.* (2007).

Irrigation Water Supply with Knowledge

The irrigation source had the association with knowledge of farmers and also significantly influenced the decision on crop and water management. The irrigation source of farmers had significantly influenced the decision not only on land preparation but also on the different nutrients to be applied, for which irrigation water is needed. The irrigation source of farmers will significantly influence the decision on selection of varieties with different duration, scheduling of planting/sowing and irrigation. This finding is in accordance with the results of Hugar (2014).

Information Seeking Behaviour with Knowledge

Information seeking behaviour is very important and had direct impact on the knowledge levels of the SAU respondents. The increased information seeking behaviour

drives the farmer for the search of new information on nutrient management in paddy crop and also for application in the field. Now a days the Krishi Vigyan Kendra's (KVK) of SAUs offering farm advisory services in which the scientists visit farmers fields weekly in collaboration with Department of Agriculture (DOA) and assess field problems and gives suitable remedial measures, which are the meeting points of SAU respondents with DOA and KVK scientists to get a valuable information from scientists. SAUs also are utilizing all mass media channels like Electronic Media (T.V & Radio) print media, to disseminate latest agricultural technologies to the farmers. The various Television (T.V) Programs (Annadatha-Velugubata, Rythumitra), Crop related Compact Discs (CDs), Crop Seminars, Radio Programs, Print Media, Kisan Call Centre (KCC) and Expert Nodal Centre acts a information sources for the SAU respondents which will enhances their knowledge levels. Therefore the information seeking behaviour found positively and significantly related with knowledge levels of SAU respondents on nutrient management in paddy. This result is in agreement with the results generated by Sligo *et al.* (2005) and Jean-Christophe *et al.* (2007).

Extension Contact with Knowledge

Extension contact exhibited positive and significant relationship with knowledge of the both SAU and FP respondents. The positive and significant relation between extension contact and knowledge level of farmers is quite evident due to the fact that more contacts by the farmers with the extension personnel provide them an opportunity to know and discuss regarding modern nutrient management practices which in turn enriches their knowledge. Greater contacts with extension personnel might have motivated the farmers in various ways and they might have gained more knowledge due to the wider exposure, contact and interaction with source of technical information that is extension personnel. This finding is in accordance with the result of Gholamreza *et al.* (2010).

Machinery Ownership with Knowledge

Machinery ownership was Non-significantly related to the knowledge level of the respondents. As discussed earlier that machinery ownership depends upon individual ability to operate. This is influenced by financial position or economic conditions.

Capacity Enhancement Activities with Knowledge

Capacity enhancement activities exhibited positive and significant relationship with knowledge level of both SAU

and FP respondents. Capacity enhancement activities attended by the farmers sharpen the hidden skills and acts as a medium to imbibe any new knowledge or skill in a given profession. Now days, the DOA staff and SAUs formulating many programs to reach the farmers and moreover KVKs of SAUs was offering many types of training programs both on campus and off campus to upgrade the skills of respondents. The District Agricultural Advisory & Transfer of Technology (DAATT) Centre of the district also organizing Kisan Melas in coordination with line departments and also extending the scientific expertise to the line departments in the conduct of training programmes to farmers. So, the respondents might have got a scope for their capacity enhancement. Hence, the variable capacity enhancement was positively and significantly related to the knowledge level of SAU and FP respondents. This finding is on par with the findings of Erin *et al.* (2004).

Profit oriented behaviour with knowledge

Profit oriented behaviour was Non-significantly related to the knowledge level of the both SAU and FP respondents. The knowledge level of the respondents might be due to their past experience and through use of different mass media or also through interaction between the respondents and the localities in the area which might have led to the Non- significant relationship between profit orientation and knowledge level of the respondents.

Table 2: Correlation between Knowledge and Adoption level of SAU and FP respondents

Group	"r"
SAU Respondents	0.428**
FP Respondents	0.441**

r = Correlation coefficient, **= Significant at 1%

From table 2 it is clear that, there was positive and significant relationship at one per cent significant level between knowledge and adoption level of SAU and FP respondents. This implies that as knowledge of individual increases regarding any technology or innovation they tend to adopt the practice to the full extent regarded that it is suitable to his field conditions. The positive relationship could be attributed to the factors like education, information seeking behaviour, extension contact and capacity enhancement activities which directly or indirectly influence the thinking behaviour of an individual to acquire recent information regarding practice or innovation and in turn influence his adoption decision process.

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