



Short Communication

Production practices, marketing and economics of cucumber production in Ichchhakamana Rural Municipality, Chitwan, Nepal

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Abstract

The study entitled “Production practices, marketing and economics of Cucumber production in Ichchhakamana Rural Municipality, Chitwan” was carried during July to September, 2019. Altogether 50 cauliflower producers were selected randomly. Interview using questionnaire, observation, focus group discussion, was major Primary data collection methodology. Secondary data was collected using various Journals, reports from different Organizations. It was revealed that 58% male and 42% female responded the survey. Majority of the respondents (46%) was from 25 to 40 years old. The average land holding was 8.3 Kattha and average area under cucumber production 2.4 Kattha. It was observed that major variety used is the Bhaktapur Local (82%) and the seed rate is 100-120 gram per Kattha. 52% of the respondents performed line sowing on nursery beds for seasonal crop while 78% of the respondents are using polybags for growing Nursery in off-season. 50 % of the respondents transplanted the seedlings in between 15-20 days and 56% were following the spacing of 100 cm*100 cm. 90% of respondents reported using both organic manure and chemical fertilizer. 92% of the respondents reported the practice of weeding manually. 80% of the respondents revealed the use of chemical method for managing pests and diseases. 100% of the respondents perform sorting, mainly based on the size and Shape of the fruits. Similarly 84 % of respondents were practicing grading. Lack of irrigation (34%) Insect pest and Climate Change (28%), Labor availability (24%) were the major problem faced by farmers. It was also observed that 54% follow channel 2 (Whole sellers- Retailers- Consumers). Likewise from Economic analysis it was observed that Benefit Cost ratio was 3.056. It was concluded that cucumber have been profitable enterprise for the farmers of Ichchhakamana Rural Municipality.

Keywords: Production practices, marketing, economics, cucumber.

Introduction

Cucumber (*Cucumis sativus* L.) is an annual, dioecious creeping vine belonging to the family Cucurbitaceae with abundant source of different vitamins like vitamin C, vitamin B, and minerals like iron, phosphorus, calcium, thiamine, and fibers¹. Cucumber is originated from the piedmont of the Himalayas where its two botanical varieties both were discovered, *C. sativus*. Var. *sativus* and wild cucumber *C. sativus* var. *hardwickii* (Royle) Alef².

In Nepal Cucumber is cultivated in 9396 ha of area with production of 159042 MT ton and productivity of 15.34³. The major objective of the study was to identify the existing major production and marketing practices, major problems and estimate the net profit of cucumber crop in Ichchhakamana rural municipality of Chitwan district Nepal.

Methodology

Ichchhakamana rural municipality of Chitwan was selected as survey site which is the only rural municipality of Chitwan.

The elevation of the study area varied from 500 meters to 1500 meters above the sea level. A total number of 50 respondent farmers were selected using Random sampling method. Field survey using pre-structured questionnaire was used for the primary data collection.

The secondary data were collected by reviewing various published and unpublished documents related to the topic of the study. Data was then analyzed in Statistical Package for the Social Science and Microsoft Excel.

Results and discussion

Demographic measures: It was observed that average age of the respondents was 32.5 Years with minimum 22 and maximum 67 years. The average family size of the respondents is 5.3. 100% of the farmers have their own land holding with 32% farmers with additional land on lease. The average land holding of the respondents was 8.3 Kattha (333.33Sq.m). The average area under cultivation was 2.4 Kattha.

Table-1: Demographic measures of the Respondents.

Measures	Categories	Frequency	Percentage
Age	<25	7	14.00%
	25-40	23	46.00%
	40-70	20	40.00%
Sex	Male	29	58.00%
	Female	31	42.00%
Family members	<4	7	14.00%
	4-6	23	46.00%
	6-8	14	28.00%
	>8	6	12.00%
Land Holding	<2 Kattha	0	0.00%
	2-5 Kattha	7	14.00%
	5-10 Kattha	17	34.00%
	>10	26	52.00%
Area under cucumber	<1 Kattha	2	4.00%
	1-3 Kattha	15	30.00%
	3-5 Kattha	12	30.00%
	>5 Kattha	21	42.00%

Production and post harvest practices: Seed and varieties: It was observed that 82% cucumber growers of the preferred the Bhaktapur Local Variety of cucumber followed by Kamini (7%), and Ninja (8%) and other varieties like Namdhari, Chandani, Raja by 3% of the total respondents. The common seed rate followed was 100-120gram/Kattha (100-120gram/333.33Sq. m).

