Research Article

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The Knowledge level of recommended package practices of Onion Cultivation in Kanpur Nagar of Uttar Pradesh

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ABSTRACT

The study was conducted in Kanpur Nagar district of Uttar Pradesh. 5 villages of Kakwan block in Kanpur Nagar district was selected purposively for the study because of the criteria of nearness to researcher villages and its accessibility. A complete list of all onion growers in each selected village was prepared from the list. A total number of 120 farmers were selected through proportionate random sampling techniques. The structure schedule was developed keeping in view the objective and variable to be studied. The study revealed that majority of the respondents (60.00%) had medium knowledge level followed by high knowledge level (22.50%), and low knowledge level (17.50%). Also observed that variables like housing pattern and risk orientation knowledge extent about onion cultivation had highly significant and positive correlation with the knowledge about onion practices.

Introduction

One of the major bulb crops in the *Alliaceae* family, onions (*Allium Cepa L.*) 2n=16, are grown all over the world for their food and culinary value. In recent years, their powerful export potential has made them an excellent income crop. The smell and pungency of onions are caused by molecules called Ally propyl-disulphide, which contain sulphur and are present in the bulb's scales. The presence of anthocyanin is what gives onions their red and yellow outer peel. Onion's anti-fungal properties stem from a phenolic component called catechol to each other

Major onion producing countries include China, India, USA, Pakistan, Turkey, Russia, Iran, Brazil, Mexico and Spain. Area and Production China is the biggest onion producer with 26.30% of all onions being produced in China and India. India ranks first in area (1.27 million hectares) and second in production (23.49 million tonnes) with a productivity of 21.2 t/ha. (Source: NHB, 2018-19) In India it occupies of leading area and production of Maharashtra and productivity in Gujarat. The highest productivity is in USA with 56 tons/ ha followed by Spain 53.0 tons/ ha and in China it is 22.0 tons/ha. In India the major onion producing states includes Maharashtra, Madhya Pradesh, Karnataka, Gujarat, Rajasthan, Bihar, West Bengal, Andhra Pradesh, Tamil Nadu, Haryana, Uttar Pradesh. (Source: National Horticulture Board (NHB))

In Uttar Pradesh are average onion producing state production 508.90 metric tons (2021-2022) districts are Fatehpur, Ghazipur, Jaunpur, Farrukhabad, Kannauj, Ballia, Sonbhadra, Mainpuri, Gonda, Hardoi, and Kanpur Nagar in the Uttar Pradesh. The onion production of Kanpur Nagar district was recorded 10.96 M.T. with the area of onion cultivation of 0.70 M. ha. in 2017.

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Research Methodology

Kanpur Nagar district was selected purposively for the study undertaken. Out of 10 Community Development blocks in Kanpur Nagar district, the Kakwan block were purposely selected according to need and availability of onion growers. The revenue villages were arranged in descending order based on the maximum area and maximum number of onion growers; top 5 revenue villages were selected from the one block based on maximum area and production. Thereafter, the data will be gathered with the help of structure schedule by employing personal interview techniques. The data was collected with the help of pre- tested structured interview schedule by holding personal interview with self-help group members by the researcher. Different statistical tools were used such as frequency, percentage, mean and standard deviation.

Results and Discussion

1. Knowledge level of recommended Cultivation technology of Onion among the growers.

Table-1 Practice wise Knowledge of recommended cultivation technology of Onion among the growers:

S. No.	Cultivation practices:	Respondents (n=120)	
		Percentage (%)	Rank
1.	Field Preparation	74.79	IV
2.	High yielding Varieties (HYVs)	73.34	V
3.	Seed Treatments	56.00	X
4.	Time of sowing	65.00	VIII
5.	Seed rate & recommended spacing	69.16	VI
6.	Fertilizers application	66.66	VII
7.	Irrigation management	76.66	III
8.	Intercropping and weed management	50.84	XI
9.	Plant protection measures	59.16	IX
10.	Harvesting and storage	79.16	I
11.	Marketing	77.50	II
	Overall percentage	**68.02**	

