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Constraints and suggestions of soybean production and marketing in Marathwada region of Maharashtra

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Abstract

Soybean (*Glycine max* L.) is known as 'golden bean' and grown in India for dual purpose that is oil seed as well as pulse crop. About 120 soybean growers were selected from two districts (Nanded and Parbhani) in Marathwada region of Maharashtra for study. In analytical techniques, frequency and percentage method was used. The result revealed that the major constraints faced by the farmers in production and marketing of soybean were severe problem was severe drought condition or long dry spell during crop season, high cost of fertilizers and plant protection, Unauthorized deduction in marketing process. Provision of maximum subsidy for drip and sprinkler irrigation by the government to cover the maximum area under irrigation, minimize the rates of chemical fertilizers, plant protection and other essential inputs by the government, restriction on the process of unauthorized deduction at local level, these suggestions opined by soybean growers.

Keywords: Soybean, constraints, suggestions

Introduction

Soybean (*Glycine max* L.) is known as 'golden bean' and grown in India for dual purpose that is oil seed as well as pulse crop. It is important natural source of protein with number of amino acids essential for good health. *Glycine* is derived from Greek word 'Glykus' and probably refers as 'sweet tuber.' The genus *Glycine* is wild and member of family leguminosae, sub-family tribe phaseolae and native of China. The phaseolae is the most economically important tribe of leguminosae family. It is a major oilseeds crop of the world. In USA, it is called as 'Cinderella crop', 'a king without a crown', 'a marvel bean'. In China, it is known as 'Yellow Jewell', great treasurer 'Chinese cow' and 'vegetable meat'. The Yellow river region in China is generally considered as origin center of soybean and the earliest record of soybean in China. Soybean was introduced to several nearby countries with the development of sea and land trades, probably in the 7th century and land races development in Japan, Indonesia, Philippines, Vietnam, Thailand, Malaysia, Burma, Nepal and North India. These regions comprise the secondary gene centre. The soybean was first introduced to North America in 1765 and then spread to Canada and Latin America. The earliest known date for introduction into Brazil is 1882. Soybean is known as the "miracle crop" because of its several uses. It is an excellent source of protein and oil. It contains about 21 percent carbohydrates, 5 percent minerals, 20 percent fat, 4 percent fiber and reasonable amounts of vitamins. Besides utilization of soybean as vegetable, it is also used in oil industry where it occupies first place in the world oil production. It containing 43 percent protein and 18-20 percent oil has tremendous potential to meet the protein-calorie malnutrition of the ever increasing Indian population. It supplies most of the nutritional constituent's essential for human growth because of its richness in protein, deoiled soya cakes as greater importance in manufacturing human food and livestock feeds. The soybean milk is prepared from soybean flour. It has manifold industrial uses like preparation of butter, fats, paints, varnishes, soap, glycerin, printing ink, etc.

In Maharashtra during 2014-15 area under soybean cultivation was 36.40 lakh hectares with annual production of 18.21 lakh tons with an average productivity of 500 kg/ha. In Marathwada region during 2014-15 area under soybean cultivation was 12.22 lakh hectare with an annual production of 5.16 lakh tons with an average productivity of 401.50 kg/ha (Source: www.mahaagri.gov.in). In Parbhani district during 2014-2015 area under soybean cultivation was 1.88 lakh hectares with annual production of 0.584 lakh tons with an average productivity of 1255 kg/ha. In Nanded district during 2014-2015 area under soybean cultivation was 2.61 lakh hectares with annual production of 0.690 lakh tons with an average productivity of 1287 kg/ha (Source: www.mahaagri.gov.in).

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Materials and Methods

Multistage sampling design will be adopted in selection of district, tehsil, villages and soybean growers. At first stage, two districts namely Parbhani and Nanded were purposely selected from Marathwada region. In second stage, from each district two tehsils was selected on the basis of highest area under soybean cultivation. In third stage, list of predominant villages with respect to area under soybean were obtained from selected tehsils. From each of the tehsil, three villages were selected purposely. In Parbhani district the selected villages from Parbhani tehsil were namely Jamb, Pedgaon and Pingali, from Purna tehsil were Gaur, Purna and Wazur. In Nanded district the selected villages from Mukhed tehsil were namely Gojegaon, Dapka Gundopant and Mukhed, from Hadgaon tehsil were Koli, Shirad and Pimperkhed. In the fourth stage, from the list of soybean growers, ten soybean growers were randomly selected from each village. In this way, from two districts, one hundred twenty soybean growers were selected for the present study. The data was collected from cultivars with the help of pretested schedule through personal interview method. The data pertains for the year 2015-16. In analytical techniques, that is to study the constraints and suggestions in the production and marketing of soybean grower was achieved by frequency analysis and percentage method.

