

## **EXTENT OF KNOWLEDGE AND ADOPTION OF IMPROVED OPIUM CULTIVATION TECHNOLOGY AMONG FARMERS IN CHITTORGARH DISTRICT OF RAJASTHAN**

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### **ABSTRACT**

*The present study was conducted in four tehsils of Chittorgarh district of Rajasthan. Total 200 respondents from these tehsils were selected as sample of study, out of which equal number of respondents were small and large patta holders. Data were collected by personal interview technique. The study revealed that 58.50 per cent respondents possessed high knowledge about improved opium poppy cultivation practices, while 20.50 per cent had poor knowledge about improved opium production technology. The study further indicated that 48.00 per cent and 37.00 per cent opium growers had high and medium level of adoption. Whereas, 15.00 per cent respondents possessed low level of adoption about opium production technology.*

### **INTRODUCTION**

In the modern era, the innovations in the field of agriculture are coming at a very fast pace. This is also true that all the innovations are not being accepted by the farmers. There may be many possible reasons for non or partial adoption. Likewise there may be many factors which an individual farmer considers before taking decision about adoption of any innovation.

It is universally accepted that knowledge of the idea is a pre-requisite for adoption. In order to increase the level of adoption, farmers must be made aware of the recent knowledge about the technologies.

India is one of the largest producer of opium alkaloids in the world and also a large supplier of opium to meet the world demand. After 1980 and onwards, the average yield of this crop in India was recorded to be 35 kg latex per hectare whereas, in Chittorgarh district of Rajasthan the average yield of latex was 46-50 kg per hectare, which

evidently proves the potentiality of the area in opium latex production. This call for a need to conduct a research study with the following specific objectives:

1. To find out the existing level of knowledge and knowledge gap among opium poppy cultivators about recommended opium poppy cultivation practices.
2. To assess the level of adoption of opium production technology among the opium poppy cultivators in the study area.

### **METHODOLOGY**

The present study was conducted in four tehsils viz., Nimbaheda, Bhadesar, Chittorgarh and Bagun of Chittorgarh district of Rajasthan which had maximum area under opium poppy cultivation. Five villages from each identified tehsil were selected on the basis of maximum area under opium poppy cultivation.

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From each identified village, ten respondents were selected by random sampling technique. Thus, the sample for the study composed of total 200 respondents. The respondents were classified in to two categories of small patta holders and large patta holders with 100 respondents in each category. Data were collected by the investigator with the help of a structured schedule employing personal interview technique. Thereafter, data were analysed, tabulated and interpreted in the light of objectives of the study.

## RESULTS AND DISCUSSION

Table 1 shows that more than half of the respondents i.e. 58.50 per cent fell in the high knowledge group, while remaining 41.00 per cent respondents were found to be distributed almost equally in medium and low knowledge categories.

Data presented in table further indicate that 62.00 per cent of the small patta holders possessed high knowledge about opium poppy production practices. This was followed by 23 per cent respondents with low knowledge and 15 per cent with medium level of knowledge. Similarly among the large patta holders 55 per cent respondents had high, while 27 per cent respondents were reported to have medium level of knowledge about opium poppy cultivation practices. The number of large patta holders having low level of knowledge were found to be 18 per cent in the study sample. The findings are in line with the findings of Nimje, *et. al.*

(1993) who revealed that two third (76.19 per cent) respondents were having high level of knowledge, whereas, about one third (21.42 per cent) of the respondents were having medium level of knowledge and only a few (2.39 per cent) were having low knowledge about poultry enterprise aspect.

It is evident from data presented in Table 2 that the practices like harvesting & threshing, lancing and latex collection and irrigation possessed 100.00 mean per cent score leading to no knowledge gap among the opium poppy cultivators. Further, it was interesting to note that intercultural operations and soil and soil preparation practices were also known well by the respondents, which led to nearly no knowledge gap in these practices. This may be due to the accumulated experience of last many years gained by the opium poppy cultivators.

