



MUSHROOMING OF CUCUMBER (*CUCUMIS SATIVAM* LINN) PRODUCTION FOR MORE THAN THREE FOLD INCOME IN NON TRADITIONAL AREA WITH HIGH YIELDING VARIETY

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ABSTRACT

The field study was conducted during 2009-10 and 2010-11 on farmer's field of Hardevpurwa, Jalalabad and Pratap Pur villages of Kannauj district. The operational area is situated in the catchments of river *Ganga*. The soil of pilot project was sandy loam, having pH 8.0, organic carbon 0.26%, total nitrogen 0.02%, available P₂O₅ 10.00 kg/ha and available K₂O 273 kg/ha, therefore, the nutrients of soil was low. The field trial was under taken in the partnership of farmers. The three treatments *i.e.* conventional practice with local cultivar (check), conventional practice with cultivar Kalyanpur Hara and recommended practice with cv. Kalyanpur Hara were tested. The improved cultivar Kalyanpur Hara was used in the adaptive trial. The recommended practice with cv. Kalyanpur Hara gave maximum fruits yield of Khira by 78.12 q/ha, which was higher than other two tested treatments. The highest gross return of Rs. 56246/ha, net return of Rs. 26334/ha and BCR of 1:1.88 were noted under recommended practice with cv. Kalyanpur Hara. The recommended practice with cv. Kalyanpur Hara increased the net income of farmers by 4.11 fold over the conventional practice with local variety.

KEY WORDS: Conventional practice, Fold, Kalyanpur Hara, Partnership, Recommended practice.

INTRODUCTION

Cucumber locally known as Khira is a trailing or climbing annual, bearing elongated, thick, cylindrical fruits of varying sizes and form. The plant is probably indigenous to North India. It is widely cultivated throughout India and in the tropical and subtropical parts of the world and is a popular vegetable crop. There are number of varieties under cultivation. Fruits of some of varieties are 25-38 cm in long and 8-10 cm in diameter with fairly thick rind. The colour of the fruits varies from pale whitish green to dark green turning brownish yellow or rusty brown when mature. The rainy season varieties have much larger fruits and are more commonly grown throughout India. The Khira fruits contain moisture 96.4%, protein 0.4%, fat 0.1%, carbohydrates 2.8%, Ca 0.01%, P. 0.03% and Fe 1.5 mg per 100 gm, vitamin B₁-30 i.u. per 100 gm and vitamin C 7 mg per 100 gm. This combination of nutrients proved beneficial to the human health due to easily digestive.

The cultivated forms of Khira broadly divisible into two groups, the hot weather forms and rainy season forms. The farmer comprise creeping plants known as Gherkins. The rainy season varieties have much larger fruits and are more commonly grown throughout Uttar Pradesh as well as India. It has been observed that riverine tract of Uttar Pradesh is very familiar for production of Khira. District Kannauj is situated in the riverine tract and has light soils, which is very suitable for Khira production. But the cultivation of Khira is in tit-bit. For promoting the production and increasing the area under subject crop, the adaptive trial was undertaken on farmer's fields. The response of varieties of Khira under conventional system and improved technology is the subject matter of this manuscript.

