

**RESEARCH ARTICLE :**

Adoption level of recommended practices of red gram by beneficiary and non-beneficiary farmers

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SUMMARY : The research was conducted in Vijayapura district of Karnataka during the year 2019-20 with the sample size of 120 respondents. The findings revealed that, in case of beneficiary farmers about 41.67 per cent of the red gram farmers were found in high level of adoption category. While, in case of non-beneficiary farmers about 43.34 per cent of the red gram farmers were found in medium level of adoption level category. It is clear that, in case of beneficiary farmers about cent (100.00 %) per cent of the respondents have fully adopted red gram variety, recommended seed rate, intercultivation and weeding. Whereas, 83.33 per cent of the respondents have fully adopted recommended spacing, 76.67 per cent fully adopted pest management, 75.00 per cent fully adopted timely sowing and disease management, 73.33 per cent have fully adopted summer ploughing, 70.00 per cent fully adopted seed treatment, 66.67 per cent have fully adopted recommended dose of fertilizer, 51.67 per cent fully adopted nipping practice. It is clear that, in case of non-beneficiary farmers about cent (100.00 %) per cent of the respondents have fully adopted red gram variety and weeding. Followed by, 90.00 per cent have fully adopted recommended seed rate, 83.34 per cent have fully adopted intercultivation, 71.67 per cent have fully adopted seed treatment and recommended dose of fertilizer application, 70.00 per cent have fully adopted pest management, 68.33 per cent have fully adopted summer ploughing. Further about 56.67 per cent have fully adopted time of sowing, 55.00 per cent have adopted disease management.

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BACKGROUND AND OBJECTIVES

Agriculture is a way of life and it is a major occupation as source of livelihood and economy of rural Indians. The development of Agriculture depends upon the diffusion, knowledge and adoption of recent technological interventions. The technological progress in Agriculture has capabilities and potentialities for growth. In spite of recent developments in Agricultural technology *i.e.*,

the situation is delicately balanced between populations rise and increase in food production. Hence, the planned efforts are needed to extend the technological achievements to the farming communities, so that they can transform Agricultural pursuits from the traditional subsistence farming into a modern one.

India is a leading pulse growing country. The pulse cultivation is an important part of

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the cropping system of the farmers in the country because these crops fit well in the crop rotation and crop mixtures. Pulses are highly adaptive to dry land areas of the country. Pulses are also good source of farmer's income, as well an important source of daily diet. Protein requirements of food and nutrition are met by consumption of cooked pulses *i.e.* Arhar, urd, moong, gram, pea and lentil are the important pulses. Majority of Indian population is vegetarian and they mostly eat "Dal" *i.e.*, popularly known as Turdal. It occupies the major source of daily diet. It is the product obtained by red gram or pigeonpea.

Red gram or pigeonpea (*Cajanus cajan* L.) is the second most important pulse crop in India after chickpea. It has many uses and plays a major role in the country's current farming systems. The red gram is the seasonal crop and belongs to the family Fabaceae or Leguminaceae. It's been a popular food in Asia, Africa and Latin America since their domestication in the Indian subcontinent at least 3,500 years ago. It is consumed primarily in South Asia on a large scale and is a major protein source for the population of the Indian subcontinent. It also plays an important role in sustainable agriculture by improving the soil fertility by biological fixation of nitrogen along with this crop's deep root system, which makes it more suitable for cultivation under rainfed conditions.

Looking to the importance of red gram crop of the area and importance of frontline demonstration conducted by KVK, the present study was conducted to understand the influence of farmers' frontline demonstration on the adoption of improved cultivation practices of red gram by farmers of Vijayapura district with the following specific objectives. To measure the adoption level of beneficiary and non-beneficiary Red gram farmers

RESOURCES AND METHODS

The research study was conducted in Vijayapura district of Karnataka. A list of FLD beneficiary farmers was obtained from the KVK Vijayapura from the years 2015-16, 2016-17 and 2017-18. From the list 60 FLD beneficiary farmers was selected randomly. A list of non-beneficiary farmers of non-FLD villages who have grown red gram for three years was obtained from the Karnataka state Department of Agriculture (KSDA). From the list 60 FLD non-beneficiary farmers will be selected randomly. Therefore, 60 beneficiaries and 60

non-beneficiaries was selected. Thus, the total sample size was 120.

The dependent variables selected for the study were adoption level whereas, age, education, land holding, annual income, farming experience, extension participation, mass media participation, innovativeness, economic motivation and cosmopolitaness were the independent variables selected for the study.