It is alarming to note that seed treatment & method of sowing were such a practices in which almost 80 per cent knowledge gap existed. Likewise, the respondents possessed 30.62 per cent knowledge about high yielding varieties of opium poppy, consequently a remarkable knowledge gap of 69.38 per cent was reported. Around 50 per cent of the opium poppy cultivators are still unacquainted with the recommended fertilizer application. There also existed a knowledge gap of 43.51 per cent with regard to soil treatment in opium poppy crop. The overview of data indicates relatively higher knowledge gap in seed treatment and

**Table 1: Distribution of respondents on the basis of level of knowledge of improved opium cultivation practices**

S. No.	Category	Number of respondents			
		Small patta holders (n=100)	Large patta holders (n=100)	Total score (n=200)	
		F	F	F	P
1.	Low	23	18	41	20.50
2.	Medium	15	27	42	21.00
3.	High	62	55	117	58.50

F = Frequency,

P = Percentage,

n = Number of respondents

**Table 2 : Extent of knowledge and knowledge gap of opium poppy cultivators**

Sr. No.	Practices	No. of respondents					
		Small patta holders (n=100)		Large patta holders (n=100)		Total score (n=200)	
		MPS	Knowledge Gap (P)	MPS	Knowledge Gap (P)	MPS	Knowledge Gap (P)
1.	HYVs	30.47	69.53	30.77	69.23	30.62	69.38
2.	Soil and soil preparation	97.20	2.80	97.00	3.00	97.1	2.90
3.	Soil treatment	56.33	43.67	56.66	43.44	56.49	43.51
4.	Seed treatment & method of sowing	20.66	79.34	21.33	78.67	20.99	79.01
5.	Fertilizer application	50.00	50.00	49.71	50.29	49.85	50.15
6.	Irrigation	100.00	0.00	100.00	0.00	100.00	0.00
7.	Intercultural operations	100.00	0.00	99.50	0.50	99.75	0.25
8.	Lancing and latex collection	100.00	0.00	100.00	0.00	100.00	0.00
9.	Harvesting and threshing	100.00	0.00	100.00	0.00	100.00	0.00
	Total	63.03	36.97	63.11	36.89	63.07	36.93

MPS = Mean per cent score, P = Per cent

method of sowing, high yielding varieties, fertilizer application and soil treatment. This may be due to the complexity involved in understanding these practices.

Thus, from the results it can be concluded that a knowledge gap with respect to the recommended cultivation practices ranges from 0.00 to 79.01 per cent in the study area. On comparison, a little variation in knowledge and knowledge gap of small and large holders was observed. On the whole the farmers of the study area possessed 63.07 per cent knowledge about opium poppy cultivation leading to knowledge gap of 36.93 per cent which needs to be bridged in the study area.

The findings of the study are in line with the findings of Wasnik (1993) observed that there is an ample scope for increasing sugarcane productivity per unit area by providing package of practices in different stages of crop production.

To get an overview of adoption of opium poppy cultivation practices, the respondents were grouped into three categories i.e. low adoption, medium adoption and high adoption group. These categories were worked out on the basis of calculated mean and standard deviation of the adoption scores obtained by the respondents as a whole. The results have been presented in Table 3.

**Table 3 : Distribution of respondents on the basis of adoption of improved opium poppy cultivation practices**

S. No.	Category	Number of respondents			
		Small patta holders (n=100)	Large patta holders (n=100)	Total score (n=200)	
		F	F	F	P
1.	Low	17	13	30	15.00
2.	Medium	32	42	74	37.00
3.	High	51	45	96	48.00

F - Frequency, P - Percentage

The data in Table 3 indicate that nearly half of the total respondents fell in the high level of adoption group. This was followed by 37.00 per cent respondents in medium and remaining 15 per cent in the low level adoption group. A close observation of data further show that among the small patta holders categories 51 respondents possessed high adoption level as against 45 large patta holders who could be placed in high adoption category.

The number of large patta holders were little more than small patta holders in medium level of adoption category. On the whole, it can be said that the respondents in general had average adoption of opium poppy cultivation practices in their fields.

