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Relationship between profile of soybean growers and adoption practices followed by soybean growers

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Abstract
The present study entitled "Adoption of Integrated Pest Management practices followed by soybean growers" was conducted in Ausa and Nilanga tehsils of Latur district of Maharashtra state. A sample of 120 respondents was drawn randomly from 12 villages. From each village 10 soybean growers were chosen from selected villages. Ex post facto research design was followed in present investigation. As regard with the profile of soybean growers it was observed that, majority (70.83%) of the soybean growers had middle age, majority of them (40.83%) soybean growers were educated up to middle school, majority of them (35.00%) soybean growers belonged to marginal land holding category, majority (70.83%) of the soybean growers had medium annual income, majority (83.33%) of soybean growers had medium area under soybean cultivation, majority (61.67%) of soybean growers had medium level of sources of information, majority of them (65.84%) of soybean growers of soybean growers had medium extension contact with extension agency, majority (56.67%) of soybean growers had medium level of economic motivation, majority (70.00%) of soybean growers had medium risk orientation, majority (74.16%) of the soybean growers had medium level of knowledge. Regarding relationship between profile of soybean growers and adoption of integrated pest management practices by soybean growers, it was observed that, education, economic motivation and risk orientation had positive and significant relationship with adoption of integrated pest management practices. Whereas land holding, annual income, area under soybean cultivation, source of information, extension contact and knowledge had positive and highly significant relationship with adoption of integrated pest management practices. Whereas age had positive non-significant relationship with adoption of integrated pest management practices.

Keywords: Adoption, integrated pest management practices, soybean growers

Introduction
Soybean *Glycine max* (L.) Merrill, a vital oilseed and leguminous crop, belongs to the Fabaceae family and has a chromosome number of 2n = 40. Native to East Asia, particularly China, soybean has been cultivated for over 5,000 years. Over time, it has become a globally significant crop due to its economic, nutritional, and industrial value. Rich in protein (approximately 40.00 per cent) and oil (around 20%), soybean is widely used in human food, animal feed, and several industrial products such as biodiesel, soy-based plastics, and cosmetics. Its nitrogen-fixing ability also contributes to soil fertility, making it an environmentally beneficial crop.

Soybean grows best in loamy, well-drained soils with a neutral to slightly acidic pH range of 6.0 to 7.5. It requires moderate temperatures (25 °C to 30 °C) and rainfall between 500 mm and 1000 mm during its life cycle. The crop is sensitive to waterlogging, salinity, and poor drainage. Timely sowing, appropriate seed varieties, and effective field preparation are crucial for achieving optimal yields. While the crop is suited to a range of soil types, sustainable practices are essential to mitigate soil erosion and maintain fertility, especially in rainfed areas.

Maharashtra state area and production of soybean according to Third Advance Estimate 2024-2025 is area is 50.72 lakh hectare and production is 74.03 lakh tonnes. Leading top three district in Maharashtra under maximum area under soybean cultivation are Latur district has 5.00 lakh hectare, Dharashiv district has 4.63 lakh hectare and Nanded district has 4.52 lakh hectare. The area and production of the Latur

district according to the Third Advance Estimate 2024-2025 is area is 5.00 lakh hectare and production is 10.03 lakh tonnes (Source- Department of Agriculture, Government of Maharashtra).

The area of Ausa and Nilanga tehsils under soybean cultivation in kharif 2024-25 is 64,809 hectare and 69,511 hectare respectively (source- Department of Agriculture, Latur district).

The increased use of pesticides not only raises production costs but also reduces biodiversity and affects ecological balance. To address these issues, Integrated Pest Management has emerged as a sustainable and scientifically backed solution. Integrated Pest Management is a holistic approach to pest control that combines cultural, mechanical, biological, and chemical methods to manage pests in an environmentally and economically sound manner. The main goal of Integrated Pest Management is to reduce pest populations to levels that do not cause economic damage while minimizing harm to beneficial organisms, human health, and the environment. Integrated pest management is an effective and environmentally sensitive approach to pest management that relies on a combination of common-sense practices.

Materials and Methods

The present study was conducted in the Latur district of the Marathwada region of Maharashtra state. From this region Latur district was selected purposively for research purpose due to maximum area under soybean cultivation. From Latur district only two tehsils were selected Ausa and Nilanga purposively based on maximum area under soybean cultivation under the Latur district. From each selected tehsil six villages were randomly selected. Thus, total 12 villages were selected for the study. From each villages 10 respondents were selected randomly. Thus, a total of 120 respondents were selected as sample respondents for this study. These selection were done by using a simple random sampling method. The ex post facto research design used for present study. An interview schedule was prepared in view of the objective of the study and data were collected by personal interview of the selected soybean growers at their home or farms. The collected data was organised, tabulated and analyzed with help of statistical tools like frequency, mean, standard deviation, correlation of coefficient (r).

