



## STUDY THE YIELD AND ECONOMICS OF PIGEON PEA (*CAJANUS CAJAN*) AT DIFFERENT SIZE OF HOLDINGS

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### Abstract

The main aim of the present study was to find out the yield and net income at different size of holdings in randomly selected advisory village of Ghzaipur district of Uttar Pradesh during 2010-2011. Increasing trends formed in all respect along with no specific trends in benefit cost ratio. Farmers of each size groups will have to pay more proper attention for their future plans of the pigeon pea cultivation, mostly in medium and larger size groups will have to aware more and more in the area of farm planning, proper farm record maintenance along with timely application all advance package of practices at optimum level on their fields for better production and better incomes.

**Key words :** Yield, increasing trends, cost, smaller to larger size.

### Introduction

Pulses are the most important sources of food protein in our country. Cost of cultivation on pulse crops area not very much more, production and net returns forms best in comparison to other crops. Among the pulses, pigeon pea (red gram) play most and effective sources of protein in the food in our country. This is used as dal, its green pods may be used as a vegetable. The green leaves and top of the plant are fed to animals or are utilized as green manure. Production and returns of this crop is too much high and fruitful in comparison to other cereals and oil seed crops. This crop is draught tolerant, needs low cost of cultivation with greater results under favourable and non favourable condition in both. The yield of pigeon pea in intercropping system was going to on lower side. Yield of these crops will also be reduced due to intercropping with sesame, sorghum, millet etc. reported by Reddy *et al.* (1993). Pod borers cause huge losses to flowes and developing seeds, their chemical controls is essential for high and better yields for better returns. Proper crops managements practices, in particular the control of pod borers etc. is essential better and betterment of the crops reported by Verma *et al.* (1994). This crop can be grown

in both, in dry and moist hot climate. Good drainage system is an essential requirement, as the crop cannot stand water lodging were sub surface drainage is poor, ridge planting is an effective procedures. To get maximum profit pay more attention about timely sowing, use of optimum doses of seed and balance fertilizer and plant protection management etc.

### Materials and Methods

With the farmers scientist collaboration the present study was conducted in randomly selected village namely Sonbarsha of Block Kasimabad during 2010-2011 in Ghazipur district of Uttar Pradesh, whereas one farmer from each groups *i.e.* consist of small medium and larger size of holdings has been selected randomly for *kharif* pigeon pea (red gram). The main aim was that how the selected farmers will increase their yield and net incomes by applying advance technology and advance package of practices. Suggested them Narendra Arhar-1 pigeon pea variety for the cultivations. Survey method has been used to collect the data and tabular analysis was being used. Family scheduled has been used to collect the data from selected farmers according to their size of holding, family size, area of the production and incomes of the

**Table 1 :** Yield (Qt./ha.) of pigeon pea at different size of holdings.

Size of holdings	No. of farms	Seed rate (kg./ha.)	N.P.K. : Sulphur (kg./ha.)	Yield (qt./ha)	Sale rate of grain yield @ Rs./Kg.
Small	1	13.00	15:40:0:20	18.00	35
Medium	1	13.50	15:40:0:20	18.50	38
Large	1	14.00	15:40:0:20	19.50	40
Average	1	13.33	15:40:0:20	18.66	37.66

**Table 2 :** Economic analysis and benefit cost ratio of pigeon pea among the different size of holdings.

Size of holdings	No. of farms	Non-labours input costs (Field prep. + seed + fertilizers and seed treatments) Rs./ha.	Labour input costs (sowing+interculture+ roguing+harvesting+ threshing etc.) Rs./ha.	Total cost of cultivation Rs. /ha.	Gross income Rs. /ha.	Net income Rs. /ha.	Benefit cost ratio.
Small	1	3,689	11,584	15,273	63,000	47,727	1:4.12
Medium	1	3,970	14,157	18,127	70,300	52,173	1:3.88
Large	1	4,884	16,232	21,116	78,000	56,884	1:3.65
Average	1	4,181	13,991	18,172	70,434	52,262	1:3.88

crop etc. The economics of the crop was work out at current price rate. The crop has been taken on the field during the first fort night of July, advised them to apply the seed @ 12 - 15 kg./ha. Along with N.P.K., sulphur @ 15:40:0:20 Kg./ha. on their field. For effective results sowing was performed in ridges.

### Results and Discussion

Table 1 shows that yield/ha of pigeon pea increases from smaller to the larger ones *i.e.* 35 Qt./ha to 40 Qt./ha. shows increasing trends. It shows that the use of sulphur in this crop performs fruitful results *i.e.* significant influence on grain yield of pigeon pea. The improvement in the yield by the use of sulphur better seed weight and quality reported by Puste and Jana (1995). Table 2 shows that the total cost of cultivation Rs./Ha. 15,273 to Rs. 21,116 from small to larger size groups reveals increasing trends along with Rs. 47,727 to Rs. 56,884 per hectare net income was found increasing trends from smaller to larger size of holdings. Benefit cost ratio *i.e.* 1:4.12, 1:3.88 and 1:3.65 from smaller to larger size shows that there is no specific trend has been visible. From table 2, it is very

clear that the medium and larger size groups paid more costs on their produces. This practice will have to control in their future plans. Farmers of all size groups will have to maintain a better farm plans for the cultivation all better yield with minimum cost of cultivation in future, along with prefer maintenance of their form records with the optimum and balance managements of all package of practices apply timely in the future plans.

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