

Original Research Article

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Impact of Suitable Extension Strategy for Improvement of Commercial Vegetable Cultivation in Western Uttar Pradesh, India

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ABSTRACT

Keywords

Vegetable production, commercial vegetable cultivation, Storage facilities

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In this study suitable extension strategy for improvement of commercial vegetable cultivation, of vegetable farmers of Meerut and Sharanapur district of Western Uttar Pradesh. The study was conducted in sixteen villages located at Kharkhauda, Daurala and Nangal, Deoband block of Meerut and Sharanapur districts. Data for the study was collected from a sample of 160 potato farmers at supervision of Sardar Vallabhbhai Patel University of Agriculture and Technology, Meerut. Majority (93.75 per cent) of farmers suggested that availability of inputs at proper time by the Govt. sale centers and storage facilities at proper place are important for commercial vegetable cultivation. This was followed by 90.63, 87.5, 81.25, 76.25 and 53.75 per cent commercial vegetable growers who suggested that proper market facilities, skill training at appropriate time for knowledge improvement, demonstration, by extension personnel for technical knowledge awareness and update, and a availability of literature to the farmers are also equally important for the promotion of vegetable cultivation.

Introduction

Vegetables are grown worldwide in almost 200 countries and make up a major portion of the diet of humans in many parts of the world. Vegetables play a significant role in human nutrition, especially as sources of vitamins (C, A, B1, B6, B9, E), minerals, dietary fiber and phytochemicals (Wargovich, 2000; Liua *et al.*, 2001). Vegetables in the daily diet have been strongly associated with improvement of gastrointestinal health, good vision, and reduced risk of heart disease, stroke, chronic

diseases such as diabetes, and some forms of cancer (Keatinge *et al.*, 2010).The expanded commercialized production of vegetables in the developing countries has also led to challenges and difficulties. A small farmer, in order to develop a more commercial operation, needs capital for improved seeds, hired labor, and equipment, in order to remain a reliable supplier. He must be able to supply a consistent flow of vegetables that are high quality and free of pesticide residues. New strategies for production and marketing have been required. Production of vegetables is

more profitable than traditional cereal production, but it requires more knowledge, more capital, more acceptance of risk, and new methods. Extension is presently an object of reform, while continuing to be an increasingly important engine for knowledge, innovation and development (Rivera and Sulaiman, 2009). Extension is often viewed as comprising public, private and semi-public systems that make up a multi-institutional, multi-sectoral pluralistic system. Also, views on extension have changed in emphasis from agricultural production to helping farmers organize themselves, and most recently to the linking of farmers to markets (Swanson, 2006; Shepherd, 2007). India's main extension system is primarily responsible for delivery of technical message which is being operated by Department of Agriculture (DoA) through state, district and block level machinery. However, research institutes and agricultural universities also play a limited role in extension services. During mid90s, Government of India (GOI) and World Bank explored a new approach to address the prevalent problems and constraints of extension system. Technological advances in agriculture seem to offer an opportunity to rural farmers to increase production and improve their livelihood sustainably. Adopting such technologies have contributed greatly toward the financial success of farmers through the efficient use of resources and scaling up the production at lower per unit cost. However, a majority of farmers in developing countries have not been able to adopt newly developed technologies because of their limited resources (cash, labor, time) and limited access to relevant information regarding the technology (Ghimire and Huang, 2015). Over the last decade, there has been a general shift in thinking about extension systems: the former via of extension as a linear, technology transfer, 'adoption of innovations' approach has given way to a recognition of extension as a system

of actors with multiple roles, a wide range of actors advancing an 'innovation system' (Sandall *et al.*, 2011). This shift has influenced, and has been influenced by, shifts in policies toward supporting pluralistic provision of services that are more responsive to farmer demand (Garforth, 2011).

Materials and Methods

The present study was conducted in the Western zone of Uttar Pradesh purposely. The farmers of this area cultivate vegetable. There is increase the production and productivity of vegetables through high yielding varieties/hybrids. The study was conducted in Meerut and Saharanpur districts of Western Uttar Pradesh. As the investigation from Sardar Vallabhbhai Patel University of Agriculture and Technology, Meerut, keeping the convenience for the study in mind, the above districts were purposively selected for this study. The study was conducted in sixteen villages located at Kharkhauda, Daurala and Nangal, Deoband block of Meerut and Sharanapur districts. Data for the study was collected from a sample of 160 vegetable farmers. There are different type of soils present in the district which includes loam, sandy loam and sandy soils. The first draft of the structured schedule was prepared after pre testing over a sample of respondents (not included in the final sample). Each respondent was asked to indicate as to how often he contacts the extension personnel of vegetable technology from each of the listed agencies. Responses of the farmer were obtained against their item on three point scale i.e. mostly (score-3) often (score-2) and never (score-1).