A schedule was developed and personal interview method was administered to collect the information in the light of objectives of the study. Package of practices recommended by University of Agricultural Sciences, Dharwad for the cultivation of red gram was considered for the study. The data collected were tabulated and analyzed by using suitable statistical tools like mean, frequency, percentage, standard deviation and correlation test.

Adoption of red gram production technology was operationally defined as the extent to which red gram production technology were adopted by the red gram farmers.

Based on the review of earlier literature and consultation with the scientists of Agriculture and package of practices of UAS, Dharwad. The important practices which were directly or indirectly related to the red gram production technology were selected to know the pattern and extent of adoption. Thus, totally 16 practices were selected for the study. The responses provided by the respondents were measured as fully adoption, partially adoption and non-adoption of red gram production technologies.

The following score was given for fully adoption, partially adoption and non-adoption of the red gram production technology practices.

The maximum score that respondents could obtain was 32 and the minimum was zero. Depending upon the total score obtained by each of the respondent, they were grouped into three categories with mean and standard deviations (SD) as a measure of check and are expressed as below.

Further frequency and percentage were calculated to present the data. The procedure was followed by Manjunath (2011).

OBSERVATIONS AND ANALYSIS

The experimental findings obtained from the present study have been discussed with the following heads:

Overall adoption level of red gram farmers about recommended cultivation practices:

It was evident from the Table 1 and Fig. 1 that, in case of beneficiary farmers about 41.67 per cent of the red gram farmers were found in high level of adoption category, followed by medium level of adoption with 31.67 per cent and 26.66 per cent of the respondents belonged to low level of adoption category. In case of non-beneficiary farmers about 43.34 per cent of the red gram farmers were found in medium level of adoption level category, followed by high level and low level of adoption with 28.33 per cent.

The possible reason for the above findings could be that, those practices which were easy to adopt and required less skill were adopted by more number of

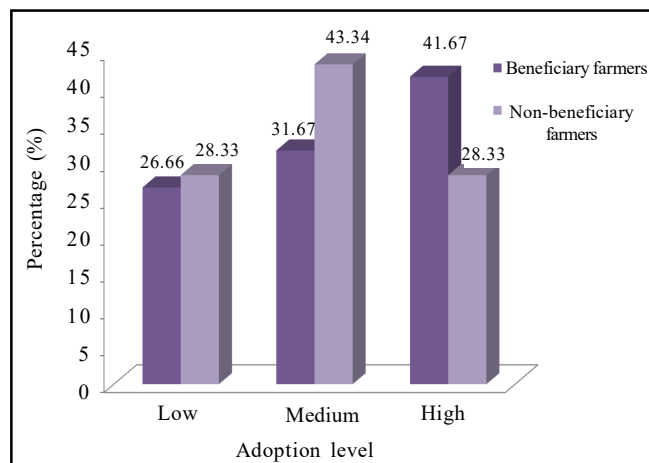


Fig. 1: Overall adoption level of red gram growers about recommended cultivation practices

Sr. No.	Category	Beneficiary farmers (n ₁ =60)		Non-beneficiary farmers (n ₂ =60)	
		Frequency	Percentage	Frequency	Percentage
1.	Low	16	26.66	17	28.33
2.	Medium	19	31.67	26	43.34
3.	High	25	41.67	17	28.33
		Mean =26.21	SD = 4.00	Mean =23.25	SD =4.15

Sr. No.	Practices	Beneficiary farmers (n ₁ =60)						Non-beneficiary farmers (n ₂ =60)					
		Full adopted		Partial adopted		Not adopted		Full adopted		Partial adopted		Not adopted	
		F	%	F	%	F	%	F	%	F	%	F	%
1.	Summer ploughing (1 time ploughing + 2 times harrowing should be done in March-April)	44	73.33	0	0.00	16	26.67	41	68.33	0	0.00	19	31.67
2.	Red gram variety (TS – 3R)	60	100.00	0	0.00	0	0.00	60	100.00	0	0.00	0	0.00
3.	Recommended seed rate @ 10 -12 kg/ha	60	100.00	0	0.00	0	0.00	54	90.00	0	0.00	6	10.00
4.	Seed treatment	42	70.00	0	0.00	18	30.00	43	71.67	0	0.00	17	28.33
5.	Time of sowing (June 15 th – July 15 th)	45	75.00	0	0.00	15	25.00	34	56.67	0	0.00	26	43.33
6.	Recommended spacing (90 x 30cm)	50	83.33	10	16.67	0	0.00	6	10.00	0	0.00	54	90.00
7.	Recommended dose of FYM application	30	50.00	11	18.33	19	31.67	24	40.00	22	36.67	14	23.33
8.	Recommended dose of fertilizer application	40	66.67	18	30.00	2	3.33	43	71.67	17	28.33	0	0.00
9.	Frequency of irrigation	10	16.67	11	18.33	39	65.00	9	15.00	8	13.33	43	71.67
10.	Growth regulator (NAA (planofix) @ 0.5 ml/lit of water)	9	15.00	0	0	51	85.00	6	10.00	0	0.00	54	90.00
11.	Intercultivation	60	100.00	0	0.00	0	0.00	50	83.34	0	0.00	10	16.66
12.	Nipping practice	31	51.67	0	0	29	48.33	22	36.67	0	0.00	38	63.33
13.	Weeding	60	100.00	0	0	0	0.00	60	100.00	0	0.00	0	0.00
14.	Pest management	46	76.67	14	23.33	0	0	42	70.00	18	30.00	0	0.00
15.	Disease management	45	75.00	12	20.00	3	5.00	33	55.00	1	1.67	26	43.33
16.	Intercropping	5	8.33	0	0.00	55	91.67	4	6.67	0	0.00	56	93.33

