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## Adoption of integrated disease management practices of rice crop in Lailunga block of Raigarh District (Chhattisgarh)

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#### Abstract

A study on adoption of integrated disease management practices in rice crop was conducted in Raigarh district of Chhattisgarh covering one block, six purposively selected villages, and 120 randomly selected respondents to know the adoption of integrated disease management practices of the respondents as well as its associated correlates. A structured and pre-tested interview schedule was used to collect the data. The findings inferred that 60.00 percent of the respondents were middle aged, literates 69.17 per cent, Farming as a major occupation 58.33 percent marginal farmer. Most of the respondents 50.00 per cent belonged to low member group. 69.17 per cent medium social participation, 67.05 percent medium innovativeness. Major of the respondents have medium level of adoption of Integrated Disease Management Practices. The study also revealed that socio-economic variables like, age, education, annual income, mass media exposure, innovativeness, knowledge were found significant relationship with adoption behaviour of the respondents.

**Keywords:** Adoption, Integrated Disease Management, Rice crop.

#### Introduction

Rice (*Oryza sativa*) is grown in most of the tropical and sub-tropical regions of the world and contributes for the staple food of the millions of people. India ranks second in the world, after China in rice production. Rice is a nutritional staple food which provides in instant energy as its most important component is Carbohydrate (48.49gm), protein (13.5gm), fat(16.2gm), minerals (6.6gm), calcium (67mg), fiber (4.4gm), energy (393 kcal) (per 100 gram).

#### Integrated Disease Management

The IDM involves the need based use of fungicide only, when the disease incidence reach economic threshold level and this will promote the build- up of many bio-control agents in the crop ecosystem. Thus, IDM is most effective combination of farming techniques and limited use of fungicide. Keeping in view of the above the present study was conducted to assess the "Adoption of Integrated Disease Management practices of Rice crop in Lailunga block of Raigarh district (Chhattisgarh)".

#### Methodology

The study was conducted in Raigarh district which is situated in South Western part of Chhattisgarh State. The study covered one block, six purposively selected villages, 20 rice growers were selected randomly from each village. Thus, a total of 120 respondents constituted as sample size. Data were collected with the help of pre-structured interview schedule. Collected data were analysed and interpreted in the light of the objective to draw the conclusion.

#### Results and Discussion

##### A. Socio-economic profile of the respondents

The socio-economic profile of the respondents were studied and the data have been given in table:

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**Table 1:** Distribution of respondents according to their socio-economic status (n=120)

SI. No.	Category	Frequency	Percentage
1.	<b>Age</b>		
	Young (20-35 years)	25	20.83
	Middle (36-50years)	72	60.00
	Old (51years and above)	23	19.17
2.	<b>Education</b>		
	Illiterate	37	30.83
	Literate(can read only)	15	12.50
	Primary school	17	14.17
	Middle school	23	19.17
	High school	13	10.83
	Intermediate	10	08.33
	Graduate and above	05	04.17
3.	<b>Occupation</b>		
	Farming	76	63.33
	Farming and services	26	21.67
	Farming and business	18	15.00
4.	<b>Annual Income</b>		
	Up to Rs. 30,000-60,000	60	50.00
	Rs. 60,001-90,000	45	37.50
	Above Rs. 90,000	15	12.50
5.	<b>Family type</b>		
	Joint	52	43.34
	Nuclear	68	56.66
6.	<b>Land holding</b>		
	Marginal farmer(less than 1 hac.)	70	58.33
	Small farmer (1-3hac.)	35	29.17
	Big farmer (3-5hac.)	15	12.50
7.	<b>Social Participation</b>		
	Low (less than 0.76)	11	9.16
	Medium (1-4)	95	79.17
	High (above 5)	14	11.67

**Age:** It was found that 19.17% of the respondents were in the old age group followed by middle age group 60.00per cent and young age group 20.83 per cent respectively. Similar finding is also reported by Sunil Kumar (2004) [2]

