



ISSN Print: 2664-844X
ISSN Online: 2664-8458
NAAS Rating (2026): 4.97
IJAFS 2026; 8(2): 385-388
www.agriculturaljournals.com
Received: 06-12-2025
Accepted: 18-01-2026

KD Kand

M.Sc. Research Scholar,
Department of Agriculture
Extension Education, MPKV,
Rahuri, Ahilyanagar,
Maharashtra, India

Dr. PB Kharde

Associate Professor,
Department of Agriculture
Extension Education, MPKV,
Rahuri, Ahilyanagar,
Maharashtra, India

Dr. GK Sasane

Head, Department of
Agricultural Extension
Education, Post Graduate
Institute, Rahuri,
Ahilyanagar, Maharashtra,
India

Dr. SS Sadaphal

Assistant Professor,
Department of Agriculture
Extension Education, MPKV,
Rahuri, Ahilyanagar,
Maharashtra, India

Dr. KC Gagare

Assistant Professor,
Department of Botany (Seed
Science and Technology),
MPKV, Rahuri, Ahilyanagar,
Maharashtra, India

Corresponding Author:

KD Kand

M.Sc. Research Scholar,
Department of Agriculture
Extension Education, MPKV,
Rahuri, Ahilyanagar,
Maharashtra, India

Varietal preference of soybean growers

KD Kand, PB Kharde, GK Sasane, SS Sadaphal and KC Gagare

DOI: <https://www.doi.org/10.33545/2664844X.2026.v8.i2e.1209>

Abstract

Soybean (*Glycine max* L. Merrill) is an important oilseed and leguminous crop contributing significantly to food, nutritional and livelihood security in India. The present study was undertaken to examine the varietal preference of soybean growers in Ahilyanagar district of Maharashtra. An ex-post facto research design was adopted and the study was conducted in Kopergaon and Rahata tahsils, which were purposively selected based on the highest area under soybean cultivation. A total of 120 soybean growers were selected using proportionate random sampling. Primary data were collected through personal interviews using a pre-tested structured interview schedule, and the data were analyzed using frequencies and percentages.

The results revealed distinct variations in varietal preferences among soybean growers. Phule Sangam emerged as the most preferred variety, securing the highest first-rank preference, followed by Phule Durva and Phule Kimaya, indicating better farmer acceptance due to their perceived yield performance and adaptability to local agro-climatic conditions. The commonly grown variety JS-335 ranked fourth, suggesting a gradual shift towards newer varieties. Phule Kalyani and Phule Agrani were comparatively less preferred, while 3344 (Green Gold) was identified as the least preferred variety.

The study concludes that soybean varietal preference is primarily influenced by yield potential, adaptability and farmers' field experience. The findings emphasize the need for region-specific varietal promotion and targeted extension interventions to enhance adoption of farmer-preferred soybean varieties and improve productivity and profitability in the study area.

Keywords: Soybean, varietal preference, ex-post facto, performance

Introduction

Soybean (*Glycine max* L. Merrill) is one of the most important leguminous oilseed crops globally, valued for its high protein and oil content. Originating in East Asia and domesticated from its wild progenitor *Glycine soja*, soybean has spread worldwide and plays a vital role in food, feed and industrial sectors. In India, soybean has emerged as a major kharif crop, contributing significantly to edible oil production, nutritional security and rural livelihoods.

The crop's adaptability to diverse agro-climatic conditions, short duration and suitability for rainfed farming systems have supported its widespread cultivation. However, soybean productivity is highly influenced by varietal performance, as no single variety is universally adapted across regions. Farmers' varietal preferences are shaped by factors such as yield potential, crop duration, tolerance to biotic and abiotic stresses, seed quality traits and market demand. Selection of appropriate soybean varieties is therefore crucial for enhancing productivity, profitability and sustainability of soybean-based farming systems. Understanding varietal performance and farmers' preferences under specific agro-ecological conditions is essential for effective varietal dissemination and future breeding programs. This study aims to evaluate and identify suitable soybean varieties based on agronomic performance and farmer preference to support region-specific recommendations.

The global soybean production during 2023-24 was estimated at 420.59 million metric tonnes (MMT). Brazil emerged as the largest producer, contributing 169.00 MMT (40.18%) of total world production, followed by the United States with 118.84 MMT (28.26%). Together, these two countries accounted for nearly 68.5% of global soybean output. Argentina ranked third with 49.00 MMT (11.65%). Among Asian countries, China produced 20.65 MMT (4.91%), while India contributed 12.60 MMT (3.00%) to global production. Other notable producers included Paraguay (2.54%), Canada (1.81%), Russia and Ukraine (1.66% each) and Bolivia (0.88%). The remaining countries collectively contributed 3.45% of global soybean production.