The data accorded in Table 4 explain practice wise adoption of opium poppy by the respondents to get a clear picture of adoption. The frequencies of respondents in two categories on a continuum (fully adopted and partially adopted) were counted and per cent score for individual

practice was calculated. A glance to the data in Table 4 indicate a general satisfactory adoption of all the recommended practices of opium poppy cultivation.

The frequency of respondents in terms of percentage in fully adopted category ranged from 12.50 per cent to 88.50 per cent. Contrary to this, in partially adopted category the percentage ranged from 11.50 to 87.50 per cent. This, in turn, reflects that there existed a tremendous scope of improving the level of adoption among the opium poppy cultivators in the study area. Surprisingly, in case of high yielding varieties 87.50 per cent respondents were reported in the category of partial adoption. Further seed treatment (82.50 per cent) in opium poppy cultivation was partially adopted by a fair majority of respondents as well as 63.00 per cent were reported to have partial adoption of recommended manure and fertilizer application in opium poppy crop.

It is interestingly to note that lancing and latex collection (88.50 per cent), harvesting

**Table 4 : Adoption of opium poppy production technology by the respondents**

Sr. No.	Practices	No. of respondents					
		Small patta holders (n=100)		Large patta holders (n=100)		Total score (n=200)	
		Fully adopted	Partially adopted	Fully adopted	Partially adopted	Fully adopted	Partially adopted
1.	High yielding varieties	12	88	13	87	25 (12.50)	175 (87.50)
2.	Seed rate and method of sowing	55	45	65	35	120 (60.00)	80 (40.00)
3.	Seed treatment	21	79	14	86	35 (17.50)	165 (82.50)
4.	Soil preparation and soil treatment	30	70	60	40	90 (45.00)	110 (55.00)
5.	Manure and fertilizer application	32	68	42	58	74 (37.00)	126 (63.00)
6.	Intercultural operations	76	24	89	11	165 (82.50)	35 (17.50)
7.	Irrigation schedule	72	28	88	12	160 (80.00)	40 (20.00)
8.	Lancing and latex	85	15	92	8	177 (88.50)	23 (11.50)
9.	Harvesting and threshing	81	19	89	11	170 (85.00)	30 (15.00)

Note: Data in parenthesis represents per cent

and threshing (85.00 per cent), intercultural operations (82.50 per cent) and irrigation schedule (80.00 per cent) were given importance by majority of respondents.

It was further observed that the practices i.e. soil preparation & soil treatment (45.00 per cent), manure & fertilizer application (37.10 per cent) were fully adopted by the considerable number of opium poppy cultivators in the study area. While viewing the frequency distribution trend in small and large patta holders categories with regard to improved practices, a slight variation was observed.

It is unfortunate to observe a high percentage of respondents falling in category of partial adoption in some of the important practices of opium poppy cultivation. This may be due to the poor knowledge of practices possessed by the farmers. The low production of opium on account of partial adoption of important practices is obvious.

It must be mentioned here that this may be one of the main cause behind the cancellation of opium patta which is decided on the basis of opium produce and submitted by a farmer to the Narcotics Department. If a farmer deposits less quantity of opium than that of the average, he is not allow to cultivate crop in the next season.

The results are in line with the results Sundraswamy and Bavalatti (1991) who analysed that the practices that are being practiced from many years were adopted by majority of the farmers. While recently recommended practices which require scientific knowledge and physical resources were not adopted by majority of the respondents.

## CONCLUSION

Based on the findings, it could be concluded that the respondents had high knowledge and adoption of practices related to irrigation, intercultural operations, lancing and latex collection and harvesting and threshing. However, they had poor knowledge and adoption of practices related to high yielding varieties, soil treatment, seed treatment and manure and fertilizer application.

Hence, it is recommended that in order to increase the adoption of opium poppy among the farmers, they must be updated with the latest and improved scientific practices of opium poppy cultivation.

Besides, the supervisory staff of the Narcotics Department should be from agriculture stream who could motivate and convince the farmers to adopt the improved practices of opium poppy cultivation.

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