Results and Discussion

Table 1 presented that majority (93.75 per cent) of respondents suggested that "availability of inputs at proper time by Govt.

sale centre and developed storage facilities at proper place for improvement of commercial vegetable cultivation. Show be there This was followed by 90.63, 87.5, 81.25, 76.25 and 53.75 per cent commercial vegetable grower who suggested that “developed proper market facilities, skill trainings, at appropriate time for knowledge improvement, demonstration must be organized by extension personnel for technical knowledge update, timely availability of vegetable literature to the

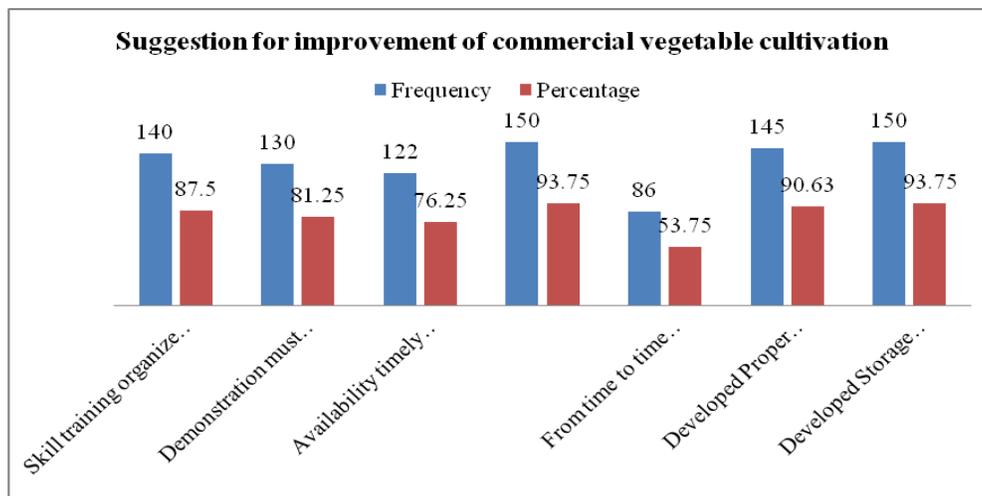
farmers and from time to time different extension activities should be organized for the promotion of vegetable cultivation, respectively.

Thus, it can be concluded that majority of commercial vegetable growers suggested about availability of inputs at proper time by govt. sale centre and developed storage facilities at proper place for improvement of commercial vegetable cultivation (Fig. 1).

Table.1 Suggestion for improvement of commercial vegetable cultivation

S.No.	Particulars	Frequency	Percentage
1.	Skill training organize at appropriate time for knowledge improvement	140	87.5
2.	Demonstration must be organized by extension personnel for technical knowledge awareness and update	130	81.25
3.	Availability timely vegetable literature to the farmers.	122	76.25
4.	Availability of Inputs at proper time Govt. Sale centre	150	93.75
5.	From time to time different extension activities organized for the promotion of vegetable cultivation	86	53.75
6.	Developed Proper market facilities	145	90.63
7.	Developed Storage facilities at proper place	150	93.75

Fig.1 Suggestion for improvement of commercial vegetable cultivation



It can be concluded that majority of the commercial vegetable growers belonged to 30 to 45 years of age group, literate, possessing nuclear type of family with medium size of family, having pucca houses and doing cultivation of vegetable as a subsidiary occupation, They were having 4 to 10 ha of land and belonged to 50,000 to 1,00,000 annual income group. They were using electric tube well as source of irrigation, having most common facilities in household assets such as T.V., Radio. Mobile, fan, bathroom, gas connection etc. and belonged to the medium category, having most common farm facilities such as tractor, trolley, harrow cultivator, thrasher, leveller and belonged to the medium category of farm assets.

The vegetable growers preferred private inputs dealers and neighbours as a source of information. In case of mass media sources they were using T.V. and Radio.

As regard the knowledge level of vegetable growers about potato cultivation, They were having more knowledge about medium duration growing potato varieties, land preparation, sowing time, seed rate and row to row distances, application of manures and fertilizers, irrigation time, harvesting time. Majority of the farmers were having poor level knowledge about dormancy, cutworm, weed and disease control in potato crop. Similarly in case of cauliflower crop, majority of the vegetable growers were having full knowledge about land preparation practices, sowing time, manures and fertilizer application, irrigation time and harvesting time. On the other hand they were having poor level of knowledge about seed rate, planting distance, weed control, physiological disorder and pest & disease control. Cent per cent commercial vegetable growers were adopting practices like sowing time, seed rate, irrigation, weed management, intercultural operations and time of harvesting. They were

having low adoption level less about disease and insect pest control, physiological disorder management practices in commercial vegetable cultivation.

The correlation was found significant between knowledge and adoption of different practices of potato and cauliflower cultivation practices like land preparation, improved variety, manures and fertilizer, seed rate and time of sowing, weed control, irrigation and plant protection measures. The vegetable growers were also facing the constraints viz., Less number of plant protection units of Govt. sale centre, unavailability of bio-pesticides, bio-agents and bio-fungicides in local & Govt. sale centers, lack of knowledge and skill of vegetable production, high cost of high yielding/hybrid variety, lack of knowledge about post harvest value added technology, lack of confidence for using the new seeds on the farmer field and lower prices during harvesting season were the important constraints identified in vegetable cultivation. Majority of commercial vegetable growers suggested that availability of inputs at proper time at govt. sale centers and storage facilities at proper place are important for promotion of commercial vegetable cultivation.

Suggestion for future research, development and extension strategies in vegetable production technology: 1- Develop short duration high yielding varieties, 2- Develop insect / diseases resistant varieties, 3- Develop summer/winter stress varieties, 4- Develop training centers for knowledge update of farmers, 5- Develop adequate number of government sale centers, 6- Availability of quality seeds, chemicals on government sale centers, 7- Organization of training and demonstration on farmers field on different aspects on commercial vegetable production from time to time for awareness and knowledge up-gradation of vegetable growers, 8- Increase number of extension

agents for speedy transfer of technology and 9-Upgrade modern information and communication technology in extension for transfer of technology in specific area.

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