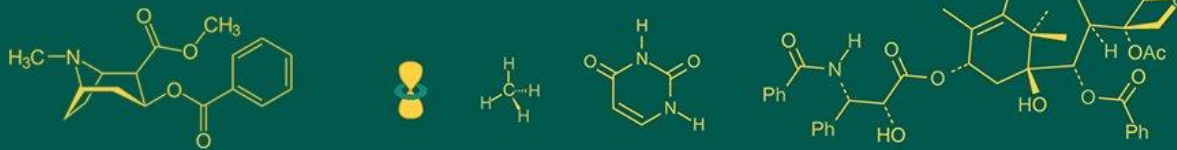


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Adoption of sorghum variety developed by VNMKV

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Abstract

The present study entitled “adoption of sorghum variety developed by VNMKV” was conducted in Parbhani district of Marathwada region of Maharashtra state during the year 2023-24 on the basis of maximum number of farmers cultivating Parbhani Super Moti sorghum variety with the objective to study “Adoption of sorghum variety developed by VNMKV Parbhani”. 120 respondents were selected purposively from 12 villages of 03 tehsils who were cultivating Parbhani Super Moti sorghum variety. An Ex-post-facto research design was followed for the study. Data was gathered using a well-structured interview schedule created with the study's objectives in mind. The collected data was analysed, classified and tabulated. Statistical tools such as frequency, percentage, mean, standard deviation and coefficient correlation were used to interpret findings and draw conclusions. It was observed that more than third fourth (75.83%) of the respondents had medium level of adoption whereas, 12.50 percent of the respondents had high level of adoption, whereas 11.67 percent had low level adoption towards Parbhani Super Moti sorghum variety.

Keywords: Adoption, sorghum, Parbhani super Moti, variety

Introduction

Jowar is an important crop provide food, feed, and fodder in tropical and subtropical region in the world. It is a staple food for the rural poor in the country and African countries. Sorghum is the important in terms of nutritive value, which has large scale demand for food purpose it's contain nearly all essential nutrients including several medicinal properties. The five largest producers of sorghum in the world are United States (25%) India (21.5%) Mexico (11%) China (09%) and Nigeria (07%). As per 2023-24 data, in India total cultivated land is 4096 million hectares and production of sorghum is about 4.95 million with productivity of 998 kg/ha. In Maharashtra total cultivated land is 02.17 million hectares and production is about 1.81m tones with productivity of 833 kg/ha.

Grain sorghum is one of the most important dietary source of calories for population. The nutrient composition of sorghum indicates that it is a good source of energy, proteins, carbohydrates, vitamins and minerals. Sorghum is rich in minerals like phosphorus, potassium and zinc. Nutritional value of sorghum is better than wheat, rice, maize and barley. The energy value of 100 g sorghum grains ranges from 296.1 to 356.0 kcal. The grains contain 60-75% carbohydrates, 08% to 13% protein and 04% to 06% fat. Sugar content of sorghum is 10% to 20%. Sorghum is an important source of fat-soluble and B-complex vitamins except vitamin B12. Amongst the B vitamins, concentrations of thiamine, riboflavin and niacin in sorghum were comparable to those in maize.

Most of the species of sorghum is grown only for fodder use as feed for animals and one species is cultivated only for grain. Sorghum flour is used for ‘Bhakri’ making especially in India. With its nutritional quality and potential use in agriculture, most of the poor and rural people lived in village prefer jowar bhakri than wheat chapati. In India sorghum is being grown in both *kharif* (rainy) and *rabi* (post rainy) seasons. Sorghum has an ability to survive in many stresses including drought, salinity, heat and flood. It performs better in adverse soil and climatic conditions as compared to other crops. This makes the crop to minimize the risk and enables to fit to sustainable and economically profitable dry land production system.

Objective

Adoption of farmers towards Parbhani Super Moti Sorghum variety.

Materials and Methods

The present study was conducted in the Parbhani district of the Marathwada region of Maharashtra state. From this region Parbhani district was purposively selected for research purpose due to largest area of Parbhani super moti growers. From Parbhani district out of 9 tehsils, only three i.e. Parbhani, Jintur and Manvat have been purposively selected because their tehsil constituted maximum area under Parbhani super moti cultivation. From each selected tehsil four villages were randomly selected. Thus, total 12 villages were selected for the study. From each village 10 respondents were selected randomly. Thus, a total of 120 respondents were selected as sample respondents for this

study. These selections 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 Parbhani super moti growers at their home or farms. The collected data was organized, tabulated and analyzed with the help of statistical tools like frequency, mean, percentage, standard deviation and correlation of coefficient (r),

Results and Discussion

Adoption of farmers towards Parbhani Super Moti sorghum variety.