Table-2: Different Seed Rate Practiced by Respondents.

Seed rate	Frequency	Percentage
40-60 gram/kattha	1	2
60-80 Gram/ Kattha	9	18
80-100 gram/ Kattha	18	36
100-120 Gram/ Kattha	22	44

Nursery management and Transplanting: Nursery growing technique was different according to the season of cultivation. During one season 52% of the respondents performed line sowing on the nursery beds followed by direct sowing (48%).

In case of off season crop nursery (October/November) 78% of the respondents are using polybags and hotbed for the Nursery raising while 12% of the respondents perform direct sowing. 50% of the respondents transplanted the seedlings in between 15-20 days. Similarly, 46 percent of the respondents transplanted the seedlings in between 20-25 days and only 4 percent of them transplanted the seedlings in more than 25 days. It was observed that majority of the respondents follow 100cm*100cm crop spacing.

Table-3: Different spacing for cucumber followed by Respondents.

Spacing maintained	Frequency	Percentage
60*60 cm	9	18
75*75 cm	13	26
100*100 cm	28	56
Total	50	100

Nutrient Management: According to the data given by the respondents, 8 percent of them used only organic manure, 2 percent of them used only chemical fertilizers and 90 percent of them used both organic manure and chemical fertilizer. The common fertilizers for NPK was Urea, Di-ammonium Phosphate and Potash respectively. 50% of the respondents reported using Farm Yard Manure followed by Poultry manure (32%) and Compost (18%) as major source of organic manure. 2 times top-up application was found common frequency and side dressing was the common method of fertilizer application.

Table-4: Frequency and method of application of chemical fertilizers.

Particulars	Frequency	Percentage
A. Frequency of applying fertilizers		
All on basal dose	1	2
Top up 1 time	21	42
Top up 2 time	28	56
Total	50	100
B. Method of fertilizing crops		
Broadcasting	8	16
Side dressing	42	84
Total	50	100

Weed and Intercultural: 92% of the respondents reported the practice of weeding manually while rest 6% of the respondents use chemical methods and 2% use both chemical and manual method. Staking is performed by all (50) respondents. Locally available bamboo stakes are used for the staking purpose.

Insect Pest Management: 80% of the respondents revealed the use of chemical method for managing pests and diseases, 2% of them were practicing biological method, 2 percent of them were practicing cultural method and 16 percent of them were practicing IPM method.

Post-harvest: 72% of the respondents followed Morning time while 14% of the respondents harvest the crop during day time and another 14% of them said that they harvest cucumber during any time of a day as required.

It was also observed that 100% of the respondents perform sorting, mainly based on the size and Shape of the fruits. Similarly 84% of respondents were practicing grading while Packaging operation was not performed by any respondents.

Marketing: Four channels of cucumber marketing were observed in the study area. 36% of the farmers follow the channel 1 (Producer- Collection centers- Whole sellers- Retailers - Consumers) while Majority of the farmers (54%) follow channel 2 (Whole sellers- Retailers- Consumers). 14% of the respondents sells their product to the local traders following channel 3 (Producer- Local Traders - Retailers- Consumers) and only 2% of the farmers follow channel 4 (Producer-Consumer).

Problems: 34% of the farmers felt irrigation problem as major problem, followed by Insect pest and Climate Change (28%), Labor availability (24%).

The high migration rate of the local people towards the foreign employment was the major cause of the labor scarcity while drying of the natural water resources due to climate change is being major problem for the irrigation management.

Economics: It was observed that an average cost of production for 1 kattha (333.33Sq. m) of land was NRs 61,155.86. The average yield is 1672kg per Kattha that results to average net income of NRs 136278.14 from 1 kattha of land with BC ratio 3.05.

Table-1: Perception on Major problem faced by Respondents.

Major problems	Percentage	Frequency	Rank
Labor	24	12	3
Technical	14	7	4
Irrigation	34	17	1
Insect pest and Climate Change	28	14	2

Conclusion

From the above results we can conclude as: i. Use of the improved variety seeds, technical ideas, and various production and marketing practices has make the cultivation more efficient. ii. The excessive use of the chemical for insects/disease management should be promote toward the sustainable way like Integrated Pest management. iii. The major problem found were: Irrigation problem, Insect pests and climate change and Labor unavailability. Iv. The average cost of cultivation of the Cucumber per kattha was found to be 61155.86 with net profit Rs.136278.1 and BC ratio 3.056 which reveals that this rural municipality has great potent for Cucumber production and make agriculture as their major occupation.

References

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