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Profile of soybean growers in Akola district, Maharashtra

¹Afreen S, ²Koshti NR, ³Bhople PP, ⁴Vanita KK and ⁵Sadawarte AK

¹M.Sc. Student, Department of Agricultural Extension Education, Post Graduate Institute, Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola, Maharashtra, India

²Professor and Head, Department of Agricultural Extension Education, Post Graduate Institute, Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola, Maharashtra, India

³Professor (CAS), Department of Agricultural Extension Education, Post Graduate Institute, Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola, Maharashtra, India

⁴Associate Professor (CAS), Department of Agricultural Economics & Statistics, Post Graduate Institute, Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola, Maharashtra, India

⁵Professor (CAS), Department of Agricultural Entomology, Post Graduate Institute, Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola, Maharashtra, India

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Corresponding Author: Afreen S

Abstract

Soybean is an important oilseed crop and a major component of the kharif cropping system in Maharashtra. Its cultivation contributes substantially to farm income and supports the livelihoods of a large number of farming households. The present study was undertaken to assess the profile of soybean growers in Akola district of Maharashtra. An exploratory research design was used for this study. Two talukas namely Patur and Telhara were selected, followed by the random selection of five villages from each taluka. From each selected village Fifteen soybean growers were randomly selected, leading to a total of 150 respondents. Data were gathered through personal interviews using a pre-tested interview schedule and analyzed using appropriate statistical tools. The findings showed that 44.67 per cent of growers belonged to the middle-age group, 42.00 per cent had education up to higher secondary level, 34.67 per cent had semi-medium landholdings and 36.00 per cent cultivated soybean on 1.01 to 2.00 ha. Further, 54.00 per cent had annual income up to Rs. 266000/- and 80.00 per cent earned up to Rs. 164000/- from soybean cultivation. About 82.00 per cent had a medium level of information source utilization, 90.67 per cent undertook 2 to 3 sprayings, 61.33 per cent had medium knowledge about plant protection and 75.33 per cent had a moderately favourable attitude towards plant protection. The findings highlight the need for strengthened extension interventions through need-based training, demonstrations and regular technical advisories to enhance soybean growers' knowledge and facilitate the effective adoption of soybean production and plant protection practices.

Keywords: Soybean growers, profile, plant protection measures, Akola

1. Introduction

Soybean (*Glycine max* (L.) Merr.) is an important oilseed and multipurpose crop of India, contributing significantly to edible oil production, livestock feed and farm income. During 2024–25, soybean was cultivated over 12.95 million hectares in India, producing 15.27 million tonnes with a productivity of 1, 179 kg per hectare ^[3]. Maharashtra is one of the leading soybean producing states, with 5.18 million hectares under the crop, 9.44 million tonnes of production and a productivity of 1, 824.79 kg per hectare during the same year ^[2]. Vidarbha is one of the major soybean growing regions of Maharashtra, accounting for 18.19 lakh hectares of area and 36.28 lakh tonnes of production during 2024–25, with an aggregate productivity of about 1, 994 kg per hectare ^[2]. Within this region, Akola district has a substantial area under soybean cultivation, covering 2, 41, 080 hectares, with a production of 3, 10, 389 tonnes and productivity of 1, 287.49 kg per hectare during 2024–25 ^[2].

Soybean production is influenced not only by the availability of production technologies but also by the characteristics and circumstances of the farmers who use them. Farmers differ in their socioeconomic status, farming experience, access to information sources, knowledge, attitude and other personal and situational characteristics. These characteristics can shape their ability and willingness to understand, evaluate and implement crop management practices. In particular, understanding the profile of soybean growers is essential for designing need-based extension programmes and improving the effective use of plant protection measures.

2. Materials and Methods

The study was conducted in Akola district of Maharashtra using an exploratory research design. Akola district was selected considering its importance in soybean cultivation. Based on soybean productivity data obtained from the District Superintending Agriculture Office, Akola. Patur and

Telhara talukas were selected to represent the lowest and highest productivity respectively followed by random selection of five villages from each taluka. Fifteen soybean growers were randomly selected from each selected village, resulting in a total sample of 150 respondents. Primary data were collected through a pre-tested interview schedule by personal interviews at the respondents' farms or residences. The profile of soybean growers was assessed using selected personal, socio-economic, communication and psychological characteristics. The collected data were coded, tabulated and analysed using frequency, percentage, mean and standard deviation.

