



Problems of vegetable hybrid seed production in Punjab

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Abstract : The commercial vegetable growers are quite aware about the importance of hybrid varieties as they are high yielding. At present, more than 100 hybrid varieties of 15 vegetables have been developed by the ICAR system. The area under hybrid cultivars is now increasing and thus hybrid seed production is growing at a rapid rate. The trend of hybrid seed usage in vegetables is increasing in terms of species, cultivars and volume of seeds used. The production of hybrid seeds of vegetable crops is of great importance to their producers as it is a profitable activity but it involves certain technical operations which the farmers might face problems. Keeping this in view the study on the problems of vegetable hybrid seed production in Punjab was undertaken. Data was collected from 80 hybrid seed producers. It was found that majority of the farmers were of the middle age group, secondary to graduate level education and medium land holding. Majority of the farmers were having 0.5 – 2.0 acre of area under hybrid seed production. Results of the study indicate that more than 80 per cent of the farmers faced problems because of hard work, more than 20 per cent farmers faced financial problems and 2/3rd of the farmers faced problems in maintaining isolation distance and 33 per cent of the farmers faced problems in marketing.

Key Words : Vegetable hybrid seed production, Constraints of seed production, Training needs, Hybrid cultivars

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INTRODUCTION

Sustained increase in agriculture production and productivity is dependent to a large extent on the development of new and improved varieties of crops and an efficient system for timely supply of quality seeds to farmers, to achieve higher production levels, productivity has to be increased through the adoption of hybrid varieties and improved production technology. Presently, the commercial vegetable growers are quite aware about the importance of hybrid varieties as they are high yielding. At present, more than 100 hybrid varieties of 15 vegetables have been developed by the ICAR system (Sharma, 2008). The private seed companies have done commendable work in popularizing the hybrid varieties in India. Hybrid seeds are of good quality and are in greater demand thus their production is required to be raised. In India although stress is given on production of all vegetable seeds

for domestic requirements but hybrid vegetable seeds like tomato, watermelon, hot pepper etc. are given major importance keeping in mind the international market demand. The popularity of hybrid cultivars is due to their vigor, uniformity, disease resistance, stress tolerance and good horticultural traits including earliness, long shelf life expressed and therefore giving consistence stable high yield (Sood and Kumar, 2010).

The area under hybrid cultivars is now increasing and thus hybrid seed production is growing at a rapid rate (Tay, 2002). The trend of hybrid seed usage in vegetables is increasing in terms of species, cultivars and volume of seeds used. The production of hybrid seeds of vegetable crops is of great importance to their producers as it is a profitable activity but it involves certain technical operations which the farmers might face problems.

MATERIAL AND METHODS

A list of farmers who were producing hybrid seed of vegetables on their farms was prepared with the help of Scientists of Department of Vegetable Crops, PAU, Ludhiana and Officers of State Department of Horticulture. From this list, 80 vegetable hybrid seed producers were selected randomly for the purpose of this study.

RESULTS AND DISCUSSION

The findings of the present study as well as relevant discussion have been presented under following heads :

Profile of the farmers producing hybrid seed of vegetables on their farms :

The information regarding socio-personal characteristics of selected farmers which included age, education, operational land holdings, area under hybrid seed production of vegetables, mass media exposure, extension contacts, innovativeness, scientific orientation, risk bearing capacity and economic motivation was collected. The information pertaining to the profile of the farmers has been given in Table 1.

Age :

Data in Table 1 indicates that age of the respondents varied from 28-61 years. Most of the respondents (38.75%) belonged to the age group of 39-50 years while 35.00 per cent of them were in the age group of 28-39 years and rest (26.25%) were in the age group of 50-61 years. It can be concluded that maximum number of the farmers were of the middle age group *i.e.* 39-50 years.

Education :

The data presented in Table 1 pertaining to education of the respondents showed that 6.25 per cent of them were educated up to primary, 13.75 per cent had gained education up to middle level, 17.50 per cent were matriculates, 22.50 per cent were having senior secondary level of education, 32.50 per cent were graduate while 7.50 per cent were post-graduates. These findings are in consonance to Kaur (2002).

Operational land holdings :

The respondents were asked about their operational land holding *i.e.* land owned + land leased in – land leased out and were categorized into four groups as shown in the Table 1. It can be observed from the data given in Table 1 that 35.00 per cent of the respondents had medium (10-25 acres) operational land holdings, more than 31 per cent of them had semi-medium operational land holdings between 5-10 acres, about 24 per cent of the respondents had large (>25 acres) operational land holdings and only 10.00 per cent of the respondents had small operational land holdings between 2.5-5 acres. The most of the farmers fell in the category of medium land holdings (10-25) acres. These findings are in line with the findings of Kumar (2005).