Soybean Production in World (2023-24)

Sr. No.	Country	Production (MMT)	Percentage to Total
1.	Brazil	169.00	40.18
2.	United states	118.84	28.26
3.	Argentina	49.00	11.65
4.	China	20.65	4.91
5.	India	12.60	3.00
6.	Paraguay	10.70	2.54
7.	Canada	7.60	1.81
8.	Russia	7.00	1.66
9.	Ukraine	7.00	1.66
10.	Bolivia	3.70	0.88
11.	Other Countries	14.50	3.45
	Total	420.59	100.00

Source: United State Department of Agriculture; ipad.fas.usda.gov

Soybean Production in India

Sr. No.	State	Area ('000' Ha)	Production ('000' MT))	Productivity (kg/ha)
1.	Madhya Pradesh	5622.15	5379.40	956.82
2.	Maharashtra	4758.20	5237.70	1100.77
3.	Rajasthan	1127.30	920.30	816.38
4.	Karnataka	406.10	401.10	987.69
5.	Gujarat	266.20	298.00	1119.46
6.	Telangana	202.05	252.00	1247.22
7.	Chhattisgarh	27.00	23.00	851.85
8.	Bihar	18.00	25.00	1388.89
9.	Andhra Pradesh	9.00	10.00	1111.11
10.	Uttarakhand	8.00	10.52	1315.00
11.	Other States	36.05	38.18	1059.08
	Total	12480.05	12595.20	1009.23

Source: Ministry of Agriculture and Farmers Welfare, Govt. of India

During 2023-24, soybean in India occupied a total area of 12.48 million ha with a production of 12.60 million tonnes, recording an average productivity of 1009 kg ha⁻¹. Madhya Pradesh remained the leading soybean-growing state with the largest area (5.62 million ha) and production (5.38 million tonnes), though its productivity (956.82 kg ha⁻¹) was below the national average. Maharashtra ranked second in both area (4.76 million ha) and production (5.24 million tonnes) and recorded a relatively higher productivity

(1100.77 kg ha⁻¹). Rajasthan occupied the third position in area (1.13 million ha) but showed lower productivity (816.38 kg ha⁻¹). Among the states, the highest productivity was observed in Bihar (1388.89 kg ha⁻¹), followed by Uttarakhand (1315.00 kg ha⁻¹) and Telangana (1247.22 kg ha⁻¹), despite their smaller area under cultivation. Overall, the results indicate that while central Indian states dominate soybean area and production, higher productivity levels are achieved in some non-traditional soybean-growing states

Soybean Production in Maharashtra

Sr. No.	States	Area ('000' Ha)	Production ('000' Mt)	Productivity (kg/ha)
1.	Latur	444.8	523.2	1176.26
2.	Nanded	411.08	489.2	1190.03
3.	Buldhana	390.3	457.9	1173.20
4.	Dharashiv	378.72	452.5	1194.81
5.	Washim	389.63	433.3	1112.08
6.	Beed	385.5	380.5	987.02
7.	Amravati	382.55	351.5	918.83
8.	Akola	293.84	262.5	893.34
9.	Yavatmal	220.26	304.1	1380.64
10.	Ahilyanagar	85.79	102.8	1198.00
	Other Districts	1243.68	1281.20	1030.17
	Total	4758.20	5237.70	1100.77

Source: Department of Agriculture, Govt. of Maharashtra

During 2023-24, soybean in Maharashtra covered an area of 4.76 million ha with a total production of 5.24 million tonnes, registering an average productivity of 1100.77 kg ha⁻¹. Among the districts, Latur recorded the highest area (444.80 thousand ha) and production (523.20 thousand tonnes). Nanded, Buldhana and Dharashiv also contributed substantially to the state's soybean production, each with

productivity exceeding 1170 kg ha⁻¹. The highest productivity was observed in Yavatmal (1380.64 kg ha⁻¹), followed by Ahilyanagar (1198.00 kg ha⁻¹) and Dharashiv (1194.81 kg ha⁻¹), indicating better yield performance in these districts. In contrast, relatively lower productivity was recorded in Akola (893.34 kg ha⁻¹) and Amravati (918.83 kg ha⁻¹) despite considerable area under cultivation.

Objectives of the Study

- To study the varietal preference of soybean growers

Methodology

The present study was conducted in Ahilyanagar district of Maharashtra, which was purposively selected due to its large area under soybean cultivation. Among the fourteen tahsils in the district, Kopargaon and Rahata tahsils were selected based on the highest area under soybean. From these tahsils, ten villages (five from each tahsil) having substantial soybean area were identified with the help of Taluka Agriculture Officers.

An ex-post facto research design was adopted, as the variables under study had already occurred and were beyond the control of the researcher. A total of 120 soybean growers were selected using a proportionate random sampling technique in consultation with local extension personnel.

Primary data were collected through personal interviews using a pre-tested structured interview schedule developed in line with the study objectives. The interview schedule was validated through expert consultation and pre-tested on non-sample respondents to ensure clarity and reliability. Collected data were scrutinized, coded and tabulated. Appropriate descriptive statistical tools such as frequencies and percentages were used for analysis and interpretation of the results.

Results and Discussion

Varietal Preference of Soybean Growers

One of the major objectives of the study was to study the varietal preference of the respondents. This variable is assessed by examining the preferences of respondents for various soybean varieties.