Results and Discussion

As regard with the profile of soybean growers it was observed that, majority (70.83%) of the soybean growers had middle age, majority of them (40.83%) soybean growers were educated up to middle school, majority of them (35.00%) soybean growers belonged to marginal land holding category, majority (70.83%) of the soybean growers had medium annual income, majority (83.33%) of soybean growers had medium area under soybean cultivation, majority (61.67%) of soybean growers had medium level of sources of information, majority of them (65.84%) of soybean growers of soybean growers had medium extension contact with extension agency, majority (56.67%) of soybean growers had medium level of economic motivation, majority (70.00%) of soybean growers had medium risk orientation, majority (74.16%) of the soybean growers had medium level of knowledge.

Table 1: Distribution of the soybean growers according to their profile

SL. No.	Category	Respondents (n = 120)	
		Frequency	Percentage
A.	Age		
1	Young (Up to 31 years)	19	15.83
2	Middle (32 to 45 years)	85	70.83
3	Old (Above 45 years)	16	13.34
B.	Education		
1	Illiterate	11	09.17
2	Can read only	4	03.33
3	Can read and write	5	04.17
4	Primary School	22	18.33
5	Middle School	49	40.83
6	Higher sec. School	24	20.00
7	Graduation	5	04.17
C.	Land holding		
1	Marginal (up to 1.00 ha.)	42	35.00
2	Small (1.01 to 2.00 ha.)	28	23.33
3	Semi medium (2.01 to 4.00 ha.)	23	19.17
4	Medium (4.01 to 10.00 ha.)	25	20.83
5	Large (10.01 ha. and above)	2	01.67
D.	Annual income		
1	Low (Up to 88976)	22	18.33
2	Medium (88977 to 261173)	85	70.83
3	High (Above 261173)	13	10.84
E.	Area under soybean cultivation		
1	Low (Up to 0.53 ha.)	7	05.83
2	Medium (0.54 to 3 ha.)	100	83.33
3	High (Above 3 ha.)	13	10.84
F.	Source of information		
1	Low (Up to 22)	26	21.67
2	Medium (23 to 40)	74	61.67
3	High (Above 40)	20	16.66
G.	Extension contact		
1	Low (Up to 23)	23	19.16
2	Medium (24 to 41)	79	65.84
3	High (Above 41)	18	15.00
H.	Economic motivation		
1	Low (Up to 12)	28	23.33
2	Medium (13 to 24)	68	56.67
3	High (Above 24)	24	20.00
I.	Risk orientation		
1	Low (Up to 19)	23	19.17
2	Medium (20 to 23)	84	70.00
3	High (Above 23)	13	10.83
J.	Knowledge		
1	Low (Up to 14)	23	19.17
2	Medium (15 to 18)	89	74.16
3	High (Above 18)	8	06.67

Table 2: Relationship between adoption and profile of the soybean growers

SL. No	Independent Variable	Correlation coefficient ('r')
1.	Age	0.157NS
2.	Education	0.222*
3.	Land holding	0.289**
4.	Annual income	0.283**
5.	Area under soybean cultivation	0.309**
6.	Source of information	0.283**
7.	Extension contact	0.406**
8.	Economic motivation	0.219*
9.	Risk orientation	0.232*
10.	Knowledge	0.495**

* = Significant at 0.05% level of probability
**= Significant at 0.01% level of probability, NS = non-significant

The analysis of the data showed in table no. 2 indicate that among different independent variables like age had positive and non-significant relationship with adoption whereas land holding, annual income, area under soybean cultivation, sources of information, knowledge and extension contact had positive and highly significant relationship with adoption while, education, economic motivation, risk orientation had positive and significant relationship with adoption.

Conclusion

An attempt was made in the present study to assess the relationship between the profile of the soybean growers and adoption practices followed by soybean growers. The result of the study revealed that among the profile of soybean growers, it was observed that, majority (70.83%) of the soybean growers had middle age, majority of them (40.83%) soybean growers were educated up to middle school, majority of them (35.00%) soybean growers belonged to marginal land holding category, majority (70.83%) of the soybean growers had medium annual income, majority (83.33%) of soybean growers had medium area under soybean cultivation, majority (61.67%) of soybean growers had medium level of sources of information, majority of them (65.84%) of soybean growes of soybean growers had medium extension contact with extension agency, majority (56.67%) of soybean growers had medium level of economic motivation, majority (70.00%) of soybean growers had medium risk orientation, majority (74.16%) of the soybean growers had medium level of knowledge.

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References

1. Dhepe AR. Knowledge and adoption of improved black gram production practices by the farmers. Vasantrao Naik Marathwada Krishi Vidyapeeth; 2014.
2. Koli MA, Patel PL. Adoption of coconut production technology in Junagadh district of Gujarat. Agric. 2014;9(1):83-85.
3. Sayed ND. Adoption of Integrated Pest Management Practices by Vegetable growers in Jabalpur Block of Jabalpur District Madhya Pradesh. Jawaharlal Nehru Krishi Vidyalaya; 2020.
4. Swami PS. Knowledge and adoption of sericulture technology by farm women. Vasantrao Naik Marathwada Krishi Vidyapeeth; 2018.
5. Vithalkar AP. Knowledge and adoption of mandarin production technology by the growers. Vasantrao Naik Marathwada Krishi Vidyapeeth; 2021.