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Identification of Problems of Soybean Growers in Madhya Pradesh

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ABSTRACT

A study to delineate the major problems faced by the soybean growers of Madhya Pradesh was undertaken during the organization of the Western Regional Agricultural Fair- cum- Exhibition-2007 sponsored by Department of Agricultural and Cooperation, Ministry of Agriculture, Government of India at National Research Centre for Soybean. It brought out that non- availability of quality seed improved varieties of Soybean is the major problem experienced by the farmers. The problem associated with management of insect-pests and disease complex followed the suit. Among the pests, girdle beetle and the green semilooper were found to be more responsible for the yield loss in farmers field. Resorting to imbalanced fertilization and untimely availability of needed fertilizers ranked third, while the marketing and infrastructure related bottleneck was ranked fourth among the major problem identified.

Soybean is a major Kharif crop grown by the farmers of Madhya Pradesh. This golden bean of oriental origin is successfully being grown by the farmers of "Soy State" since its reintroduction during late sixties and has been instrumental in revolutionalizing the socio- economic status of farmers. Presently, the crop covers more than eight million hectares covering the states of Madhya Pradesh, Maharashtra and Rajasthan thus producing above eight million tonnes. The concerted technological support rendered by the Research and Development system involving ICAR/ AICRPS/SAU along with public sector extension agencies/ private sector has been instrumental in narrowing the yield gap of soybean from above 426kg/ha in 1970 to 1000 kg/ ha in 2003 (Billore et al., 2005). Mitigating the loss in productivity by refining the existing management practices to deal with the biotic and abiotic factors and to take the technology so developed to farmers by the extension agencies constitute a priority to boost up the production of this crop. An investigation to identify the felt needs and problems of soybean growers was carried out in order to formulate the technological interventions to increase the national productivity which is covering around 1000 kg/ha since last few years.

METHODOLOGY

Organization of Annual Kisan Mela (Farmers Fair) is the regular feature of NRC for soybean based at Indore, H.P. During the year 2007, the Western Regional Agricultural Fair- Cum-Exhibition sponsoreded by Department of Agriculture and Cooperation, Ministry of Agriculture, and Government of India was organized at the centre during 15-17 February for the farmers of western part of the country comprising the states of Madhya Pradesh, Chhattisgarh, Rajasthan, Maharashtra, Gujarat, Goa, Dadra – Nagar and Haveli, and Daman and Diu. Of the 10,000 farmers participating in this programme, almost ninety per cent came from the host state of Madhya Pradesh and thus were respondents for the present study. The data were collected using questionnaire containing relevant information about their farming background and most pertinent problems faced by them in their farming system before that start of question- answer session (Krishak Sangoshthi). The filled–in questionnaire was then

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collected, categorized and answers were provided to them by the subject matter specialists. In all, 298 farmers responded to the questionnaire and asked questions related to farming. However, only 140 farmers who asked questions on different aspects of soybean crop were involved in the present study. The data were further grouped into different categories and same were utilized to arrive at conclusions.

RESULTS AND DISCUSSION

The data related to the questions asked by the respondents are in presented in table 1. Farmers asked twenty seven types of questions related to different issues covering from production to marketing aspects on soybean

Table 1. Question asked by the farmers during the Krishak Sangosthi (N= 140)

Sl. No.	Problem related to	No. of farmers	Percent
1.	How to save crop from the serious pests like green semilooper, Bihar hairy caterpillar, tobacco caterpillar and girdle beetle ?	19	13.57
2.	Which nutrition is best: Chemical/ Organic?	16	11.42
3.	How to manage diseases in soybean (yellowing and drying of plants)	11	7.85
4.	What are the herbicides and their mode of application in soybean crop?	9	6.42
5.	Which are the high yielding varieties of soybean?	9	6.42
6.	Which is the variety resistant to girdle beetle ?	9	6.42
7.	Which are the early maturing soybean varieties ?	8	5.71
8.	How to combat drought situation in case of scanty and erratic rainfall ?	7	5.00
9.	Why the quality seed of improved soybean varieties is not available in required quantity ?	7	5.00
10.	Why does soybean plant bears no pods ?	6	4.25
11.	Which are the agencies to get soil samples tested by the farmers ?	5	3.57
12.	Why the government doesn't ensure the availability of fertilizer timely ?	5	3.57
13.	How to maximize yield of soybean crop ?	4	2.85
14.	Why the market price of soybean is fluctuating every year ?	3	2.14
15.	Why the information on various government schemes is not reaching them ?	3	2.14
16.	Which are the new tractor- drawn equipments to resort to mechanized farming in soybean ?	3	2.14
17.	Why the organically produced soybean doesn't fetch higher prices in the market and why a separate market is not available to sell their organic produce ?	3	2.14
18.	What is the technique of seed treatment in soybean ?	2	1.42
19.	Why the pesticides are not able to control insects ?	2	1.42
20.	From where the farmers can get the seed of soybean varieties ?	2	1.42
21.	What should be done to tackle the problem of sulphur deficiency in soils ?	1	0.71

