Constraints and Farmer's Perception on Off Season Green Onion Production in Chitwan - A Survey

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ABSTRACT

The survey assessed the constraints and farmer's perceptions on off season green onion production in Shukranagar, Jagatpur and Gunjanagar VDCs in Chitwan, Nepal. The primary data used for the investigation were obtained through the use of questionnaire, focus group discussion and key informant survey. Thirty commercial farmers and ten traders were randomly sampled for the study. Major constraints and influencing factors for green onion production, and marketing system were looked into. The study revealed that seedling raising was the most important problems faced by the off season growers followed by weed problem, lack of crop insurance facility, and diseases and pests. Lack of storage facility was the most important marketing problems due to highly perishable nature of green onion followed by lack of appropriate marketing facilities and fluctuation in the market price. Higher market price was the major influencing factors for green onion cultivation followed by its short duration as compared to bulb production which takes longer duration.

Key words: Constraints, off season, green onion, farmers perception

INTRODUCTION

The diverse agro-climatic conditions of Nepal both among the different ecological regions and within ecological region have provided nearly unlimited scope for growing several types of vegetables and spice crops throughout the year. Nepal has adopted a long term Agriculture Perspective Plan (APP) which gives vegetables high priority. Since twice as many women as men participate in the vegetable and spice crop production, they provide women an opportunity to increase their income. Further, increase in population and general awareness of the nutritional values of vegetables among the people have increased scope very much for promoting fresh vegetable production in Nepal.

Onion (*Allium cepa* L.) is one of the important vegetable crops in Nepal, ranking 4th position in terms of its volume and value of the production (Thapa & Paudyal, 2000). The per capita consumption of fresh onion in Nepal is 7.7 kg where as the recommended quantity is 18 kg per annum (Koirala *et al.*, 1995). In 1998, the total area of onion production in Nepal was 8000 ha with average yield of 12.4 t ha^{-1} (Ghimire *et al*., 1998) while during 2005 it reached to 8644.5 ha with an average productivity of 15 t ha^{-1} (VDD, 2005). According to FAO, it is estimated that onion is grown in 2.71 million hectares in the world, producing 47.67 million tones of bulb onions each year. Approximately, 8 percent of this global onion production is traded internationally.

The term green onion describes an immature onion. Generally, green onions are harvested before the maturation of the bulbs. Even the large bulbed onions such as Agrifound Dark Red, Nasik-53, Grano or Granex, Red Creole can be harvested immature and used as salads and other culinary purpose. They have a small, not fully developed white bulb end with long green leaves. Farmers preferred selling onions green rather than keeping the plants for bulb production. Jaiswal and Suvedi (1996) suggested green onion production in the off season because of pre bolting, non bulbing, bulb splitting, and greater losses of bulb onions during storage and high demand of green onion in the market during off season (i.e. October-

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November). Farmers can get immediate income from selling of green top from off-season onion (Rokaya & Bhandari, 2004; Gautam, 2006). This profitable business gives cost benefit ratio of 3.7:1 (Singh & Singh , 2002).

In Nepal, onion is cultivated from November to early June as a normal or main season crop. The bulbs are harvested from mid May to early June and then stored under the prevailing ambient conditions. In recent years, the Vegetable Development Directorate (VDD) under the Department of Agriculture, Nepal has been making efforts to introduce off-season production of onion during October to December by planting small onion bulb known as 'sets'. It is produced by planting the sets during July to August. But it takes long effort to produce sets, store them and then replant them. These operations require more time and space compared to direct seedling transplanting. Off-season onion can be produced by transplanting of onion seedlings which are raised by sowing the seed during June to July (Budathoki, 2006). Off season onion is one of the major sources of income for Nepalese farmers, but little research and development work have been done especially in the aspect of green top production. Thus, this research was undertaken with the objectives to assess the farmers perception regarding the off season green onion production and to identify the major constraints for off season green onion production in Chitwan