3. Results and Discussion

3.1. Age

The findings in Table 1 indicate that 44.67 per cent of soybean growers belonged to the middle-age group (36–50 years), followed by 32.00 per cent in the old-age group (above 50 years) and 23.33 per cent in the young-age group (up to 35 years). Thus, the majority of the respondents were middle aged. Similar findings were reported by [1, 11, 13].

3.2. Education

The findings in Table 1 revealed that the highest proportion of soybean growers (42.00%) had completed education up to the higher secondary level, followed by 28.00 per cent who had attained college education. Further, 18.67 per cent had completed secondary education, while 5.33 per cent and 4.00 per cent had studied up to primary and middle school levels, respectively. Only 2.00 per cent of the respondents were illiterate.

3.3 Experience in soybean cultivation

The findings in Table 1 revealed that 48.00 per cent of the soybean growers had up to 15 years of experience in soybean cultivation. This was followed by 39.33 per cent having 16–30 years of experience, while 12.67 per cent had more than 30 years of experience. Thus, nearly half of the respondents had relatively lower experience in soybean cultivation. A comparable distribution of soybean growers according to farming experience was reported by [1].

3.4 Land holding

It is evident from Table 1 that 34.67 per cent of the respondents belonged to the semi medium landholding category (2.01 to 4.00 ha.) followed by 33.33 per cent with small landholdings (1.01 to 2.00 ha.). Further, 16.00 per cent were marginal farmers (up to 1.00 ha.) while 15.33 per cent and 0.67 per cent belonged to the medium (4.01 to 10.00 ha.) and large (above 10.00 ha.) categories respectively. Hence, semi-medium and small farmers constituted the major proportion of the respondents. A similar pattern was observed by [8, 14].

3.5 Area under soybean cultivation

The results presented in Table 1 showed that 36.00 per cent of the respondents cultivated soybean on a small area (1.01 to 2.00 ha) followed by 28.00 per cent who had a semi-medium area (2.01 to 4.00 ha) under soybean. Further, 23.33 per cent cultivated soybean on a marginal area (up to 1.00 ha) while 12.00 per cent had a medium area (4.01 to 10.00 ha). Only 0.67 per cent of the respondents cultivated soybean on

a large area (above 10.00 ha). The finding was comparable with [7, 14].

3.6 Annual income

The findings in Table 1 indicated that more than half of the respondents (54.00%) had an annual income of up to Rs. 266000/-. This was followed by 32.00 per cent whose annual income ranged from Rs. 266001/- to Rs. 483000/-. The remaining 14.00 per cent of the respondents reported an annual income above Rs. 483000/-. A similar income profile was reported by [14].

3.7 Income from soybean cultivation

The findings revealed that a large majority of the respondents (80.00%) belonged to the low-income category, with an income of up to Rs. 164000/- from soybean cultivation. This was followed by 13.33 per cent who reported income ranging from Rs. 164001/- to Rs. 307000/- while 6.67 per cent had an income above Rs. 307000/-.

3.8 Access to credit

It was observed from Table 1 that all the respondents (100.00%) had access to credit facilities for soybean cultivation. None of the respondents reported non-availability of credit for soybean cultivation.

3.9 Sources of information

The findings in Table 1 showed that a substantial majority of the respondents (82.00%) had a medium level of use of information sources. This was followed by 12.00 per cent who had a high level of information source utilization, whereas only 06.00 per cent belonged to the low category. A similar finding was reported by [1, 8, 15].

3.10 Training received

The results indicated that none of the respondents (100.00%) had attended any training programme related to recommended plant protection measures in soybean cultivation. This reflects the absence of formal training exposure among the soybean growers regarding recommended plant protection practices.

3.11 Labour availability

The findings revealed that a large majority of the respondents (84.67%) reported the availability of labour for carrying out farm operations, whereas 15.33 per cent indicated that labour was not available. Thus, most soybean growers had access to labour for performing their farm activities.

3.12 Number of sprayings

It is evident from Table 1 that the majority of the respondents (90.67%) undertook 2–3 sprayings for crop protection in soybean. This was followed by 07.33 per cent who carried out more than 3 sprayings, while only 02.00 per cent reported undertaking up to 1 spraying. Comparable findings were reported by [5].