**Education:** It was observed that 30.83 percent of the respondents were illiterate followed by middle school 19.17 percent. 19.17 per cent were educated up to Primary school, 12.50 per cent were Literate (can read only), 10.83percent up to High School, 08.33percent were educated up to Intermediate and 04.17 per cent respondents were graduate and above. Similar finding is also reported by Poonam (2010) [3]

**Occupation:** Majority (63.33%) of the respondents were having farming as their main occupation followed by 21.67% farming and services and 15,00% were in farming and business. It inferred that majority of the respondents depend on farming for their day to day earning. It can be concluded that reasonable% of respondents were farmers and having farming as their main occupation. Similar finding is also reported by Venkataramalu (2003) [10]

**Annual income:** Half of the respondents had their annual income between up to Rs. 30,000 – 60,000,37.50% respondents had between Rs. 61,000- 90,000, and 12.50 per cent respondents had income Above Rs. 90,000 per annum. Similar finding is also reported by Raghavendra (2005) [5]

**Family type:** It is clear from the table that 43.34 per cent respondents were belong to joint family where as 56.66%

respondent were from nuclear family category respectively. Similar finding is also reported by Vathsala, B.C. (2005) [9].

**Land holding:** Majority (58.33%) respondents were having less than 1 hac. Of land, 29.17 per cent respondents were having 1-3 hac.of land and 12.5 per cent were having 3-5 hac of land. Similar finding is also reported by Shriwas (2011) [7]

**Social Participation:** Most of the respondents (79.17%) were in medium level of social participation category followed by 11.67 per cent respondent were in the high social participation category and 9.16 per cent were in low social participation category respectively. Similar finding is also reported by Rabari (2006) [6]

## B. Adoption of Integrated Disease Management practices in Rice crop

**Table 2:** Distribution of the respondents according to their overall adoption level about integrated disease management practices of Rice crop: n=120

SI. No.	Adoption Behaviour Category	Frequency	Percentage
1.	Low	20	16.67
2.	Medium	91	75.83
3.	High	09	7.50
	Total	120	100.00

Table 2: It is reveals from table 2 that three fourth of the respondents (75.83%) were under medium category of adoption, followed by low level of adoption (16.67%) and only 7.50 per cent of the farmers were found in high level of adoption of integrated disease management practices. These finding is similar the finding of Singh *et al.* (2011) [8], Badodiya *et al.* (2009) [1].

## Relationship between socio-economic characteristics and adoption of Integrated Disease Management Practices in Rice crop

**Table 3:** Relationship between socio-economic Characteristics and adoption of Integrated Disease Management Practices in Rice crop.

SI. No.	Characteristics	“r” value
1.	Age	0.163*
2.	Education	0.295*
3.	Occupation	0.123*
4.	Annual Income	0.062*
5.	Family type	0.312*
6.	Land holding	0.035NS
7.	Social Participation	0.012NS
8.	Knowledge	0.232*

\* = Significant at p = 0.005 NS = Non Significant

The result of correlation analysis in above table 3 revealed that characteristics namely Age (0.163\*), Education (0.295\*), Occupation (0.123\*), Annual income (0.062\*), Family type (0.312\*), participation in extension activitand level of knowledge (0.232\*) were positively and significantly related to adoption of Integrated Disease Management Practices in Rice crop respectively. It may be due to their background. Similar finding is also reported by Prajapati *et al* (2002).

The socio-economic characteristics namely land holding (0.035N.S.) and social participation (0.012NS) were found to positively but non-significant related to adoption of Integrated Disease Management Practices in Rice crop respondents respectively.

## Conclusion

It was concluded that majority of the respondents were middle in age group literate, low level of annual income, marginal farmers, medium level of social participation, low level of innovativeness, overall medium level of knowledge. Majority of the respondents have medium level of adoption of Integrated Disease Management practices. Proper training should be provided to the respondents regarding Integrated Disease Management practices for better adoption.

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