



International Journal of Research in Agronomy

E-ISSN: 2618-0618
P-ISSN: 2618-060X
© Agronomy
NAAS Rating (2025): 5.20
www.agronomyjournals.com
2025; 8(10): 126-128
Received: 06-08-2025
Accepted: 14-09-2025

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Assessment of knowledge level of farmers towards Urd cultivation practices in Mirzapur district of Uttar Pradesh

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DOI: <https://www.doi.org/10.33545/2618060X.2025.v8.i10b.3964>

Abstract

The present study was conducted to assess the knowledge level of Urd growers regarding recommended cultivation practices. A total of 120 respondents were selected for the study. The findings revealed that majority of the respondents (72.5%) possessed medium level of knowledge, followed by 17.5% with low knowledge and 10% with high knowledge. With respect to individual recommended practices, cent percent of the respondents had correct knowledge about soil type, planting material, sowing time, cultural practices, irrigation method, and harvesting. However, gaps were observed in knowledge regarding recommended varieties (73.33%), spacing (70.83%), FYM application (95.83%), fertilizer use (81.66%), disease identification (48.33%) and control measures (59.16%), as well as insect pest management (53.33% knowledge of insect pest and 61.66% knowledge of control practices). The study suggests that although Urd growers possess satisfactory knowledge of basic practices, there is a need to strengthen their awareness regarding plant protection measures and scientific input management through extension programmes.

Keywords: Urd bean, *Vigna mungo*, knowledge level, cultivation practices

Introduction

Pulses are considered the backbone of Indian agriculture as they play a dual role in human nutrition and soil fertility improvement. Among various pulse crops, Urd bean (*Vigna mungo* L.), commonly known as black gram, holds an important position. It is cultivated widely in different parts of the country due to its short duration, adaptability to diverse agro-climatic conditions, and high demand both as food grain and as fodder. Being a rich source of protein, minerals, and vitamins, Urd contributes significantly to the dietary requirements of rural as well as urban populations.

India is the largest producer and consumer of pulses, yet there exists a considerable gap between demand and supply. Low productivity of Urd bean has been attributed to several factors such as use of local varieties, improper crop management, poor adoption of modern production technologies, and lack of adequate knowledge among farmers. Adoption of recommended cultivation practices is largely dependent on the awareness and knowledge level of growers. Knowledge acts as a prerequisite for adoption — unless farmers have corrected and adequate information about improved varieties, recommended spacing, nutrient application, plant protection, and irrigation management, they cannot implement scientific methods effectively in their fields.

Previous studies have highlighted that although farmers possess traditional knowledge regarding soil preparation, sowing, and irrigation, they often lack sufficient understanding of plant protection measures, nutrient management, and the use of improved varieties. This situation not only reduces productivity but also increases vulnerability to pests, diseases, and climatic stress. Hence, assessing the level of knowledge of Urd growers is crucial for identifying the specific areas where extension efforts need to be intensified.

In this context, the present study was undertaken to assess the overall knowledge of Urd growers as well as their knowledge of individual recommended cultivation practices. The findings of the study will help in understanding the knowledge gaps and provide valuable insights for designing farmer-oriented training programmes, extension interventions, and policy strategies aimed at

enhancing the productivity and profitability of Urd cultivation.

Methodology

This study was conducted in Mirzapur district of Uttar Pradesh. Total of 120 farmers were selected as respondents. The responses were obtained by means of well-structured, pre-tested interviews schedule through personal interaction, and the data was compiled, tabulated, and assessed to formulate conclusions. The statistical methods utilized were percentage, mean score, standard deviation, and coefficient of correlation.

To assess the knowledge level of the respondents, a knowledge test was designed. The knowledge test included every component of the Improved package of practices of urd to determine existing level of respondents' knowledge about the scheme.

To determine the level of knowledge, overall score for each respondent was categorized into three group on basis of overall knowledge score:

1. Low level of knowledge [X-S.D.]
2. Medium level of knowledge [X-S.D. to X+S.D.]
3. High level of knowledge [X+S.D.]

Frequency and percentage of respondents in each category i.e., low, medium and high were calculated.

$$\text{Knowledge index} = \frac{\text{Obtained knowledge score}}{\text{Maximum obtainable knowledge score}} \times 100$$

To determine the extent of knowledge perceived by respondents about Improved cultivation practices of Urd, mean for each aspect was workout and ranked accordingly.