F – Frequency % - Percentage

respondents. While those practices, which required more knowledge and skills were adopted by less number of respondents. Also frontline demonstration organized by Krishi Vigyan Kendra Vijayapura has created a positive impact in increasing the adoption of recommended package of practices by the beneficiary farmers. The results are in conformity with the findings of Raghavendra (2010) and Dheeraj *et al.* (2013).

Adoption levels of red gram farmers about recommended individual cultivation practices:

From the Table 2 and Fig.2a, it is clear that, in case of beneficiary farmers about cent (100.00 %) per cent of the respondents have fully adopted red gram variety, recommended seed rate, intercultivation and weeding. Whereas, 83.33 per cent of the respondents have fully adopted recommended spacing, 76.67 per cent fully adopted pest management, 75.00 per cent fully adopted timely sowing and disease management, 73.33 per cent have fully adopted summer ploughing, 70.00 per cent fully

adopted seed treatment, 66.67 per cent have fully adopted recommended dose of fertilizer, 51.67 per cent fully adopted nipping practice, 50.00 per cent fully adopted recommended dose of FYM application, 16.67 per cent fully adopted irrigation frequency, 15.00 per cent have fully adopted growth regulator and leastly 8.33 per cent of the respondents have fully adopted intercropping. Further, about 30.00 per cent partially adopted recommended dose of fertilizer application, 23.33 per cent partially adopted pest management, 20.00 per cent partially adopted disease management, 18.33 per cent partially adopted irrigation frequency and recommended dose of FYM application, 16.67 per cent of beneficiary farmers partially adopted recommended spacing.

From the Table 2 and Fig.2b, it is clear that, in case of non-beneficiary farmers about cent (100.00 %) per cent of the respondents have fully adopted red gram variety and weeding. Followed by, 90.00 per cent have fully adopted recommended seed rate, 83.34 per cent have fully adopted intercultivation, 71.67 per cent have

