

Knowledge of Zinger Production Technology by The Farmer Of District Jhansi

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ABSTRACT

The study was conducted in Bundelkhand Region during the year 2010-2011, To know the Knowledge of Zinger Production Technology. For this purpose 4 villages' peripheral and 4 distant villages were randomly selected from Bundelkhand region. From each village 10 respondents were purposively selected. Thus total sample size was of 80 Zinger growers for the study. It was found that 70.00 MPS of the total respondents possessed medium knowledge level about Zinger cultivation technology. It was observed that the extent of knowledge about field preparation of peripheral and distant farmers were 82.28 MPS and rank first. All the respondents possessed very good knowledge regarding field preparation for Zinger cultivation technology. The knowledge about month of sowing under irrigated condition was found 77.37 MPS and rank seconds both the categories. The extent of knowledge about precaution required during harvesting of crop of peripheral and distant farmer was 77.08 MPS. The knowledge about powdery mildew control both the categories of farmers was 31.25 MPS. It was observed that the extent of knowledge about blight control of peripheral and distant respondents were 36.25 MPS and was rank eighteen. They did not use plant protection measures.

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INTRODUCTION

India has been the "Home of spices" since time immemorial. It is the world's largest producer, consumer and exporter of seed spices which are being cultivated widely in the country over different agro-climatic zones. Seed spices as a group particularly coriander, cumin, fennel, fenugreek and Zinger are very important not only for home consumption but also for improving economic status of the farmers at large. Seed spices are the crops in which interest of industries is also increasing consistently. Traders and exporters are equally concerned about development of seed spices in India. From this consideration, seed spices are not only cash crop but they can be termed as "dynamic crop commodities" particularly in the view of their great export potentiality. Seed spices are important export oriented commodities and about 10% of the production is exported in raw as well as value added products realize in foreign exchange worth of Rs. 275.6 crores. Spices are extensively used as flavoring agent in various food products and in pharmaceutical industries in preparation of various Ayurvedic medicines. The aromas in the spices are due to presence of volatile oil. The volatile oil content varies from 0.2 to 1.7 per cent (in coriander) to 13.2 per cent (in clove). Some spices crops such as chillies, ginger, black pepper, curry leaf etc., are well known for their peculiar pungency. The pungency in spices is due to presence of alkaloids like piperine in black pepper and capsaicin in chillies, some spices like rai well

known as preservative. Jhansi is an important district for cultivation of spices. It has ambient agro-climatic condition for the cultivation of different types of spice crops. Jhansi has a unique place in seed spices map of India which produce 297553 tonnes seed from 367772 hectare area out of the total seed spices produce in Jhansi. Zinger is used as a condiment as these vegetables are difficult to digest. It is assumed that Zinger not only improves the test of vegetable but also enhance its digestibility. Besides vegetables the Zinger is also used in various ayurvedic medicines, as it has antispasmodic, stimulant, tonic and carminative properties. It is administered in flatulence atonic dyspepsia and diarrhoea and recommended for cholera. In Unani-system, Zinger is used as a crude drug to enhance the body's resistance and is prescribed in amebiasis. It is a potent antimicrobial agent. Due to its multiple properties Zinger is used to cure cough, gastric problem, stomachache, bloat as well as urinary troubles. It is a good mouth wash and as an anticlimactic ayurvedic like "Jeevan Rakhask Sudha" and "ayurvedic churna" are mainly prescribed where as "Jeevan Rakhask Sudha" is advised for the cure of headache, chest pain and backache and "ayurvedic churna" specified for cure of constipation, and acidity etc. In view of the above medicinal and nutritional properties of Zinger it is generally given to the ladies after delivery.