3.13 Knowledge

The findings in Table 1 revealed that 61.33 per cent of the respondents possessed a medium level of knowledge regarding recommended plant protection measures in soybean cultivation. This was followed by 20.67 per cent

with a low level of knowledge, while only 18.00 per cent had a high level of knowledge. Thus, the majority of soybean growers had a moderate level of knowledge regarding

recommended plant protection measures. Similar observations were reported by ^[4, 17].

Table 1: Distribution of the respondents according to their selected characteristics

Sr. No.	Profile of soybean growers	Frequency	Per cent
1	Age		
	Young age (Upto 35 years)	35	23.33
	Middle age (36 to 50 years)	67	44.67
	Old age (Above 50 years)	48	32.00
2	Education		
	Illiterate	03	02.00
	Primary School (Upto 4th)	08	05.33
	Middle School (5th to 7th)	06	04.00
	Secondary School (8th to 10th)	28	18.67
	Higher Secondary School (11th to 12th)	63	42.00
	College (Above 12 th)	42	28.00
3	Experience in Soybean Cultivation		
	Up to 15 years	72	48.00
	16 to 30 years	59	39.33
	Above 30 years	19	12.67
4	Land holding (ha.)		
	Marginal (Up to 01.00ha.)	24	16.00
	Small (01.01 to 2.00 ha.)	50	33.33
	Semi-Medium (02.01 to 04.00 ha.)	52	34.67
	Medium (04.01 to 10.00 ha.)	23	15.33
	Large (More than 10.00 ha.)	01	00.67
5	Area under soybean cultivation (ha.)		
	Marginal (Up to 01.00ha.)	35	23.33
	Small (01.01 to 2.00 ha.)	54	36.00
	Semi-Medium (02.01 to 04.00 ha.)	42	28.00
	Medium (04.01 to 10.00 ha.)	18	12.00
	Large (More than 10.00 ha.)	01	00.67
6	Annual income		
	Upto Rs. 266000/-	81	54.00
	Rs. 266001/- to Rs. 483000/-	48	32.00
	Above Rs. 483000/-	21	14.00
7	Income from soybean cultivation		
	Upto Rs. 164000/-	120	80.00
	Rs. 164001/- to Rs. 307000/-	20	13.33
	Above Rs. 307000/-	10	06.67
8	Access to credit		
	Credit availability	150	100.00
	Non availability	00	00.00
9	Sources of information		
	Low	09	06.00
	Medium	123	82.00
	High	18	12.00
10	Training received		
	Not received	150	100.00
	Received	00	00.00
11	Labour availability		
	Available	127	84.67
	Unavailable	23	15.33
12	Number of sprayings		
	Upto 1 sprayings	03	02.00
	2 to 3 sprayings	136	90.67
	Above 3 sprayings	11	07.33
13	Knowledge about plant protection		
	Low	31	20.67
	Medium	92	61.33
	High	27	18.00
14	Attitude towards plant protection		
	Unfavourable	15	10.00
	Moderately favourable	113	75.33
	Highly favourable	22	14.67

3.14 Attitude

The findings indicated that the majority of the respondents (75.33%) had a moderately favourable attitude towards recommended plant protection measures in soybean cultivation. This was followed by 14.67 per cent who exhibited a highly favourable attitude, whereas 10.00 per cent had an unfavourable attitude. Overall, most soybean growers showed a moderately favourable attitude towards the recommended plant protection measures. Similar findings were observed by ^[17].

4. Conclusion

The study revealed that soybean growers were predominantly middle-aged, educated up to higher secondary level, and had semi-medium landholdings. Most had medium utilization of information sources, undertook 2 to 3 sprayings, and possessed medium knowledge with a moderately favourable attitude. However, none had received formal training on plant protection. The findings suggest a need for greater emphasis on technical guidance and regular extension support, particularly to strengthen soybean growers' understanding and improve their confidence in using plant protection measures.

Strengthening linkages between soybean growers and extension agencies, along with need-based training and timely dissemination of plant protection information, can contribute to more effective adoption of recommended practices. The profile assessment therefore provides a useful foundation for planning and implementing need-based extension strategies for sustainable soybean production and improved crop protection.

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