Table 1: Statement wise distribution of the farmers according to their adoption of Parbhani Super Moti sorghum variety

Sr. No.	Statements	NA(0)		PA(1)		FA(1)	
		F	%	F	%	F	%
1	Parbhani Super Moti sorghum variety is suitable for growing in kharif season	12	10.00	26	21.67	82	68.33
2	Confident of getting bumper yield of Parbhani Super Moti under assured rainfall area.	08	06.67	15	12.50	97	80.83
3	Farmers can grow Parbhani Super Moti in high rainfall area.	00	00.00	12	10.00	108	90.00
4	One is sure of getting more returns with increased doses of NPK to Parbhani Super Moti sorghum variety.	01	00.83	03	02.50	116	96.67
5	Lodging problem does not arise during harvesting.	115	95.83	01	00.83	04	3.33
6	One is sure of yield even though there is a moisture stress during the flowering period of Parbhani Super Moti sorghum variety.	10	08.33	21	17.50	89	74.17
7	Grain mould disease is not curse to the Parbhani Super Moti growers.	01	00.83	03	02.50	116	96.67
8	I do not feel that plant protection measures in Parbhani Super Moti will be economical.	06	05.00	90	75.00	24	20.00
9	Nobody is afraid of considerable losses in the production of Parbhani Super Moti due to rains at maturity	01	00.83	04	03.33	115	95.83
10	More number of grain per panicle of Parbhani Super Moti helps farmers to get more yield.	10	08.33	63	52.50	47	39.17
11	When one thinks of inter-cropping he turns to growing Parbhani Super Moti.	09	07.50	79	65.83	32	26.67
12	Introduction of Parbhani Super Moti has helps in boosting the nutritive value of day to day mill of people.	40	33.33	61	50.83	19	15.83
13	There is a lack of awareness regarding Parbhani Super Moti variety.	22	18.33	13	10.83	85	70.83
14	The quality of Parbhani Super Moti variety is better than the other variety.	36	30.00	55	45.83	29	24.17
15	It is possible to solve economical and fodder problem through Parbhani Super Moti variety.	15	12.50	87	72.50	18	15.00
16	Parbhani Super Moti sorghum variety is suitable for growing in Rabi season.	00	00.00	04	03.33	116	96.67
17	Yield obtained through Parbhani Super Moti cannot meet to the expectations of the farmer	20	16.67	50	41.67	50	41.67
18	Demand of Parbhani Super Moti in Market is high.	47	39.17	41	34.17	32	26.67
19	In low rainfall area Parbhani Super Moti give better yield.	00	00.00	55	45.83	65	54.17
20	Parbhani Super Moti is suitable to cultivate all over Maharashtra.	26	21.67	49	40.83	45	37.50

The statement wise findings on adoption of farmers towards Parbhani Super Moti sorghum variety was calculated and presented in following table 1.

The results regarding respondents according to their adoption towards Parbhani Super Moti sorghum variety in Table 1., indicated that, more than half (68.33%) of the respondents had fully adopted on Parbhani Super Moti sorghum variety is suitable for growing in *kharif* season, followed by 21.67 percent of the respondents had partially adopted, while 10.00 percent respondents had non adopted.

Majority (80.83%) of the respondents had fully adopted about getting bumper yield of Parbhani Super Moti under assured rainfall area, while 12.50 percent of the respondents had partially adopted about getting bumper yield of Parbhani Super Moti under assured rainfall area, while 06.67 percent of the respondents had non adopted about getting bumper yield of Parbhani Super Moti under assured rainfall area.

Majority (90.00%) of the respondents had fully adopted about Parbhani Super Moti sorghum variety can grow in high rainfall area, where as 10.00 percent respondents had partially adopted, while no one respondent had none adopted.

Majority (96.67%) of the respondents had fully adopted about getting more returns with increased doses of NPK to Parbhani Super Moti sorghum variety, where 02.50 percent of respondents had partially adopted, while 00.83 percent respondents were not adopted.

With the statement like lodging problem does not arise during harvesting, majority (95.83%) of the respondents had none adopted, followed by 03.33 percent of respondents had fully adopted, while 00.83 percent had partially adopted.

Statements one is sure of yield even through there is a moisture stress during the flowering period of Parbhani Super Moti sorghum variety nearly one three fourth (74.17%) of the respondents had fully adopted followed by 17.50 percent of respondents had partially adopted, while 08.33 percent had non adopted.