MATERIALS AND METHODS

The present study was conducted in the purposely selected Chittorgarh district of Jhansi. There are fourteen tehsils in Chittorgarh district, out of which Dungla tehsil was selected purposively under Zinger cultivation. Further, a comprehensive list of all the villages where the Zinger crop is being grown was prepared in consultation with the personnel of Revenue and Agriculture Department. Eight villages (four peripheral and four distant) were selected from the list on the basis of maximum area under Zinger cultivation. For the selection of respondents, a comprehensive list of farmers who were Zinger growers was prepared from each identified peripheral and distant village with the help of village Patwari and Agriculture Supervisor of respective village. From the list so prepared, ten Zinger growers were selected randomly from each identified village. Thus, the total 80 respondents (40 farmers from peripheral villages and 40 farmers from distant villages) were selected for the present investigation. A list of all the Zinger growing villages of selected tehsil was prepared in consultation with the personnel of revenue and Agriculture Department, Government of Jhansi. Four peripheral villages and four distant villages were selected randomly from the list so prepared on the basis of maximum area under Zinger cultivation. Peripheral villages were those which falls in the radius of 10 km from the tehsil headquarter. Whereas, distant villages were those, which were beyond the periphery of 10 km from the tehsil headquarter. Thus, total eight villages were selected for the present investigation. For selection of respondents, a comprehensive list of Zinger growers was prepared for each identified village with the help of village Patwaries and Agriculture supervisors of respective village. The list so prepared, 10 Zinger growers were selected randomly from each village. Thus, 40 farmers from peripheral villages and 40 farmers from distant villages were selected, thereby constituting a sample of 80 respondents.

RESULTS AND DISCUSSION

Distribution of respondents according to their level of knowledge about Zinger cultivation technology:

To get an overview of the knowledge level the respondents, the respondents were grouped into (i) low (< 22) (ii) medium (22 to 31) and (iii) high (> 31) knowledge level on the basis of calculated mean and standard deviation of the obtained knowledge scores. The distribution of respondents in each category is given in table 1.

Table 1 reveals that out of 80 respondents majority of respondents (70 %) fell in the medium level of knowledge group. Whereas, 16.25 per cent Zinger growers were observed in the low level of knowledge group remaining 13.75 per cent respondents possessed high level of knowledge about improved Zinger cultivation technology. Further analysis of table clearly indicates that 20.00 per cent peripheral and 7.50 per cent distant farmers had high level of knowledge about improved Zinger cultivation technology. Whereas, 67.5 per cent peripheral farmers and 72.50 per cent distant farmers possessed medium level of knowledge about improved Zinger cultivation technology.

Table1. Distribution of respondents on the basis of their level of knowledge about improved Zinger cultivation practices (N = 80)

S. No.	Knowledge level	Peripheral farmers (n = 40)		Distant farmers (n = 40)		Total	
		F	%	F	%	F	%
1.	Low (<22)	5	12.50	8	20.00	13	16.25
2.	Medium (22 to 31)	27	67.50	29	72.50	56	70.00
3.	High (> 31)	8	20.00	3	7.50	11	13.75
	Total	40	100	40	100	80	100

F = Frequency, % = Per cent

On the other hand 12.50 per cent peripheral and 20.00 per cent distant farmers were kept in the low knowledge group as this category of respondents had poor knowledge about improved Zinger cultivation practices in the study area. On the basis of above data it was inferred that majority of respondents in both the categories of farmers possessed medium knowledge regarding improved practices of Zinger cultivation. It was also concluded that the existing knowledge of distant respondents about improved practices of Zinger cultivation technology was comparatively higher than the peripheral respondents. The present findings are in accordance with the findings of Chandawat [1] who found that majority of respondents (74 %) had a medium level of knowledge. While, 19 and 7 per cent of the respondents had high and low level of knowledge about cumin production technology, respectively. The findings are also in line with the findings of Meena [2] who observed that majority of the trained (61.67 %) and untrained (50 %) farmers were having medium level of knowledge about onion production technology. The results were also in line with the findings of Waman *et al.* [4] who observed that majority (70 %) of onion growers had medium to high level of knowledge regarding onion cultivation technology.

