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The constraints faced and obtain suggestions of grape growers towards utilization pattern of pesticides

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Abstract

In India, grape cultivation is one of the highly remunerative farming enterprises. Grape is India's most important commercial and high-quality fruit crop, accounting for the majority of the country's fresh fruit and vegetable exports to Europe and other areas of the world. The grape cultivation of necessity for high investment right from the establishment of new vineyard. The present study was conducted in Nashik district of Maharashtra state. Two tahsils namely Niphad and Dindori selected purposively for this study on the basis of maximum area under cultivation of grape crop. From each selected tehsil, 12 villages were selected on the basis of higher production of grape crop. Total twenty two villages were selected randomly. From each selected village 12 grape growers were selected from each village making a total sample of 240 farmers. The data were collected through personal interview method. Pesticides are chemical compounds or mixtures of substances with adverse chemical nature and biological activity. The result observed in constraints mainly focus on unavailability of exportable varieties. Looking towards the demand to round shape grape berries in world market, the universities and horticulture department should develop such varieties of grapes which have more demand in the world market.

Keywords: Constraints, grape cultivation, pesticide

Introduction

In India, agriculture is the most important economic sector (Sucheta, 2019) ^[15]. It provides food and livelihood security. Different types of soil and climate in India, which comprises numerous agro-ecological areas, allow for the cultivation of a wide range of horticultural crops. In India, grape cultivation is one of the highly remunerative farming enterprises. Grape is India's most important commercial and high-quality fruit crop, accounting for the majority of the country's fresh fruit and vegetable exports to Europe and other areas of the world. The grape cultivation of necessity for high investment right from the establishment of new vineyard. More number of small and marginal farmers (82%) pose serious challenge to Indian agriculture (Bhalla *et al.* 2012) ^[2] as it brings problems like land fragmentation, poverty (Chand *et al.* 2011) ^[3], low bargaining power to farmers, low risk bearing ability, low productivity, low extension contact etc. (Hegde 2010) ^[6]. A united Nation study global population trends predicts that India will surpass China to become the most population nation in the world by 2020. India currently supports nearly 17.84 per cent of the world population, with 2.40 per cent land resources and 4.00 per cent of water resources. Continuously shrinking/ arable land, slow pace of improvement of crop productivity critical challenge to ensuring food and nutritional security for the nation (Moovenan *et al.*, 2020) ^[12].

Maharashtra is the country's largest grape-producing state. The Maharashtra government has proposed establishing an agriculture export zone that would include Nashik, Sangli, Pune, Solapur, Satara, and Ahmednagar, with the goal of exporting table grapes and value-added products like wine in a coordinated manner. Although, in a scientific manner, the areas of Nashik and Sangli are leading in grape production.

Methodology

From Nashik district two tahsils namely Niphad and Dindori selected purposively for this study on the basis of maximum area under cultivation of grape crop. From each selected tahsil of the district twelve villages selected for this study on the basis of maximum area under cultivation of grape crop. Total 24 villages were selected. From each selected village 10 respondents selected for the present study by random sampling method. Thus, the total 240 respondents was the sample for this study. The data collected was processed, quantified, categorized and tabulated. According to the Oxford English Dictionary, the term "constraint" means "containment, restriction, or restraint of circumstances or compulsion of behaviour." Constraints have been operationally defined in this study as the factors or problems/difficulties faced by grape growers in commercial grape production. Grape growers' reactions to this topic were recorded. The frequency, per cent, and rank of each

limitation were calculated to find the most important constraints faced by grape farmers. Grape growers were invited to provide helpful tips for overcoming the challenges they confront in grape production. Their reactions to the effect were recorded, and the frequency, percent, and rank of their suggestions were calculated.