In case of grain mould disease is not curse to the Parbhani Super Moti grower nearly hundred (96.67%) of the respondents had fully adopted followed by 02.50 percent of respondents had partially adopted while 00.83 percent of respondents had non adopted.

In the statement respondents do not feel that plant protection measures in Parbhani Super Moti will be economical one three fourth (75.00%) respondents had partially adopted

followed by 20.00 percent respondent had fully adopted, while 05.00 percent had non adopted. Majority (95.83%) of the respondent had fully adopted where 03.33 percent of the respondents had partially adopted while 00.83 percent non adopted about considerable losses in the production of Parbhani Super Moti due to rains at maturity.

In case of more number of grain per panicle of Parbhani Super Moti helps farmers to get more yield more than half respondents (52.50%) and 39.17 percent of the respondents had partially adopted and fully adopted while 08.33 percent respondents had non adopted.

More than half (65.83%) of respondents had partially adopted about intercropping turns to growing Parbhani Super Moti, where more than one fourth (26.67%) and 07.50 percent respondents had fully adopted and non-adopted respectively.

In case of Introduction of Parbhani Super Moti has help in boosting the nutritive value of day to day mill of people half (50.83%) of the respondents had partially adopted followed by more than one third (33.33%) of respondents had non adopted while 13.83 percent of respondents had fully adopted.

Nearly one three fourth (70.83%) of respondent fully adopted about lack of awareness regarding Parbhani Super Moti sorghum variety followed by 18.33 percent of the respondent had non adopted while 10.83 percent of respondent had partially adopted.

Majority (45.83%) of the respondent had partially adopted where 30.00 percent of the respondents had non adopted while 24.17 fully adopted about the equality of Parbhani Super Moti variety is better than the other variety.

Nearly one three fourth (72.50%) of respondents had partially adopted about to possible to solve economical and fodder problem through Parbhani Super Moti variety, where 15.00 percent and 12.50 percent respondents had fully adopted and non-adopted respectively.

The results regarding respondents according to their adoption towards Parbhani Super Moti sorghum variety in Table 1 indicated that, more than half (96.67%) of the respondents had fully adopted on Parbhani Super Moti sorghum variety is suitable for growing in Rabi season, followed by 03.33 percent of the respondents had partially adopted while 00.00 percent had non adopted.

Statements yield obtained through Parbhani Super Moti sorghum variety cannot meet to the expectations of the farmer there is a same nearly half (41.67%) of the respondents had fully adopted and partially adopted, while 16.67 percent had non adopted.

In case of demand of Parbhani Super Moti sorghum variety more than one third (39.17%) of the respondents had non adopted followed by 34.17 percent of respondents had partially adopted while 26.67 percent of respondents had fully adopted.

In the statement respondents feel that in low rainfall area Parbhani Super Moti sorghum variety give better yield more than half (54.17%) respondents had fully adopted followed by 45.83 percent respondent had partially adopted, while 00.00 percent had non adopted.

The results regarding respondents according to their adoption towards Parbhani Super Moti sorghum variety in Table 1 indicated that more than one third (40.83%) of the respondents had partially adopted on Parbhani Super Moti sorghum variety is suitable to cultivate all over Maharashtra,

followed by 37.50 percent of the respondents had fully adopted while 21.67 percent had non adopted.

Table 2: Overall distribution of the respondents according to their adoption towards Parbhani Super Moti sorghum variety.

Sr. No.	Category	Frequency	Percent
1.	Low (up to 24)	14	11.67
2.	Medium (25 to 30)	96	80.00
3.	High (above 31)	10	08.30
Total		120	100.00

From the Table 2, it was clear that, majority (75.83%) of the respondents more than three fourth had medium level adoption towards Parbhani Super Moti sorghum variety, where as 12.50 percent of the farmers had high level adoption where 11.67 percent had low level adoption towards Parbhani Super Moti sorghum variety.

The findings of this investigation are aligned with those of a previous study done by Kavad *et al* (2015) ^[2], Ghadge (2014) ^[1] and Shinde (2023) ^[3].

Conclusion

It is concluded that from the present study, the analysis of respondents' adoption levels regarding the Parbhani Super Moti sorghum variety reveals a predominantly positive trend, with the majority demonstrating medium to high adoption rates. Notably, over three-fourths of the respondents embraced the variety's suitability for the *Kharif* season and its potential for yielding bumper crops, particularly in areas with assured rainfall. However, there are areas for improvement, such as addressing concerns over lodging and enhancing awareness about the variety's benefits. The data highlights a strong foundation for the Parbhani Super Moti sorghum variety within the farming community, while also underscoring the need for targeted educational initiatives to further boost adoption and maximize the variety's advantages.

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