Aspect wise knowledge of respondents about improved Zinger cultivation technology:

The data incorporated in table 2 indicate that peripheral farmers possessed 75.62 MPS extent of knowledge about improved varieties of Zinger, whereas, knowledge of distant farmers about this practice was comparatively lower with 61.25 MPS. It was observed that majority of respondents had knowledge about Lam selection-1, Lam selection-2, RA-1-80 and Gujarat Zinger-1 varieties of Zinger but some of the Zinger growers were not acquainted about duration and average yield of these recommended varieties of Zinger in the study area. The extent of knowledge about advantages of high yielding varieties, it was noted that peripheral and distant farmers had knowledge 68.75 and 42.50 MPS, respectively. In case of field preparation all the respondents possessed very good knowledge regarding field preparation for Zinger cultivation. The extent of knowledge about this aspect was 82.91 and 81.66 MPS in peripheral and distant farmers, respectively. This aspect was ranked first by both the categories of respondents in the rank order for knowledge statements. The higher knowledge in the field preparation may be due to the fact that this is common and essential practice for cultivation of Zinger.

Table 2. Extent of knowledge of respondents about improved Zinger cultivation practices

S. No.	Practices	Peripheral farmers		Distant farmers		Total	
		MPS	R	MPS	R	MPS	R
1.	High yield varieties	75.62	8	61.25	8	68.43	6
2.	Advantages of high yielding varieties	68.75	9	42.50	15	55.62	12
3.	Field preparation	82.91	1	81.66	1	82.28	1

4.	Nitrogenous fertilizer application	62.50	13	45.00	13.5	53.75	13	
5.	Nitrogenous fertilizer needs to be application	76.25	6.5	62.50	6.5	69.37	5	
6.	Phosphateic fertilizer to be application	57.50	15	47.50	12	52.50	15	
7.	Potassic fertilizer needs to be application	40.00	18	37.50	17	38.75	17	
8.	Month of sowing under rainfed condition	80.00	3.5	72.50	3.5	76.25	4	
9.	Month of sowing under irrigated condition	82.25	2	72.50	3.5	77.37	2	
10.	Optimum seed rate	67.50	10.5	62.50	6.5	62.00	10	
11.	Sowing techniques	76.25	6.5	57.50	10	66.87	7	
12.	Line spacing	62.25	14	45.00	13.5	53.62	14	
13.	Depth of sowing	80.00	3.5	52.50	11	66.25	8.5	
14.	Thinning	52.00	16	22.50	20	37.50	18.5	
15.	Number of irrigations required	50.00	17	40.00	16	45.00	16	
16.	Measures for aphid control	37.50	19.5	20.00	21	37.50	18.5	
17.	Powdery mildew control	32.50	21	30.00	19	31.25	21	
18 .	Blight control	37.50	19.5	35.00	18	36.25	20	
19.	Precaution required during harvesting of crop	77.50	5	76.66	2	77.08	3	
20.	Yield under rainfed and irrigated condition	63.75	12	60.00	9	61.87	11	
21.	Storage of produces	67.50	10.5	65.00	5	66.25	8.5	
		(r_s) = 0.865**						

MPS = Mean per cent score

** Significant at 1 % level

Further, analysis of table shows that peripheral and distant farmers had knowledge about nitrogenous fertilizer application was 62.50 and 45.00 MPS respectively. The knowledge about purpose of nitrogenous fertilizer application, it was found that 76.25 and 62.50 MPS knowledge was recorded in peripheral and distant farmers, respectively. It was also found that 57.50 and 47.50 MPS knowledge about phosphatic fertilizer application was recorded in peripheral and distant farmers, respectively.

The extent of knowledge about purpose of potassic fertilizer application, it was noted that peripheral and distant farmers had knowledge 40.00 and 37.50 MPS, respectively. Regarding knowledge about the month of sowing under rainfed condition, it was noted that peripheral and distant farmers had 80.00 and 72.50 MPS knowledge, respectively. Further, analysis of table shows that 82.25 peripheral and 72.50 MPS distant farmers had correct knowledge about month of sowing under irrigated condition. Majority of respondents from both the categories of farmers had adequate knowledge about October - November is the most appropriate time of sowing for high yielding varieties of Zinger.