Distribution of the respondents according to their Varietal Preference

Sr. No.	Name of variety	Preferences (Frequency and Percentage)							Rank
		1	2	3	4	5	6	7	
1.	Phule Sangam	40 (33.33)	30 (25.00)	26 (21.66)	18 (15.00)	6 (5.00)	0 (0.00)	0 (0.00)	I
2.	Phule Durva	26 (21.67)	26 (21.67)	28 (23.33)	24 (20.00)	10 (8.33)	6 (5.00)	0 (0.00)	II
3.	Phule Kimaya	26 (21.67)	32 (26.67)	16 (13.33)	24 (20.00)	16 (13.33)	4 (3.33)	2 (1.67)	III
4.	JS-335	18 (15.00)	18 (15.00)	20 (16.66)	22 (18.33)	28 (23.33)	14 (11.67)	0 (0.00)	IV
5.	Phule Kalyani	6 (5.00)	4 (3.33)	12 (10.00)	18 (15.00)	26 (21.67)	38 (31.66)	16 (13.34)	V
6.	Phule Agrani	4 (3.33)	8 (6.66)	14 (11.67)	12 (10.00)	20 (16.67)	24 (20.00)	38 (31.67)	VI
7.	3344 (Green Gold)	0 (0.00)	2 (1.67)	4 (3.33)	2 (1.67)	14 (11.67)	34 (28.33)	64 (53.33)	VII

The data indicated the preferences of the respondent's different soybean varieties preferred based on frequency and percentage of responses. The data revealed that *Phule Sangam* is the most preferred variety of soybean with the highest number of top-rank (1st) preference (40 responses, 33.33%). *Phule Durva* and *Phule Kimaya* follow in second and third place, respectively, receiving a more balanced distribution of preferences across ranks. JS-335 variety ranked fourth in respondents' preference, while *Phule Kalyani* and *Phule Agrani* were less preferred receiving lower rankings. The soybean variety 3344 (Green Gold) was the least preferred overall receiving the majority of responses in the lowest rank (7th) with 64 responses (53.33%) indicating it is the least favoured by the respondents among the seven varieties.

Conclusion

The study on varietal preference of soybean growers in Ahilyanagar district revealed clear differences in farmers' choices among the selected soybean varieties. *Phule Sangam* emerged as the most preferred variety, receiving the highest proportion of first-rank preferences, indicating strong farmer acceptance due to its suitability under local agro-climatic conditions. *Phule Durva* and *Phule Kimaya* were ranked second and third, respectively, reflecting their stable performance and moderate adaptability as perceived by the respondents. The widely cultivated variety JS-335 occupied the fourth position, suggesting a gradual shift of farmers towards newer varieties. *Phule Kalyani* and *Phule Agrani*

were comparatively less preferred, while 3344 (Green Gold) was identified as the least preferred variety, receiving the maximum number of lowest-rank responses.

Overall, the findings highlight that farmers' varietal preference is influenced by perceived yield performance, adaptability and acceptance in the local farming system. The study emphasizes the need for location-specific varietal promotion and strengthening extension efforts to encourage adoption of high-performing and farmer-preferred soybean varieties for enhancing productivity and profitability in the region.

Acknowledgement

The author is thankful to the faculty members and experts of Extension Education for their valuable guidance and encouragement, which greatly contributed to the successful completion of this research. The author sincerely acknowledges the cooperation of the soybean growers of Ahilyanagar district for providing valuable information for the study. Gratitude is also extended to the Taluka Agriculture Officers and field-level extension personnel for their guidance and support during data collection.

References

- Adsul SK. A study of pearl millet hybrid 'Shradha' and other varieties by the farmers in Karjat tahsil of Ahmednagar district. Rahuri: Mahatma Phule Krishi Vidyapeeth; 1998.

2. Borase JM. Varietal preferences of groundnut growers in Kolhapur district. Rahuri: Mahatma Phule Krishi Vidyapeeth; 2015.
3. Dhavale AN. A study of adoption of Indrayani and other varieties by the paddy growers from Maval tahsil of Pune district. Rahuri: Mahatma Phule Krishi Vidyapeeth; 2002.
4. Dhawale MN. Varietal preference of wheat growers. Rahuri: Mahatma Phule Krishi Vidyapeeth; 2017.
5. Khan H, Patted VS, Muralidhara B, Shankergoud I, Salimath PM. Study on impact of farmer's participatory varietal selection in groundnut (*Arachis hypogaea* L.) improvement. Int J Curr Microbiol App Sci. 2017;6(6):1304-1312.
6. Nautiyal PC, Zala PV, Tomar RS, Sodavadiya P, Tavethia B. Evaluation of water use efficient newly developed varieties of groundnut in on-farm trials in two different rainfall areas in Gujarat, India. J SAT Agric Res. 2011;9:1-6.
7. Sharma N, Sharma A, Sharma JP, Dubey SK, Dabas JP, Singh BK, *et al.* Farmers' preferences to varietal attributes as an indicator for acceptance and adoption of aromatic rice (*Oryza sativa*) varieties. Indian J Agric Sci. 2017;87(1):51-55.