# Market Demand and Production of Different farm Products -a comparison of organic and Poly house Products

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## ABSTRACT

At present the increasing demand of healthy and hygiene food items change the concept of farming from modern to organic farming. It seems very difficult to farmers to produce quantity and qualities at same time in same farm. Where poly house is a well known source of huge quantities of production and other hand organic farming is itself a symbol of health. An attempt has been made in the present research paper to examine comparisons of both the farm products according to their preference by consumers. Primary data has been used. To explain the data chi-square method has been used. Study concluded that poly house produced more than double then organic farm and the consumer preference was very different in different markets and the organic product were not prefer in small town market.

**Key words**- Marketing, Farmers, Environment, Organic, Poly house.

## Introduction: -

India is the second largest producer of vegetables in the world after china. Similarly, India is the second most populated country though the demand for vegetables is also increasing continuously, as a result of increase in population. India has a wide range of diverse agro climatic conditions but the cultivation of vegetables practices in India have been generally limited to regional and seasonal needs with the traditional nature of technology, that results into low productivity and inconsistent quantity and quality of the produce supplies to the market. The factors such as adverse climatic conditions, high potential of vegetables, increased demand for quality vegetables leads to the adoption of protected cultivation. Different type of structures was created with the purpose of providing protected conditions for vegetables according to season and specific location but poly house is the most common and widely used protected cultivation. Poly houses are designed to modify the climatic conditions such as temperature, humidity, wind velocity etc. (Ghanghas, 2015). Traditionally in India, the whole agriculture was practiced by using organic techniques, where plant and animal products were used for fertilizers and pesticides (Chandrashekar, 2014). But after 1966-67 with the introduction of green revolution more of chemical/synthetic fertilizers and

pesticides were used. During the last few years, due to the growing awareness of people about their health and environmental issues i.e. associated with the exhaustive use of synthetic inputs has led to interest of people in alternative form of agriculture like organic farming. Both type of farming contains separate prosperities. One concentrate hygiene and other focused on quantity production.

Today, the combination of organic and poly house farming is un-doubly the best option for fulfilling the needs of growing population (Bhattacharyya and Chakraborty, 2005).

Hence, an attempt has been made in this paper to examine the consumer response regarding the products of poly house and organic farming, also the production and market price of the products has been examined.

**Review of literature: -**    Review of literature is an important exercise in research because it helps the researcher to find out the research gap. A number of research studies have been undertaken by different researchers in the field of organic and poly house farming. **Ramesh, et al. (2010)** studied the status of organic farming in India in their study. The main objective of the study was to analyze the benefits and feasibility of organic farming in case of production, productivity, economics and the health of soil as compare to conventional farms. For fulfilling the above said objective the cross-sectional data has been by the researchers. The study revealed that the productivity of organic farming had reduced by 9.2 per cent while the net profit was 22 per cent higher as compare to the conventional farming. The reason behind that the availability of (20-40 %) premium prices for the certified organic produce which reduced the cultivation cost by 11.7 per cent. The researchers also revealed that the organic farming was not found feasible economically where such premium prices were not available. **Kshirsagar** highlighted the impact of organic farming on the economies of sugarcane cultivation in Maharashtra in his study. The researcher used cross-sectional data which was collected from Jalgaon and Kolhapur districts of the state. A total sample of 142 farmers has been taken out of them 72 were growing organic sugarcane and 70 were inorganic. The study revealed that the employment of human labour inorganic sugarcane was 16.90 per cent higher than inorganic sugarcane but the overall cost of cultivation was found 14.24 per cent lower in organic sugarcane. The productivity of organic sugarcane was 6.79 per cent lower than the inorganic. Despite the lower productivity in organic farms the profit was found more stable and 15.63 per cent higher as compared to conventional farming. **Ghanghas et al. (2015)** highlighted the problems and prospects in protected cultivation in Haryana in their study. The objectives of the study were to find out the suitable crops under polyhouse and to identify the constraints faced by the growers. For fulfilling the above said objectives the researchers used cross-sectional data which was collected through interview method from Hisar and Rohtak districts of Haryana. The study revealed that in both the districts cucumber, tomato, capsicum, chilies and gourd were the major vegetable crops while majority of farmers were growing cucumber and tomato and out of these two cucumbers was preferred. The researchers also revealed that the population explosion of insects, low quality of cladding material, lack of cold