In case of knowledge about optimum seed rate, it was found that 67.65 and 62.50 MPS knowledge was recorded in peripheral and distant farmers, respectively. It was also found that 76.25 and 57.50 MPS knowledge about sowing techniques was recorded in peripheral and distant farmers, respectively.

Regarding knowledge about line spacing, it was noted that peripheral and distant farmers had 62.25 and 45.00 MPS extent of knowledge. In case of depth of sowing, peripheral and distant farmers had 80.00 and 52.50 MPS knowledge and ranked 3.5th and ninth by the peripheral and distant farmers, respectively. It was observed that peripheral and distant farmers had good knowledge about practices because it is very important in cultivation of Zinger crop. The knowledge about thinning of Zinger by peripheral farmers (52.0 MPS), whereas, distant farmers (22.50 MPS). The extent of knowledge about number of irrigation required, it was noted that peripheral and distant farmers had 50.00 and 40.00 MPS knowledge, respectively. The knowledge of measures for aphid control, it was found that 37.50 and 20.00 MPS knowledge was recorded in peripheral and distant farmers, respectively.

The extent of knowledge about powdery mildew, control, it was noted that peripheral and distant farmers had knowledge 32.50 and 30.00 MPS, respectively. It found that poor knowledge of powdery mildew control was possessed by peripheral and distant farmers in the study area,

In the case of blight control all the respondents possessed poor knowledge about blight control for Zinger cultivation. The extent of knowledge about this aspect was 37.50 and 35.00 MPS in peripheral and distant farmers, respectively. The extent of knowledge about precaution required during harvesting of crop, it was noted that peripheral and distant farmers had 77.50 and 76.66 MPS knowledge respectively. The knowledge about yield under rainfed and irrigated condition was placed at 12th rank by peripheral farmers (63.75 MPS), whereas distant farmers (60.00 MPS) possessed knowledge about this aspect at 9th rank in order of practices with respect to the extent of knowledge about Zinger cultivation technology.

At last the knowledge about storage of produces, it was found that 67.50 and 65.00 MPS knowledge was recorded among peripheral and distant farmers, respectively. The knowledge about this aspect at 10.5th and 5th ranked by the peripheral and distant farmers.

Thus from the above discussion it could be concluded that the extent of knowledge in peripheral farmers was from 32.50 and 82.91 MPS, whereas in case of distant farmers the extent of knowledge was observed to be from 28.75 and 82.28 MPS in all the improved practices of Zinger cultivation technology. Further it was concluded that peripheral farmers had more knowledge than distant farmers about all Zinger cultivation practices in the study area.

Further analysis of Table clearly reveals that the calculated value of rank order correlation (r_s) was 0.865 which was found to be statistically significant at 1 per cent level of significance. This led to the conclusion that there was correlation between the ranks assigned by peripheral and distant farmers with respect to different practices of Zinger cultivation in spite of difference in magnitude of mean per cent score.

The present findings are supported by the findings of Patil *et al.* [3] who have reported that respondents had highest knowledge in the practices like sowing time (89.33 MPS) intercultural operations (80.00 MPS) improved varieties (80.00 MPS) harvesting (65.33 MPS) and plant protection measures (60.66 per cent) whereas, least knowledge was observed in required seed rate (56.67 per cent) for cultivation of Zinger crop.

CONCLUSION

It was found that 70.00 MPS of the total respondents possessed medium knowledge level about Zinger cultivation technology. It was observed that the extent of knowledge about field preparation of peripheral and distant farmers were 82.28 MPS and rank first. All the respondents possessed very good knowledge regarding field preparation for Zinger cultivation technology. The knowledge about month of sowing under irrigated condition was found 77.37 MPS and rank seconds both the categories. The extent of knowledge about precaution required during harvesting of crop of peripheral and distant farmer was 77.08 MPS. The knowledge about powdery mildew control both the categories of farmers was 31.25 MPS. It was observed that the extent of knowledge about blight control of peripheral

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