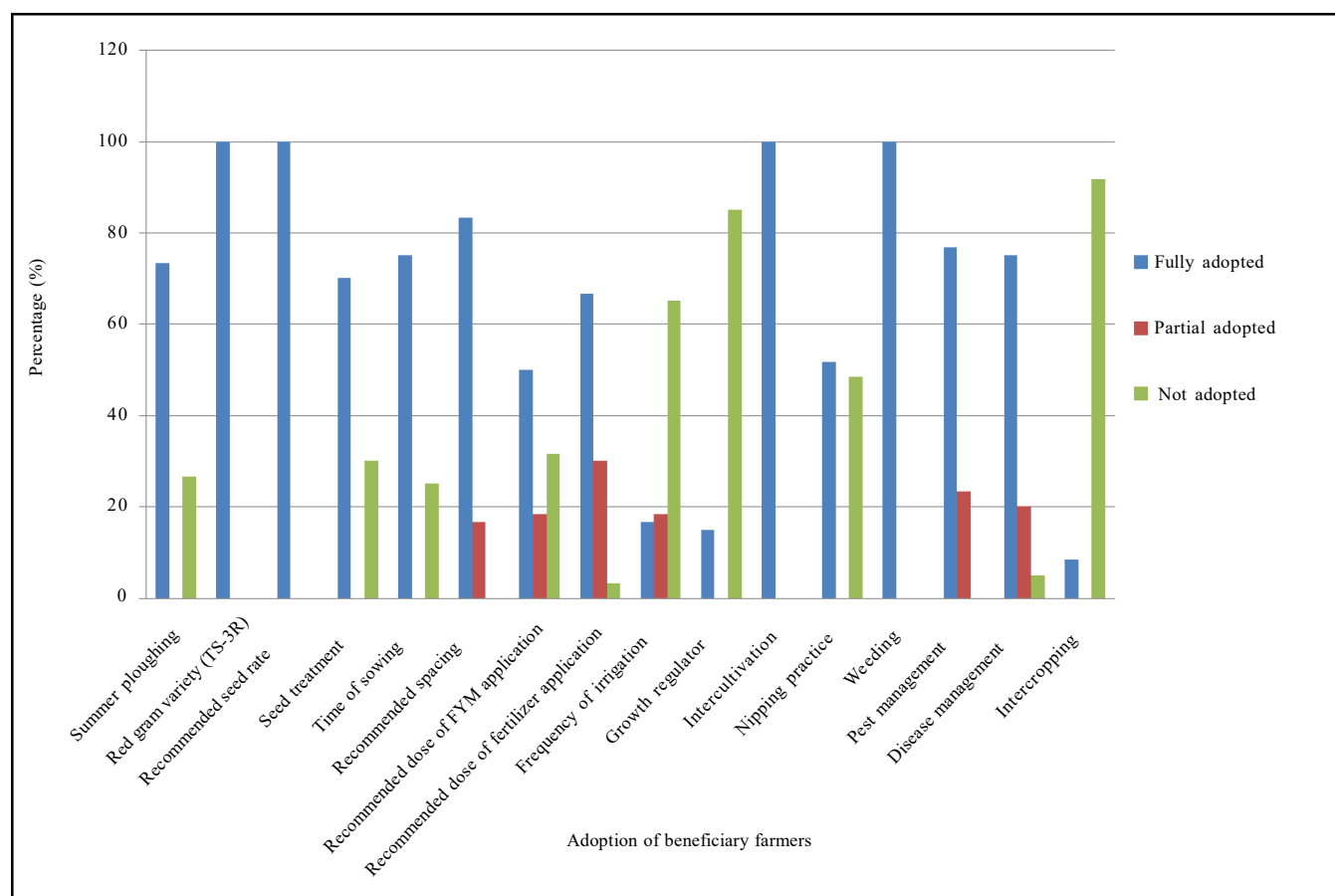


Fig. 2a : Adoption levels of beneficiary red gram growers about recommended cultivation practices