Analysis and Interpretation

1. Constraints faced by farmers in production and marketing of soybean

Constraints faced by soybean growers in production and marketing of soybean were explained in terms of their frequency and percentage and are presented in Table 1. The results inferred that about 87.50 percent of farmers expressed as severe drought condition or long dry spell during crop season as a major problem in soybean production which ranks first in total constraints faced by farmers followed by about 65.83 percent of farmers expressed as high cost of chemical fertilizers and plant protection which ranks second. Unauthorized deduction in marketing process was expressed by 60.00 percent which ranks third in position. High wages of labour was expressed by 50.00 percent which ranks fourth in position. Shattering of pods after maturity by 46.67 percent which ranks fifth in position. High transportation rate was expressed by 45.83 percent which ranks sixth in position. About 42.50 percent farmers expressed as infestation of pests and diseases especially *Helicoverpa armigera* which ranks seventh in position. The credit facility was not available in time which was expressed by 37.50 percent farmers, this constraint ranks eighth to total constraints faced by farmers. The price fluctuation was observed in market therefore instability in prices this constraint was expressed by 34.17 percent farmers. Poor availability of quality seed materials was expressed by 26.67 percent farmers.

Table 1: Constraints faced by growers in production and marketing of soybean

Sr. No.	Constraints	Frequency (n=120)	Rank
1	Severe drought condition or long dry spell	105 (87.50)	I
2	High cost of fertilizers and plant protections	79 (65.83)	II
3	Shattering of pods after maturity	56 (46.67)	V
4	Non availability of credit facility in time	45 (37.50)	VIII
5	Infestations of pests and diseases especially <i>Helicoverpa armigera</i>	51 (42.50)	VII
6	High labour wages	60 (50.00)	IV
7	Poor availability of quality seed materials	32 (26.67)	X
8	High transportation rate	55 (45.83)	VI
9	Unauthorized deduction in marketing process	72 (60.00)	III
10	Instability in prices	41 (34.17)	IX

Figures in parentheses indicate percent to the total

2. Suggestions given by soybean growers in production and marketing

Suggestions opined by soybean growers to overcome the constraints were calculated in the form of frequency and percentage and are presented in Table 2. The results inferred that about 81.67 percent farmers opined that provision of maximum subsidy for drip and sprinkler irrigation by the government to cover the maximum area under irrigation. To overcome the problems minimize the rates of fertilizers, plant protection and other essential inputs by the government was opined by 56.67 percent. They opined that government should concentrate to control the prices on fertilizers and plant

protection. To overcome the problems of unauthorized deduction in produce 55.83 percent farmers opined for restriction on the process of unauthorized deduction at local level. Provision of training programme or demonstration camp to adopt mechanized farming for doing all agricultural operations along with subsidy by the government was opined by 43.33 percent farmers. Harvest the crops before full maturity was opined by 40.83 percent farmers. To avoid the problems of high rate of transportation about 40.00 percent farmers suggested for co-operative or group formation to decrease the cost of transportation. In next order about 34.17 percent farmers opined that to organize campaign or training

programs for integrated pest and disease management practices for that there should be provision of training camp or programme to encourage farmers for adopting such improved techniques of pest and disease control. About 32.50 percent farmers opined to easily availability of credit facility by the financial institutions. As regards instability in prices about 25.83 percent farmers opined that encourage the farmers to store their produce and sold at slack season. Provide enough supply of quality seed materials this suggestion was opined by 22.50 percent farmers.

Table 2: Suggestions given by growers in production and marketing of soybean

Sr. No.	Suggestions	Frequency (n=120)	Rank
1	Maximum subsidy for drip and sprinkler irrigation by the government	98 (81.67)	I
2	Minimize the rates of fertilizers, plant protections and other essential inputs by the government	68 (56.67)	II
3	Harvest the crops before full maturity	49 (40.83)	V
4	Easily availability of credit facility by the financial institutions	39 (32.50)	VIII
5	Organize campaign or training programs for Integrated Pest and Disease Management techniques	42 (34.17)	VII
6	Use of mechanized farming for doing all agricultural operations along with subsidy by the government	52 (43.33)	IV
7	Provide enough supply of quality seed materials	27 (22.50)	X
8	Cooperative or group formation to decrease the cost of transportation	48 (40.00)	VI
9	Restriction on the process of unauthorized deduction at local level	67 (55.83)	III
10	Encourage farmers to store their produce and sold at slack season	31 (25.83)	IX

Figures in parentheses indicate percent to the total

Conclusions

The important problem faced by soybean production was severe drought condition or long dry spell during crop season, high cost of chemical fertilizers and plant protection, shattering of pods after maturity, non availability of credit facility in time, infestation of pests and diseases especially *Helicoverpa armigera*, high labour wages, Poor availability of quality seed materials. In soybean marketing the major constraint was commission agents or merchants take unauthorized deduction in produce, high transportation rate, instability in prices.

Suggestions opined by soybean growers to overcome the production constraints were provision of maximum subsidy for drip and sprinkler irrigation by the government to cover the maximum area under irrigation, minimize the rates of chemical fertilizers, plant protection and other essential inputs by the government, harvest the crops before full maturity, easily availability of credit facility by the financial institutions, organize campaign or training programs for integrated Pest and Disease management techniques, Provision of training programme or demonstration camp to adopt mechanized farming for doing all agricultural operations along with subsidy by the government, Provide enough supply of quality seed materials.

To overcome marketing constraints soybean growers

suggested that restriction on the process of unauthorized deduction when produce bring for sale, co-operative or group formation to decrease the cost of transportation, encourage the farmers to store their produce and try to sale in slack season.

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