22.	Continuous cultivation of soybean in the same piece of land reduces soil fertility-reality or myth ?	1	0.71
23.	Why the soybean plants are taller and bear fewer pods ?	1	0.71
24.	How to harvest, the variety JS 71-05 which has a pod bearing habit close to ground level ?	1	0.71
25.	Is it appropriate to top dress urea at later state of crop growth ?	1	0.71
26.	How to prepare seed bed for soybean cultivation ?	1	0.71
27.	How to manage micro-nutrients deficiency in soybean ?	1	0.71

including provision of infrastructure facilities. About one third of asked questions were related to insect-pest complex and nutrition to the soybean crop. Majority of the farmers were concerned on management of the major insect –pests such as green semilooper, Bihar hairy caterpillar, tobacco caterpillar and girdle beetle responsible for the yield erosion to the extent of 25-30 per cent (Sharma and Shukla, 1997) and complete damage of the crop in case of outbreak of any of these insects. The farmers were also quite aware of the importance of Integrated Pest Management (IPM) practices and sought information about relevance of pesticides of biological origin compared to chemical control measures . Their concern about the sustainability of the production system was further reflected when they wanted to know about the kind of nutrition which is best for the soybean crop i.e. organic vs. chemical fertilizers. More than eleven percent of the farmers sought information on this major issue of crop nutrition. Next priority of the farmers was to know about the management of diseases in soybean, particularly drying of seedlings and yellowing of crop canopy.

Since the farmers asked several questions related to one or other aspect, which diminished the magnitude of each one of them, necessitated their categorization to be more meaningful. Accordingly, the data were regrouped and presented in Table 2.

It was found that availability of seed of improved varieties is the most critical problem faced by majority of farmers (27.18%). They wanted to know the name of early maturing soybean varieties, particularly those with reasonably high yielding potentials and resistant to major per such as girdle beetle along with their sources of availability.

Management of insect- pest and diseases was the second most important problem faced by about 21 per cent of farmers. As soybean is rainfed crop which depends on vagaries of the nature, it is attacked by several insect pests in a sequential or in the form of complex mode during the entire crop growth period. Damage to the crop by the blue beetle is in early seedling stage, whereas defoliators like green semilooper, Bihar hairy caterpillar. Tobacco caterpillar and girdle beetle attack the crop solely or in unison at later crop growth stages and that results in yield loss depending on the extent of infestation. In addition, many of the farmers are observing disease related problems in soybean such as drying of leaves and yellowing as they do not carry out seed treatment before sowing of soybean seed. The isolated pockets are also endemic for rust epidemic.

According to most of the farmers (17.14%), availability of preferred and required fertilizer in time was the major bottleneck in its application. Furthermore, there appears to be a high level of awareness among farmers on consequences of the indiscriminate and skewed use of chemical fertilizer. Farmers are also aware about the growing market of organic produce world over and avid to learn about organic production of crops and scope of fetching remunerative price and availability of domestic market for their produce. Infrastructure availability is the fourth priority expressed by the soybean growers so that they can be facilitated to safely store and transport the produce to synchronize the hikes in prices for the produce in the market.

On account of global climate change, the state of Madhya Pradesh has been experiencing the aberrations in the monsoon pattern like delayed onset in the entire area or area specific delay, long dry spells, erratic distribution and sometimes downpours, particularly during pest one decade which has marred the sustainable production of soybean crop. Hence , the farmers are inquisitive in adopting the appropriate available research emanated practices to

manage rain water so that the yield of soybean and other crops can be optimized under the prevailing climatic conditions. Rest of the issue brought forth by the farmers were of lower magnitude.

Table 2. Categories of the problems of farmers (N=140)

S. No.	Problemrelated to	No. of farmers	Per cent	Rank
1.	Quality seed of improved varieties, awareness/availability and source	38	27.18	I
2.	Fertilizer management	24	17.14	III
3.	Insect-pests management	30	21.42	II
4.	Weed management	9	6.42	V
5.	Yield enhancement	4	2.85	VIII
6.	Infrastructure	13	9.28	IV
7.	Unawareness on government support	3	2.14	IX
8.	Farm mechanization	3	2.14	IX
9.	Disposal, price and marketing outlets	6	4.28	VII
10.	Water management during adversities of monsoon and its ill distribution	7	5.00	VI

CONCLUSION

Among the problems identified in increasing the average national productivity of soybean, un-availability of quality seed in required quantity; yield reduction due to infestation of insect-pests complex; imbalanced and un- thoughtful use of fertilizer ; and the delayed and erratic nature of monsoon causing moisture stress ; poor infrastructure facility including lacunae in input supply system were observed to be the major ones identified in this study. The study can serve as a feed back to address the problems of the farmers to bring the sustainability to the soybean production in the state.

REFERENCES

Billore, S.D., Vyas, A.K. and Joshi, O.P. (2005). Frontline demonstrations under AICRPS system : an effective tool for transfer of soybean production technology. NRCS, MP, pp- 60.

Sharma ,A.N. and Shukla, A.K. (1997). Effect of insect and diseases control measures on soybean yield in Madhya Pradesh. Journal of Oilseed Research. Vol. 4(2): 324-326.