Methodology

A survey was carried out using semi-structured questionnaire in off season vegetable growing areas of three VDCs viz. Shukranagar, Jagatpur and Gunjanagar in Chitwan district. There were altogether 30 households, constituting 10 households from each VDC engaged in commercial off season vegetable production. They were selected randomly. Similarly, 10 traders from the retail market of Bharatpur were selected randomly for the study purpose. PRA tools such as semi-structured questionnaire and key informant interview were used to acquire information. In addition, related literatures, statistical reports and web sites were visited, thoroughly reviewed and consulted and acquired information for this study. The survey was done in February, 2008. Data collected were coded and processed using SPSS and Excel programmes.

RESULT AND DISCUSSION

Production problems

Responses regarding various problems in production were recorded and analyzed during the field study. The respondents were asked to identify, choose and prioritize various categories of problems they had been facing on off season onion cultivation. Problem analysis was done by conducting focus group discussion with key informants at community level. The severity of problems was identified by ranking with appropriate score. The intensity of problems related to production problems of off season green onion in western Chitwan with their ranks has been presented in the table 1.

Table1. Intensity of production problems faced by the farmers of western Chitwan for off season green onion cultivation (2008)

S.N.	Problems	Index	Rank
1	Unavailability of seed on time	0.52	V
2	Weed problem	0.83	II
3	Nursery problem	0.88	I
4	Lack of irrigation facility	0.32	VI

5	Diseases and pest problem	0.59	IV
6	Non availability of credits	0.27	VII
7	Lack of crop insurance facility	0.62	III

Note: Scale value ranges from 1 to 0, where 1= most serious, 0.75 = serious, 0.5 = moderate, 0.25 = little bit and 0 = no problem at all.

This study showed that nursery or seedlings raising was the major problem perceived by the off season onion growers in the study area. The second most important problem as indicated by the farmers was weed problem followed by lack of crop insurance facility, unavailability of quality seed on time, diseases and pest, and non availability of credits from the government. This may be due to poor technical knowledge on management aspect.

Marketing system

In general, marketing of any product means a process through which the product is transferred from the producer to the ultimate consumers. Agriculture marketing is a key factor for the development of agriculture sector. So, marketing management and assured market facility for producer is instrumental for increased production and productivity of any agriculture commodities. In marketing system, producer farmers, traders, whole sellers and consumers are the main actors involved in the production and consumptions chain. The producer farmers were found to be involved in selling activity at the farm and markets. All together, four marketing channels were identified that had been operating for off season onion marketing throughout the study sites. Those marketing channels have been presented here under.

1. Producers → Consumers
2. Producers → Local Retailers → Consumer
3. Producers → Wholesalers → Retailers → Consumers
4. Producer → Middle man → Wholesalers → Retailers → Consumers

Trends of market price

The farm gate price of green onion was higher in the festive season in October-November in the Nepalese market. The highest farm gate price of greens was found to be NRs. 30 kg^{-1} during the month of October. Then, the price declined and reached to NRs.15 kg^{-1} during the month of February, 2008 in the whole sale market of Bharatpur, Chitwan.