storage facilities in villages and a very high cost of hybrid seeds were the major constraints that were faced by the growers. **Chandrashekar (2014)** has analyzed the consumer perception towards organic products in his study. The objectives of the study were to examine the perception of consumers and the constraints in marketing of organic products. The researcher used primary as well as secondary data in his study and analyzed it by using SPSS and ANOVA model. The study revealed that 100 per cent respondent were preferred organic products as compare to the inorganic ones. Out of them 64 per cent purchased the organic products on daily routine mostly from the organic stores. Quality of food and to maintain good health was the main reasons for purchase of the organic products. The researcher also revealed that irregular availability, high prices, few varieties, lack of awareness among people were the major constraints in marketing of organic products.

**Objectives: -** There are two main objectives of the study.
1. To examine the production and average market price of selected vegetables in poly house and organic farm.
2. To examine the consumer preference in vegetable market for different kind of farm production i.e organic, poly house, and open field product.

**Research Methodology: -**    Survey – the study is based on primary as well as secondary data. Secondary data regarding the average production per acre and average market price per /kg has been collected from different market committee, newspaper, and other source of agricultural production and price. Primary data has been collected from producer and consumers. Data was collected by open ended scheduled questionnaire that was pre tested before final survey.

Three different kind of market has been selected to examine and compare the consumer behavior in different kind of market. A multistage purposive sampling technique has been used for selected the study area. The market was divided on population basis of that particular area. The markets were divided i.e small town market (population up to 5000 population), medium town market (upto 50000 population) and big town market (upto 1000000 population). For this purpose village Pughthala (Gannaur Tehshil, Sonipat) Gannaur (dist. Sonipat) and Rohtak (Haryana) as small town market, medium town market and big town market respectively.

A total number of 75 consumers 25 from each town have been have been questioned and interviewed. For collecting the data from producer a set of 40 farmers 20 farmers from each method of farming have been interviewed with the help of scheduled questionnaire.

Tools and statistical technique- simple percentage and graph method has been used for explained the production and average price of selected vegetable. To explained the consumer behavior regarding the preference for consuming the vegetable of different kind of farming chi-square has been applied for the following hypothesis.

**H0- consumer from different town market does not make significant difference for consuming the selected vegetables from different kind of farming i.e organic, poly house and open field farm.**

### A. Production and average price of different farming product

**Table 1.1**

Production of Crops under different farm technique

(Per. Acer)

| Crop | Organic | Polyhouse |
|------|---------|-----------|
| Tomato | 12500 Kg | 30000 Kg |
| Cucumber | 10000 Kg | 35000 Kg |
| Capsicum | 9000 Kg | 25000 Kg |

Source- Primary Survey

Table 1.1 highlight that production of selected vegetable was much higher than organic production. It was almost double in case of capsicum and tripled in case of cucumber. It explained that protecting farming with the use of chemical and pesticide produced more as compare to normal organic farming.

**Table 1.2**

**Average price of Crops (produce under different farm technique)**

| Crop | Organic | Polyhouse |
|------|---------|-----------|
| Tomato | 40 Rs./Kg | 15 Rs./Kg |
| Cucumber | 70 Rs./Kg | 18 Rs./Kg |
| Capsicum | 45 Rs./Kg | 17 Rs./Kg |

Source- Primary Survey

Table 1.2 explained the average market price for the both. Farmer reported that the price of organic product was almost tripled then the product of poky house.

**B.  Marketing behave of consumer for different kind of farm product-**

**Table 1.3**

**Marketing Behaviour of Consumer in Different Markets (For Organic Product)**

|  |  | Types of consumer (different market basis) | | | |
| --- | --- | --- | --- | --- | --- |
|  |  | Small town market | Medium town market | Big town market | Total |
| Organic Production | Highly Recommended | 0 | 2 | 7 | 9 |
|  | Recommended | 0 | 6 | 10 | 16 |
|  | NRNR | 5 | 10 | 6 | 21 |
|  | Rejected | 12 | 5 | 2 | 19 |
|  | Strongly Rejected | 8 | 2 | 0 | 10 |
| Total |  | 25 | 25 | 25 | 75 |

**Chi-Square Tests**

|  | Value | Df | Asymp. Sig. (2-sided) |
| --- | --- | --- | --- |
| Pearson Chi-Square | 38.882[a] | 8 | .000 |
| Likelihood Ratio | 46.472 | 8 | .000 |
| Linear-by-Linear Association | 33.434 | 1 | .000 |
| N of Valid Cases | 75 |  |  |

a. 6 cells (40.0%) have expected count less than 5. The minimum expected count is 3.00.

