

International Journal of Statistics and Applied Mathematics

ISSN: 2456-1452
NAAS Rating (2025): 4.49
© 2025 Stats & Maths
Maths 2025; SP-10(9): 15-17
www.mathsjournal.com
Received: 25-07-2025
Accepted: 27-08-2025

Riya HD

M.Sc. Student, Department of
Agricultural Extension
Education, Post Graduate
Institute, Dr. PDKV, Akola,
Maharashtra, India

Bhople PP

Professor (CAS), Department of
Agricultural Extension
Education, Post Graduate
Institute, Dr. PDKV, Akola,
Maharashtra, India

Koshti NR

Professor and Head, Department
of Agricultural Extension
Education, PGI, Dr. PDKV,
Akola, Maharashtra, India

Dangore UT

Associate Professor, Department
of Agricultural Economics &
Statistics, PGI, Dr. PDKV,
Akola, Maharashtra, India

Nichal SS

Soybean Breeder and Head
RRC, Amravati, Maharashtra,
India

Correlation between profile of soybean growers and adoption gap in soybean cultivation

Riya HD, Bhople PP, Koshti NR, Dangore UT and Nichal SS

Abstract

The present investigation was undertaken in Akola district of Maharashtra, using an exploratory research design within the domain of social sciences. The objective of study, to ascertain the relationship between the profile of soybean growers and adoption gap in soybean cultivation and to study the constraints faced and invite the suggestion from soybean growers to overcome the adoption gap. The findings revealed that knowledge exhibited a negative but highly significant correlation with adoption gap. Prominent constraints faced by the respondents included lack of knowledge about seed treatment, specific control measure practices against pest and disease of soybean, labour shortage during peak season. Suggestions of soybean growers to overcome the constraints or adoption gap in soybean cultivation are conduct local training on seed treatment, disease and pest control, ensure timely availability of inputs at local shops, also there should be timely and regular extension services at the village level.

Keywords: Adoption gap, constraints, soybean, suggestions

Introduction

The present study was framed with objective

- To study the relationship between profile of soybean growers and adoption gap in soybean cultivation.
- To study the constraints faced and invite the suggestion from soybean growers to overcome the adoption gap.

Methodology

The study followed an exploratory research design under the field of social sciences. The sample was selected purposively from three talukas of Akola district, namely Akola, Murtijapur, and Barshitakli, on the basis of the area under soybean cultivation during 2023-24. Total 15 villages were selected from these three Talukas and 10 farmers were drawn from each villages thus in total 150 farmers constituted the sample size for the study. Data were collected through personal interviews using a pretested and structured schedule. For analysis, statistical tools such as mean, percentage, standard deviation, and correlation coefficient were applied to interpret the findings in a systematic manner.

Results and Discussion

Coefficient of correlation of profile of soybean growers with their adoption gap

Coefficient of correlation was computed to find out the existence of relationship between profile of soybean growers and adoption gap. The results are presented in Table 1. It was observed from Table 1 that, out of twelve independent variable i.e. age, education, land holding, annual income, area under soybean cultivation, source of irrigation, farming experience, source of information, social participation, innovativeness, and risk orientation had negative non-significant correlation with adoption gap. While knowledge had negative but highly significant correlation with adoption gap at 0.01 per cent level of probability. Hence it is concluded that, higher the knowledge level about recommended cultivation practices to the soybean growers their will be less adoption gap.

Corresponding Author:

Riya HD

M.Sc. Student, Department of
Agricultural Extension
Education, Post Graduate
Institute, Dr. PDKV, Akola,
Maharashtra, India

Table 1: Correlation between selected socio-economic variables and knowledge level of soybean growers

Sr. No.	Variables	'r values'
1.	Age	- 0.0323
2.	Education	- 0.1132
3.	Land holding	-0.0723
4.	Annual income	- 0.0883
5.	Area under soybean crop	- 0.0724
6.	Sources of irrigation	- 0.0822
7.	Farming experience	- 0.0291
8.	Sources of Information	- 0.1400
9.	Social participation	- 0.0610
10.	Innovativeness	- 0.0806
11.	Risk orientation	- 0.0016
12.	Knowledge	- 0.7268**

*Significant at 0.05 per cent level of probability.