The data in Table-1.1 indicated that the average knowledge extent of packages of practices of onion cultivation was 68.02 per cent. Out of 11 selected cultivation practices, the extent of knowledge of Harvesting and storage 79.16%, was higher flowed by Marketing 77.50%, Irrigation management 76.66% than the other practices of onion and it was ranked 1st followed by "harvesting and storage 79.16%, and Marketing 77.50%, were ranked 2nd and 3rd rank irrigation management 76.66% respectively. Whereas percent of the respondents had correct knowledge about non recommended varieties of private seed companies. Regarding recommended knowledge extent of scientific onion cultivation practices like Field Preparation, High yielding Varieties (HYVs), Seed rate & recommended spacing had 74.79%, 73.34%, 69.16% and ranked 4th 5th and 6th, respectively. While the extent knowledge of recommended scientific onion cultivation practices like fertilizers application, time of sowing, and plant protection measures" with 66.66%, 65%, 59.16% and were ranked 7th, 8th and 9th, respectively. Further, the knowledge extent of package of practices of onion cultivation likes, "seed treatments and "inter cropping and weed management", had 56% and 50.84% with 10th and 11thranked, respectively.

1.1 Overall extent Knowledge of recommended cultivation practices of onion among the growers.

Table-1.1 Practice wise overall Knowledge extent of cultivation practices of Onion among the growers.

S. No.	Knowledge Categories (scores)	Respondents (n=120)	
		Frequency	Percentage
1.	Low (Up to 19)	21	17.50
2.	Medium (20-24)	72	60.00
3.	High (Above 25)	27	22.50
	Total	**120**	**100.00**

Mean =21.99, S.D. =2.94, Min. =114, Max. = 29

The Data in Table-1.1 indicated that majority of the respondents (60%) had medium level knowledge followed by high (22.50%) and low (17.50%) level of knowledge of package of practices of Onion cultivation. respectively. Thus, it may be concluded that majority of respondents (60%) were found to have a medium level (20-24) knowledge about scientific onion cultivation practices.

2. Relationship between independent and dependent variables:

The data in Table-2 focused that out of seventeen selected independent variables, only seven variables i.e. education, annual income, material possession, extension contact, scientific orientation, economic motivation and risk orientation were found highly significant and positively correlated with the extent of knowledge package of practices of onion cultivation.

Table-2 Correlation coefficient (r) between different independent variables with knowledge level.

S. No.	Variables	Correlation Coefficient (r)
1.	Age	0.058826
2.	Education	-0.01774
3.	Caste	-0.05577084
4.	Type of family	0.054648
5.	Size of family	-0.06892
6.	Marital status	0.1166372
7.	Land Holding	-0.21129
8.	Occupation	0.138168
9.	Material Possession	-0.06932966
10.	Housing pattern	0.028110503
11.	Social Participation	0.076172167
12.	Family annual Income	0.053833
13.	Extension Contact	0.051044
14.	Scientific Motivation	0.119028
15.	Economic Motivation	-0.13445
16.	Risk orientation	0.010186
17.	Adoption	0.209137*

*Significant at 5% probability level 0.197

**Significant at 1% probability level 0.257

Thus, it can be concluded that if the values of the variables increase the knowledge extent of package of practices onion cultivation will also increase. Further, the variables like caste and housing pattern were found to be significant and positively correlated with knowledge extent. Those variables, which showed the significant and positive relationship, had direct influence over knowledge extent of package of practices onion.

Further, the variables i.e. age, type of family, size of family, social participation and scientific motivation did not influence knowledge extent of package of practices onion. Remaining two variables, land holding and occupation were found non-significant and negatively correlated with extent of knowledge. Thus, it can be concluded that those values found to be negative did not indicate any significant relationship with knowledge of extent of package of practices onion.

Conclusion

The study found that the overall extent of knowledge regarding the package of practices for onion cultivation was 74.77%. Among the 11 selected practices, field preparation had the highest level of awareness (100%) and was ranked first, followed by seed rate and spacing (85.16%) and high-yielding varieties (78.34%). On the other hand, plant protection measures (59.16%) and seed treatment (62.00%) were the least known and ranked lowest. Majority of the farmers (60%) had a medium level of knowledge, followed by 22.50% with high and 17.50% with low knowledge levels. Key factors such as housing pattern and risk orientation were found to be highly significant and positively correlated with the extent of knowledge. Other variables like caste and material possession also showed a positive correlation, indicating their influence on the adoption of scientific cultivation practices among onion growers.

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