Area under hybrid seed production of vegetables :

A perusal of data in Table 1 revealed that area under vegetable hybrid seed production varied between 0.5-6.5 acres. A little more than half of the respondents (52.50 %) had 0.5-2 acres of area under hybrid seed production of vegetables. Whereas 31.25 per cent of the respondents had 2-3 acres under vegetable hybrid seed production and 16.25 per cent of the respondents were having 3-6.5 acres of land under vegetable hybrid seed production. It is clear from the data in Table 1 that most of the vegetable hybrid seed producers had less area

Sr. No.	Socio-personal characteristics	Category/range	Frequency (f)	Percentage (%)
1.	Age	28-39	28	35.00
		39-50	31	38.75
		50-61	21	26.25
2.	Education	Primary	5	6.25
		Middle	11	13.75
		Matric	14	17.50
		Senior secondary	18	22.50
		Graduate	26	32.50
		Post Graduate	6	7.50
3.	Operational land holding (acres)	Marginal (< 2.5)	–	–
		Small (2.5-5.0)	8	10.00
		Semi-Medium (5-10)	25	31.25
		Medium (10-25)	28	35.00
		Large (> 25)	19	23.75
4.	Area under vegetable hybrid seed production	0.5-2.0	42	52.50
		2-3	25	31.25
		3.0-6.5	13	16.25

(0.5-2 acres) under vegetable hybrid seed production.

Problems faced by the farmers in hybrid seed production of vegetables :

The various problems faced by the vegetable hybrid seed producers were studied under different heads such as production, financial, management and marketing problems. The information so collected has been placed in Table 2.

Problems regarding production :

Data presented in Table 1 reveal that majority (86.25%) of respondents felt uncertainty of weather a major problem in vegetable hybrid seed production. It was further reported that 85.00 per cent of respondents faced problem due to too much hard work involved in hybrid seed production of vegetables. Data further show that 63.75 per cent of the respondents faced problem due to non-availability of trained labour. The data in table 2 further points out that 35.00 per cent, 18.75 per cent and 7.5 per cent of the respondents faced the problems arising out of difficulty in seed drying, difficulty in pollination and difficulty in seed extraction, respectively.

Problems regarding finance :

It is evident from the data in Table 2 that 20.00 per cent of the respondents faced financial problems due to high cost of production.

Problems regarding management :

It can be observed from the data given in Table 2 that more than three fourth (78.75%) of the respondents faced problem due to isolation distance management and 52.50 per cent of them due to higher incidence of insect pest and diseases. The data further shows that 33.75 per cent of the respondents faced problem in nursery management. Difficulty in weed management (32.50%) and lack of relevant literature (28.75%) were other management problems faced by the respondents.

Problems regarding marketing :

It can be seen from the Table 2 that about 33 per cent of the respondents faced marketing problem due to fluctuating prices in market rates of produce, 26.25 per cent of them due to delayed payments and 21.25 per cent of the respondents due to non-availability of marketing information. The data further reveals that non-remunerative prices were another problem faced by 16.25 per cent of the respondents. Wills and North (1978) have also supplied some useful information related to the present investigation.

Conclusion :

It was concluded that uncertainty of weather was a major problem in vegetable hybrid seed production. Other problems faced by the farmers were non-availability of trained labor, difficulty in seed drying, in pollination and difficulty in seed extraction.

Table 2: Distribution of the respondents according to the problems faced by them in hybrid seed production of vegetables

Sr. no.	Problems	Frequency*	Percentage
1.	Production		
	Uncertainty in weather	69	86.25
	Difficulty in pollination	15	18.75
	Difficulty in seed extraction	6	7.5
	Difficulty in seed drying	18	22.5
	Non availability of trained labour	51	63.75
	Involves too much hard work	68	85
2.	Finance		
	High cost of production	16	20
3.	Management		
	Difficulty in maintaining isolation distance	63	78.75
	Difficulty in nursery management	27	33.75
	Difficulty in weed management	26	32.5
	Difficulty in insect pest and disease management	42	52.5
	Lack of relevant or non availability of related literature	23	28.75
4.	Marketing		
	Non availability of marketing information	17	21.25
	Fluctuating prices	26	32.50
	Delayed payment	21	26.25
	Non remunerative price	13	16.25

*Multiple response

REFERENCES

Kaur, A. (2002). *Training needs of vegetable seed producers and scope of vegetable seed production in selected district of Punjab.* Ph.D. Dissertation, Punjab Agricultural University, Ludhiana, PUNJAB (INDIA).

Owens, J.N. (1995). Constraints to seed production: temperate and tropical forest trees. *Tree Physiol.*, **15**(7-8) : 477-484.

Sood, S. and Kumar, N. (2010). Heterotic expression for fruit yield and yield components in intervarietal hybrids of sweet pepper [*Capsicum annum* (L.) var. *grossum* Sendt]. *Sabrao J. Breed. & Genet.*, **42**(2) :105–115.

Tay, D. (2002). Vegetable Hybrid Seed Production. P. 128- 139. In Proceedings International Seed Seminar: Trade, Production and Technology. M. McDonald and S. Contreras (ed). Pontificia Universidad Católica de Chile, Facultad de Agronomía e Ingeniería Forestal, Departamento de Ciencias Vegetales. October, 15th and 16th, 2002. Santiago - Chile.

Wills, A.B. and North, C. (1978). Problems of hybrid seed production. *Acta Hort. (ISHS)*, **83** : 31-36.

WEBLOGGRAPHY

Sharma, K.C. (2008). Grow hybrid varieties of vegetables for nutritional food retrieved from www.medwell.com on July 9, 2011.

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