Table 1: Distribution of respondent according to constricts faced by farmers

Sr. No.	Constraints	Score	Percentage
Constraint of utilization pattern of pesticides			
1.	Lack of technical guidance	115	47.91
2.	Non availability of new introduce molecule of pesticides	120	50.00
3.	Cost of new molecule is very high	156	65.00
4.	Pesticide deficient period is most varied due to uncertainly rainfall and climate change	159	66.25
5.	Bio pesticides not available proper pure material	86	35.83
General constraints			
1.	High Commission Charge	240	100.00
2.	Fluctuation of market rate	240	100.00
3.	Lack of storage units near by areas	155	64.58
4.	Water Scarcity in summer	120	50.00
5.	Non availability of skilled labour	85	35.41

The data presented in Table 01 revealed that cent per cent, (100.00 per cent) of the respondents had faced constraints regarding high commission charge and fluctuation of market rate followed by 66.25 per cent of the grape growers had faced the constraint regarding pesticide deficient period is most varied due to uncertainly rainfall and climate change, 65.00 per cent of the grape growers had faced the constraints regarding cost of new molecule is very high, 64.58 per cent grape growers had faced lack of storage units nearby areas, 50.00 per cent of the respondents had faced constraints regarding the non availability of new introduce molecule, 50.00 per cent of the grape growers

Results and Discussion

The Constraints Faced and Obtain Suggestions from Grape Growers in Utilization of Pesticides

1. Constraints faced by grape growers

were facing water scarcity in summer, 47.51 per cent of the grape growers faced the constraints regarding lack of technical guidance, 35.83 per cent of the grape growers had faced the constraints regarding and Bio pesticides not available proper pure material. General constraints of utilization pattern of pesticides, and 35.41 per cent of the grape growers had faced the constraints non availability of skilled labour.

2. Suggestions from grape growers in utilization of pesticides

Table 2: Distribution of respondents according to suggestion from the grape grower

Sr. No.	Suggestions from the farmers	Respondents (N=240)	
		Number	Percentage
1.	University must organize training to grape growers on identification of the cultural practices, nutrient management, pests and their management.	230	95.83
2.	All pesticides may be made available at subsidized rate by the Government.	45	18.75
3.	Need of good quality Grape variety with better shelf life which will be suitable for export	158	65.84
4.	Climatic condition may be long term forecasted regularly in news papers, local television, mobile etc	225	93.75
5.	University must develop mobile apps related identification pests and diseases in grapes and their control measure.	230	95.83
6.	All Bio pesticides should be available in University	189	78.75
7.	University scientist should educate the farmers in relation to the beneficial insect	195	81.25
8.	Introduction of new varieties from other countries.	125	52.08
9.	University must develop indigenous low cost technology (Machinery/ Bio product)	76	31.66

The data presented in Table 02 revealed that the university must organize training to grape growers on identification of the cultural practices, nutrient management, pests and their management (95.83 per cent), university must develop mobile apps related identification pests and diseases in grapes and their control measure (95.83 per cent), climatic condition may be long term forecasted regularly in news papers, local television, mobile (93.75 per cent), Information on recommended pesticides may be displayed at public places (83.34 per cent), all bio pesticides should be available in university (78.75 per cent), 'Need of good quality grape variety with better shelf life which will be suitable for export' was major suggestion given by overall

65.84 per cent of grape growers, introduction of new varieties from other countries (52.08 per cent). The university must develop indigenous low cost technology such as machinery/ bio product (31.66 per cent) and all pesticides may be made available at subsidized rate by the government (18.75 per cent).

Conclusion

The respondents had faced constraints regarding and high commission charge and fluctuation of market-rate followed by regarding deficient pesticide period is most varied due to uncertain rainfall and climate change, regarding the cost of the new molecule, is very high and lack of storage units

nearby areas.

The majority of grape growers suggested that the university must organize training for grape growers to identify the cultural practices, nutrient management, pests and their management. The university must develop mobile apps related to identifying pests and diseases in grapes and their control measure. The climatic condition may be long term regularly forecasted in newspapers, local television, mobile. The university must develop mobile apps related to identifying pests and diseases in grapes and their control measure. Information on recommended pesticides has been displayed in public places. All biopesticides should be available in the university, 'Need of good quality grape variety with better shelf life which will be suitable for export' was a major suggestion given by grape growers to introduce new varieties from other countries.

The result observed in constraints mainly focus on unavailability of exportable varieties. Looking towards the demand to round shape grape berries in world market, the universities and horticulture department should develop such varieties of grapes which have more demand in the world market.

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