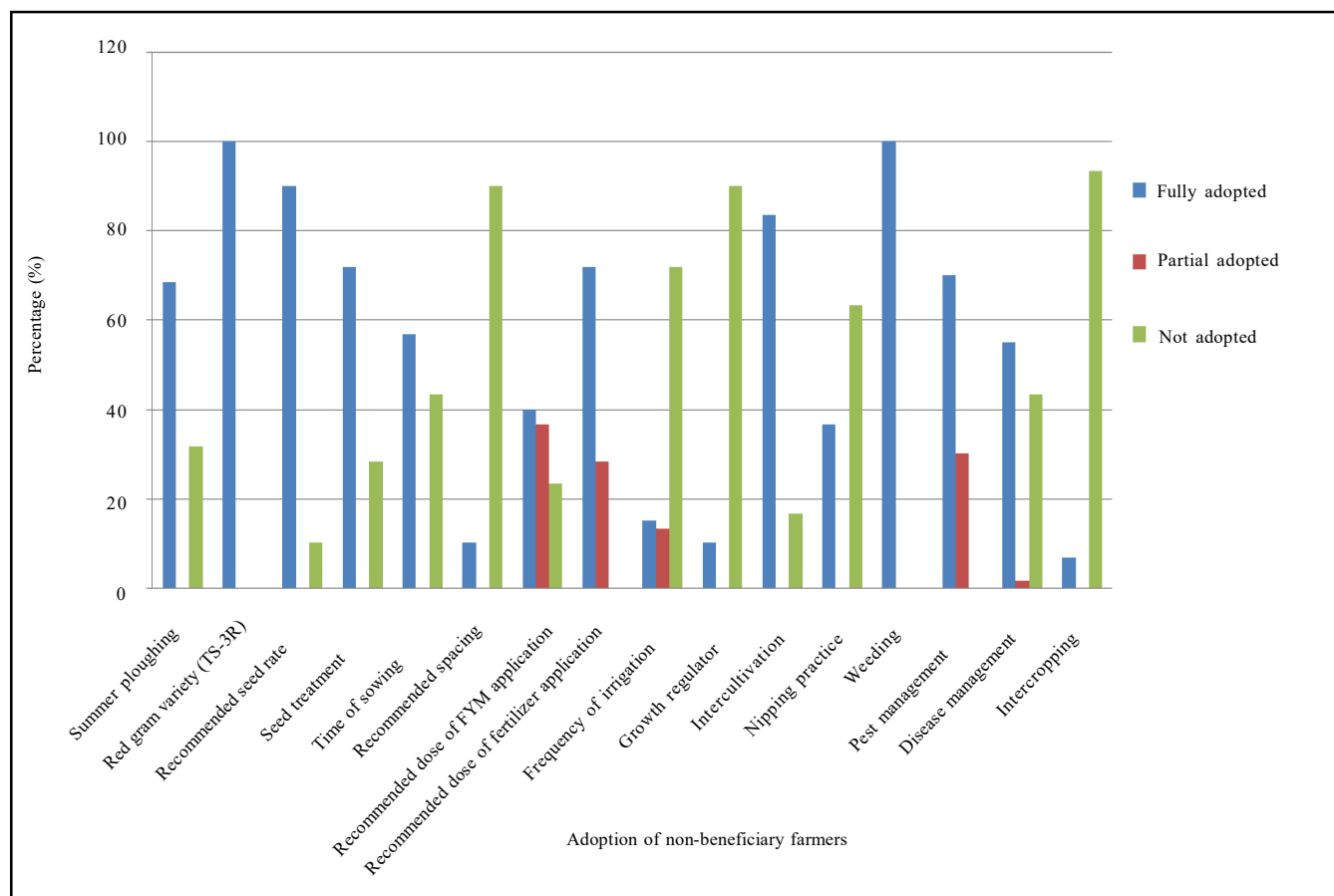


Fig. 2b : Adoption levels of non-beneficiary red gram growers about recommended cultivation practices

fully adopted seed treatment and recommended dose of fertilizer application, 70.00 per cent have fully adopted pest management, 68.33 per cent have fully adopted summer ploughing. Further about 56.67 per cent have fully adopted time of sowing, 55.00 per cent have adopted disease management, 40.00 per cent have fully adopted recommended dose of FYM application, 36.67 per cent have fully adopted nipping practice, 15.00 per cent have fully adopted irrigation frequency, 10.00 per cent have fully adopted recommended spacing and growth regulator and leastly 6.67 per cent have adopted intercropping. Further, about 36.67 per cent of non-beneficiary farmers partially adopted recommended dose of FYM application, 30.00 per cent have partially adopted pest management 28.33 per cent partially adopted recommended dose of fertilizer application, 13.33 per cent partially adopted irrigation frequency and 1.67 per cent partially adopted disease management.

The possible reason for higher adoption of these practices might be simplicity and necessity of the

practices, which can be practiced by making use of their own knowledge and resources without reliance on any external agency. Further, farmers as a result of their farming experience have themselves found the usefulness of these practices. This might be another factor for adoption of these practices by large number of respondents in both the categories of farmers.

Majority of both beneficiary and non-beneficiary farmers partially adopted practices like recommended dose of fertilizer, pest management, disease management, recommended dose of FYM and irrigation frequency.

The possible reasons for this trend might be that, the trained respondents might have exposed properly and convinced about the profitability and practicability of these practices.

Similarly majority of both beneficiary and non-beneficiary farmers did not adopt practices like intercropping (91.67 % and 93.33 %), growth regulator (85.00 % and 90.00 %) and irrigation of frequency (65.00 % and 71.67 %).

Probable reason for non-adoption of these practices might be non-availability of chemicals in time and lack of proper knowledge regarding use of chemicals. So it is very essential to educate farmers regarding these practices in order to motivate them to adopt, as these practices are very important from the yield point of view. The above results were in accordance with the findings of Manjunath (2011).

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REFERENCES

Dheeraj, M. L., Meena, M.K., Choudhary and Tomar, P.K. (2013). Improved package of practices for cumin farmers: Impact of training and FLDs. *Int. J. Seed Spices*, **3**(1): 52-57.

Raghavendra, K. M. (2010). An impact front line demonstration of sunflower on farmer's knowledge and adoption- A study in Bijapur district of Karnataka. M. Sc. (Ag.) Thesis, University of Agricultural Sciences, Dharwad (India).

Manjunath, V. B. (2011). A study on knowledge and adoption of Bt cotton recommended production practices followed by farmers in Raichur district of Karnataka. M. Sc. (Ag.) Thesis, University of Agricultural Sciences, Raichur, Dharwad (India).

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