**Significant at 0.01 per cent level of probability.

NS-Non-significant

Constraints faced in adoption of recommended practices of soybean cultivation

The constraints faced by the soybean growers in adoption of recommended cultivation practices of soybean crop was one of the objectives of the present study. Constraints are the

circumstances that hinder or limit the respondents in adopting the recommended practices of soybean cultivation. The data relating to constraints faced by the respondents in adoption of recommended technology are shown practice wise in Table 2.

Table 2: Distribution of respondents according to constraints faced during soybean cultivation

Sr. No.	Constraints	Frequency	Percentage	Rank
1.	Lack of knowledge about seed treatment	73	48.66	I
2.	Lack of knowledge about the specific control measure practices against pest and diseases of soybean	62	41.33	II
3.	Non-availability of specific inputs (seed drill, biofertilizer) at the right time at local level.	55	36.66	IV
4.	Labor shortage during peak season.	61	40.66	III
5.	Physical inconvenience during seed treatment	50	33.33	V
6.	Uncertainty of rainfall	40	26.66	VI

It is observed from the Table 2, 48.66 per cent of the respondents reported that there is lack of knowledge about seed treatment, followed by 41.33 per cent respondents express that lack of knowledge about the specific control measure practices against pest and diseases of soybean, 40.66 per cent respondents faced the constraint of labour shortage during peak season, 36.66 per cent respondents had non-availability of inputs (seed drill, bio fertilizer, etc.) at the right time at local level, 33.33 per cent respondents reported

physical inconvenience during seed treatment and near about 26.66 per cent respondents had universal constraint of uncertainty of rainfall.

Suggestions of soybean growers to overcome the constraints or adoption gap in soybean cultivation

Soybean growers were asked to make suggestions to overcome the constraint in adoption of recommended practices are presented in Table 3.

Table 3: Suggestions elicited by the soybean growers to overcome the adoption gap

Sr. No.	Suggestions	Frequency	Percentage	Rank
1.	Conduct local training on seed treatment, disease and pest control.	78	52.00	I
2.	Ensure timely availability of inputs at local shops.	66	44.00	II
3.	Give weather update and rainfall alert through mobile SMS.	49	32.66	IV
4.	There should be timely and regular extension services at the village level.	60	40.00	III

Table 3 highlights the suggestions given by the soybean growers for reducing the adoption gap. It was observed that 52.00 per cent of growers suggest to organise local training on seed treatment, disease and pest control, 44.00 per cent of soybean growers suggested about providing timely availability of inputs at local shops, 40.00 per cent about suggests that there should be timely and regular extension services at the village level. In addition to this, 32.66 per cent of growers suggest about giving weather update and rainfall alert through mobile SMS.

Conclusion

It is concluded that knowledge had negative but highly significant correlation with adoption gap at 0.01 per cent level of probability. Hence it is concluded that, higher the

knowledge level about recommended cultivation practices to the soybean growers their will be less adoption gap. Soybean growers face key constraints like lack of knowledge, labour shortages, and limited input availability, contributing to the adoption gap. To overcome this, they suggest timely extension services, training, and weather alerts at the village level.

References

- Ingale SD, *et al.* Relational analysis of soybean growers with knowledge and adoption of biofertilizers. *Int J Agric Ext Soc Dev.* 2024;7(Special Issue 10).
- Kamble P, *et al.* Profile of soybean growers and adoption of liquid biofertilizer. *Asian J Agric Ext Econ Sociol.* 2024;42(11):350-356.

3. Vyas A, *et al.* Adoption of improved soybean technology in Madhya Pradesh. Asian J Agric Ext Econ Sociol. 2023;41(10):595-600.
4. Kumar S. Technological gap in soybean practices [M.Sc. Thesis]. Dharwad: University of Agricultural Sciences; 2009.