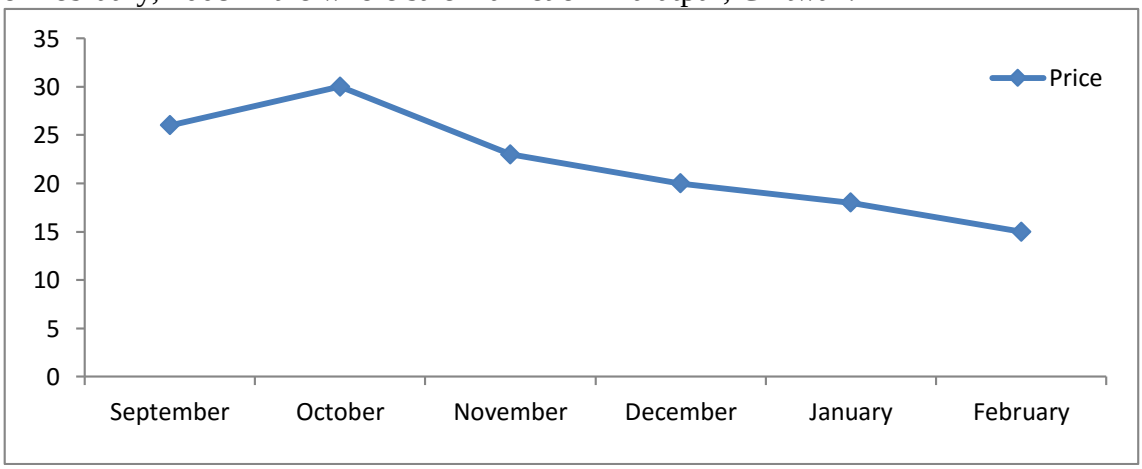

Figure 1. Farm gate price of green onion at Bharatpur, Chitwan (2008)

Marketing problems

Marketing is as important as the production techniques in case of agricultural commodity. Unless and until marketing systems are improved, no incentives to increase the production will benefit the growers. In the current poor marketing system of Nepal, producers and traders have been facing several marketing problems. The study showed that lack of storage facility was the major constraints for green onion marketing as it was highly perishable in nature. Lack of appropriate marketing facility was the second major problem followed by frequent strike, fluctuation in price and lack of transportation facility from the zone of production to the zone of consumption. The details of the marketing problems with their index values have been presented in table 2.

Table 2. Intensity of marketing problems of off season green onion in Chitwan (2008)

S.N.	Problems	Index	Rank
1	Lack of appropriate marketing facility	0.69	II
2	Fluctuation in price	0.45	IV
3	Frequent strike	0.58	III
4	Lack of storage facility	0.86	I
5	Lack of transportation facility	0.34	V

Note: Scale value ranged from 1 to 0, where 1= most serious, 0.75 = serious, 0.5 = moderate, 0.25 = little bit and 0 = no problem, at all.

Farmers' perception

Higher market price was the major influencing factor for cultivating off season green onion in western Chitwan. The other factors which encouraged farmers for green production was because of its short duration period as compared to bulb production, which takes longer time to produce bulbs. Furthermore, in bulb production, there are problems of bulb sprouting in the storage, bulb doubling and splitting of the bulbs. These factors also encouraged farmers to go for green production rather than bulb production.

Table 3: Farmer's perception on factors influencing off season green onion cultivation in western Chitwan (2008)

S.N.	Factors	Index	Rank
1	Short duration crop	0.71	II
2	High market price	0.85	I
3	Sprouting problems in bulbs	0.66	III
4	Doubling and splitting problems in bulbs	0.55	IV
5	Accessibility of market	0.27	
6	Nutritive value	0.13	
7	Land suitability	0.46	V

Note: Scale value ranged from 1 to 0, where 1= highest preference, 0.75 = more preference, 0.5 = moderate preference, 0.25 = little bit and 0 = no preference, at all.

Conclusion

The nursery or seedlings production was the major production problems perceived by the off season onion growers in the study area. The second most important problem as indicated by the farmers was weed infestation followed by lack of crop insurance facility, unavailability of quality seed on time, diseases and pest, and non availability of credits from the government. This may be due to poor technical knowledge on management aspect. Higher market price was the major influencing factor for cultivating off season green onion followed by short duration, post harvest (sprouting) problems in bulbs, doubling and splitting problems in bulbs and land suitability for off season green onion cultivation. Lack of storage facility of green mass was the major constraints for green onion marketing because of its perishable nature. Lack of appropriate marketing facility was the second major problem followed by frequent strike, fluctuation in price and lack of transportation facility from the zone of production to the zone of consumption.

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