Table 1.3 highlights the consumer response for organic production in different markets. Table shows that organic product was highly recommended by the consumer in big town market followed by medium town market, it was 7 and 2 respectively. 21 consumers were remained neutral for these products. Highest numbers of the neutral consumer were from the medium town consumers. Only 10 consumers from small town market (8) and medium town market (2) strongly rejected organic products.    Further the result of chi-square reported that df-8 that means the null hypothesis is not accepted. It means the consumers from different markets reported the difference in their choice for organic product.

**Table 1.4**

**Marketing Behaviour of Consumer in Different Markets (For poly house Product)**

| | | Types of consumer (different market basis) | | | |
|---|---|---|---|---|---|
| | | Small town market | Medium town market | Big town market | Total |
| Polyhouse Production | Highly Recommended | 2 | 8 | 10 | 20 |
| | Recommended | 8 | 12 | 10 | 30 |
| | NRNR | 7 | 5 | 5 | 17 |
| | Rejected | 2 | 0 | 0 | 2 |
| | Strongly Rejected | 6 | 0 | 0 | 6 |
| Total | | 25 | 25 | 25 | 75 |

**Chi-Square Tests**

| | Value | Df | Asymp. Sig. (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | 22.471[a] | 8 | .004 |
| Likelihood Ratio | 25.049 | 8 | .002 |
| Linear-by-Linear Association | 16.091 | 1 | .000 |
| N of Valid Cases | 75 | | |

a. 6 cells (40.0%) have expected count less than 5. The minimum expected count is .67.

Table 1.4 highlights the consumer response for poly house production in different markets. Table shows that poly house product was highly recommended by the consumer in big town market followed by medium town market and small town market, it was 10, 8 and 2 respectively. 30 consumers recommended the product and out of these maximum were from medium town market. 17 consumers were remained neutral for these products. Highest numbers of the neutral consumer were from the small town market. Further the table shows that 6 small town market consumer strongly rejected the product of poly house.

Further the result of chi-square reported that df-8 that means the null hypothesis is not accepted. It means the consumers from different markets reported the difference in their choice for poly house product.

**Table 1.5**

**Marketing Behaviour of Consumer in Different Markets (For open field Product)**

|  |  | Type of consumer different market basis | | | |
|---|---|---|---|---|---|
|  |  | Small town market | Medium town market | Big town market | Total |
| Open Field Production | Highly Recommended | 14 | 2 | 0 | 16 |
|  | Recommended | 8 | 10 | 2 | 20 |
|  | NRNR | 1 | 7 | 12 | 20 |
|  | Rejected | 2 | 4 | 8 | 14 |
|  | Strongly Rejected | 0 | 2 | 3 | 5 |
| Total |  | 25 | 25 | 25 | 75 |

**Chi-Square Tests**

|  | Value | Df | Asymp. Sig. (2-sided) |
|---|---|---|---|
| Pearson Chi-Square | 42.600[a] | 8 | .000 |
| Likelihood Ratio | 48.563 | 8 | .000 |
| Linear-by-Linear Association | 29.119 | 1 | .000 |
| N of Valid Cases | 75 |  |  |

a. 6 cells (40.0%) have expected count less than 5. The minimum expected count is 1.67.

Table 1.5 highlights the consumer response for open field production in different markets. Table shows that open field product was highly recommended by the consumer in small town market followed by medium town market, it was 14 and 2 respectively. 20 consumers were remained neutral for these products. Highest numbers of the neutral consumer were from the big town market. Further the table shows that 5 big and medium l town market consumer strongly rejected the product of poly house.

Further the result of chi-square reported that df-8 that means the null hypothesis is not accepted. It means the consumers from different markets reported the difference in their choice for open field product.

## Conclusion –

It can be concluded from above result that production of selected vegetable was much higher than organic production and in case of price it can be concluded that the price of organic product was almost tripled then the product of poly house. In case of consumer preference study concluded that the organic product were not prefer in small town market and open farm product were less prefer as compare to organic and poly house in big town market. In case of medium town market study concluded that the response of consumer were mixed for all selected market.

Behind the very response most of consumer reported that the consumer who were more aware

about health prefer organic product as compare to other farm product.

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