MATERIAL AND METHODS

The adoptive innovative trial was conducted during 2009-10 and 2010-11 on nine farmers fields of Hardevpurwa, Jalalabad and Pratap Pur villages of Kannauj district. The operational area is situated in riverine tract of central plain zone of U.P. The site is situated in catchments area of river Ganga. The main objective of this study was to pluck the maximum fruits, obtain more net profit and enhance the farmers income more than two fold from single season crop of Khira. The secondary objective was to increase the financial status of small and marginal land holders. The pilot area situated on sandy loam texture soil, having pH 8.0, organic carbon 0.26%, total nitrogen 0.02%, available P₂O₅ 10.00 kg/ha and available K₂O 273 kg/ha, therefore, the fertility status was low. The pH was determined by Electrometric glass electrode method (Piper, 1950), while organic carbon was determined by Calorimetric method (Datta *et al.*, 1962). Total nitrogen was analyzed by Kjeldahl's method as discussed by Piper (1950). The available phosphorus and potassium were determined by Olsen's method (Olsen *et al.*, 1954) and Flame Photometric method (Singh, 1971), respectively. The farming situation of the area was irrigated. The main problem of the Khira growing area was no improved and high yielding cultivar for higher fruits production with farmers. The field trial was undertaken in the partnership of farmers and compared the yield and economics with conventional practice (farmers practice). The cultivar Kalyanpur Hara was used in the recommended practice. The sowing was done between 05 June to 06 July and fruits plucked between 14 August to 30 August during two experimental seasons. The three treatments *i.e.*, conventional practice with local cultivar (check), conventional practice with cv. Kalyanpur Hara and

recommended practice with cultivar Kalyanpur Hara were tested. The recommended agronomical practices were followed in recommended practice with cultivars Kalyanpur Hara treatment. The irrigation was given as and when required. The trial was undertaken on nine farmer's fields.

RESULTS AND DISCUSSION

The pooled data of two years are given in Table-1 and discussed here under appropriate heads.

- (1) **Fruits yield:** Recommended practice with cv. Kalyanpur Hara gave maximum fruits yield of Khira (78.12 q/ha), which was higher over both the conventional practices. Conventional practice with local cultivar produced minimum yield by 50.52 q/ha in pooled results of two years. Similarly, conventional practice with cultivar Kalyanpur Hara gave yield of 70.31 q/ha. Yield reduction in conventional practice with local variety was due to seed purchased by farmers from local agency, which has poor yield potentiality. In conventional system with cv. Kalyanpur Hara pushed up fruits yield over conventional system with local variety by a margin of 19.79 q/ha or 39.17%. The considerable role in improvement of fruits yield of Khira, supported to the

higher yield. The recommended practice with cv. Kalyanpur Hara gave higher yield by a margin of 27.60 q/ha or 54.63% and 7.81 q/ha or 11.10% in comparison to conventional practice with local variety and conventional practice with cv. Kalyanpur Hara. Similar observations have also been reported by Singh *et al.* (2020).

Economic studies

The data recorded on economics have been reported in Table-1. The cost of cultivation under both conventional systems was recorded by Rs. 29970/ha, which was higher than the recommended practices with cv. Kalyanpur Hara. This was due to higher seed rate of Khira used by farmers. The highest gross return of RS. 56246/ha, net return of Rs. 26334/ ha and BCR of 1:1.88 were noted with plucked fruits of Khira under recommended practice with cv. Kalyanpur Hara treatment. The lowest gross return, net return and BCR were computed by Rs. 36374/ha, 6404/ha and BCR 1:1.21, respectively, under conventional practice with local variety. The production of fruits of Khira/ha was responsible for higher and lower net income and BCR. The recommended practice with cv. Kalyanpur Hara increased the net income of farmers by 4.11 fold over conventional system with local variety. These findings are in agreement with those reported by Singh *et al.* (2020).

TABLE 1: Yield and economics under different treatments

<i>(Pooled data of two years)</i>							
S. No.	Treatment	Yield (q/ha)	Cost of cultivation (Rs./ha)	Gross return (Rs/ha)	Net return (Rs/ha)	BCR	Net income increase in fold
1.	Conventional practice with local variety	50.52	29970	36374	6404	1.21	-
2.	Conventional practice with cv. Kalyanpur Hara	70.31	29970	50623	20653	1.68	3.22
3.	Recommended practice with Kalyanpur Hara	78.12	29912	56246	26334	1.88	4.11

Sale price as per market rate = Rs. 720.00/quintal

CONCLUSION & RECOMMENDATION

Since the use of Kalyanpur Hara cultivar with recommended package of practices increased the considerable fruits yield of Khira, therefore, farm families may be advocated for the cultivation of cv. Kalyanpur Hara with recommended practices.

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