Table 1: Overall knowledge of Urd grower about recommended cultivation Practices (N=120)

S. No.	Categories	Frequency	Percentage
1.	Low	21	17.5
2.	Medium	87	72.5
3.	High	12	10
	Total	120	100.00

The results (Table 1) indicate that majority of the respondents (72.5%) had a medium level of knowledge, followed by 17.5% with low knowledge and only 10% with high knowledge. This shows that most farmers are aware of recommended practices but lack in-depth knowledge for their effective application.

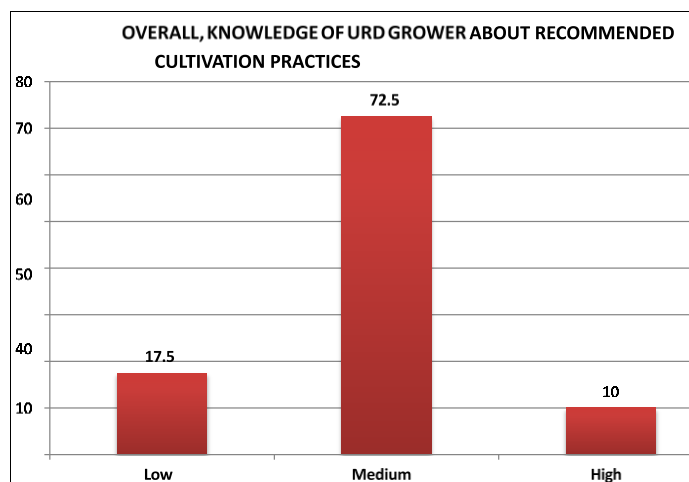


Fig 1: Overall knowledge Urd grower about recommended cultivation practices

Table 2: Knowledge of individual recommended cultivation practices of Urd Grower. (N=120)

S. No.	Particular	Frequency	Percentage
1.	Recommended Varieties	88	73.33
2.	Soil and its preparation	120	100
3.	Planting material	120	100
4.	Spacing	85	70.83
5.	Sowing time	120	100
6.	FYM	115	95.83
7.	N.P.K	98	81.66
8.	Cultural practices	120	100
9.	Water management	120	100
Diseases			
10.	Major insect of Urd	120	100
	Control measure as recommended	71	59.16
Insect pest			
11.	Major insect pest of Urd	120	100
	Control measure as recommended	74	61.66

With respect to individual practices (Table 2), cent percent of the respondents had correct knowledge about soil and its preparation, planting material, sowing time, cultural practices, water management, and harvesting methods. This reflects that farmers are traditionally well-versed in basic cultivation operations. However, only 73.33% of the respondents had knowledge about recommended varieties such as Azad-1, Pant U-1, Pant Urd-35, and Type-1. Similarly, 70.83% of the respondents knew about recommended spacing. Knowledge regarding nutrient management was relatively better, with 95.83% aware of FYM use and 81.66% aware of NPK fertilizer application.

A major knowledge gap was observed in plant protection measures. Only 48.33% of the respondents had knowledge of major diseases, and 59.16% knew about their control measures. Similarly, 53.33% were aware of major insect pests, while 61.66% knew about recommended control measures. This indicates that farmers face difficulty in identifying pests and diseases and lack sufficient knowledge regarding their scientific control, which may affect yield and crop health.

The findings are in line with earlier studies emphasizing the need for strengthening extension services to improve farmers' technical knowledge, particularly in pest and disease management.

Conclusion

The study concluded that majority of Urd growers had a medium level of knowledge about recommended cultivation practices. While they possessed adequate knowledge regarding soil preparation, sowing, cultural practices, irrigation, and harvesting, significant gaps were observed in awareness of recommended varieties, spacing, nutrient management, and particularly plant protection measures. Strengthening training and extension activities with focus on pest and disease identification and management, as well as improved input use, is crucial to enhance adoption of scientific practices and improve Urd productivity.

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