

ESTIMATION OF ECONOMICS OF CHICKPEA FOR CENTRAL ZONE OF UTTAR PRADESH

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Abstract

Chickpea (*Cicer arietinum* L) is a major leguminous crop. To calculate the Economics of the Chickpea in central zone of Uttar Pradesh, the research was conducted during *Rabi* season 2017-18 at research farm of “Faculty of Agricultural Sciences and Allied Industries”, Rama University, Kanpur (Uttar Pradesh). The experiment was laid out in Randomized Block Design (RBD) comprised of 11 treatments combination along with 3 replications. The variety of Chickpea under study was ‘KGD-1168’. Based on the study, it was found that the application of 75 % RDF + FYM @ 2.5 t ha⁻¹ + Vermicompost @ 1.0 t ha⁻¹ followed RDF (20 kg N+ 60 kg P₂O₅ + 20 kg K₂O ha⁻¹) and 50 % RDF + FYM @ 5 t ha⁻¹ + Vermicompost @ 2.5 t ha⁻¹ is best for highest seed yield.

Keywords: Economics, Vermicompost, Treatments and Seed Yield.

Introduction

Gram or Chickpea (*Cicer arietinum* L.), belongs to family Fabaceae. Gram or Chickpea (*Cicer arietinum* L.) is self-pollinated leguminous crop. Chickpea is the third most important pulse crop in the world after French bean (*Phaseolus vulgaris* L) and Field Pea (*Pisum sativum* L) with an all time high production of 11.23 million tonnes during 2017-18. In India Gram or Chickpea (*Cicer arietinum* L.) is leading food legume crop covering 8.31 million hectare area, production 7.03 million tonnes and productivity of 843 kg./ hectare. (AICRPC, 2016). The leading chickpea growing states are Madhya Pradesh, Rajasthan, Maharashtra, Uttar Pradesh, Karnataka, Andhra Pradesh . These states contribute together 93 percent of the production from 92 percent of area.

Materials and Methods

The experiment was conducted during *Rabi* season of 2017-18 at research farm of “Faculty of Agricultural Sciences and Allied Industries”, Rama University, Kanpur (Uttar Pradesh). The seasonal Rainfall was about 629.5 mm, mostly from 2nd fort night of June or First Fortnight of July to mid October

with a few showers in winter season. The Maximum and minimum temperature in Rabi season was 35°C to 10 °C respectively.

The experiment was laid out in Randomized Block Design (RBD) compass of 11 treatments combination along with 3 replications. Each replication was divided into equal plots and the treatments were randomly allocated within them. Preferred Gross size of plot was 4m×3m = 12 m². The net plot size was 3.6 m×2.4 m = 8.64 m². The row spacing was 45 cm×15 cm and the chosen variety of Chickpea was 'KGD-1168'. The treatment specifics of the plot is presented in the table below:

S. No.	Treatments	Symbol used
1	Control	T ₁
2	Farmers Practice[50 kg DAP ha ⁻¹]	T ₂
3	RDF [20 kg N+ 60 kg P ₂ O ₅ + 20 kg K ₂ O ha ⁻¹] through chemical fertilizer	T ₃
4	FYM @ 10 t ha ⁻¹	T ₄
5	Vermicompost@ 5 t ha ⁻¹	T ₅
6	75 %RDF + FYM @2.5 t ha ⁻¹ + Vermicompost @ 1 t ha ⁻¹	T ₆
7	50 % RDF + FYM @ 5 t ha ⁻¹ + Vermicompost @ 2.5 t ha ⁻¹	T ₇
8	25 % RDF + FYM @ 10 t ha ⁻¹ + Vermicompost @ 5 t ha ⁻¹	T ₈

Results & Discussion

The data related to economics of Chickpea crop viz. cost of cultivation (Rs. ha⁻¹), gross return (Rs. ha⁻¹), net return (Rs. ha⁻¹), and B: C ratio as inveigled by deviating integrated nutrient management practices were statistically analyzed & presented in the table given below:

Treatments	Treatments Combination	Cost of Cultivation (Rs. ha ⁻¹)	Gross Return (Rs. ha ⁻¹)	Net Return (Rs. ha ⁻¹)	B:C Ratio
T ₁	Control	19307	71491	52184	3.70
T ₂	Farmers Practice[50 kg DAP ha ⁻¹]	20407	79495	59088	3.90
T ₃	RDF [20 kg N+ 60 kg P ₂ O ₅ + 20 kg K ₂ O ha ⁻¹] through chemical fertilizer	21106	114885	93779	5.44
T ₄	FYM @ 10 t ha ⁻¹	24307	88102	63795	3.62
T ₅	Vermicompost@ 5 t ha ⁻¹	22807	86378	63571	3.79

T ₆	75 % RDF + FYM @2.5 t ha ⁻¹ + Vermicompost @ 1 t ha ⁻¹	22606	123112	100506	5.45
T ₇	50 % RDF + FYM @ 5 t ha ⁻¹ + Vermicompost @ 2.5 t ha ⁻¹	24456	109767	85311	4.49
T ₈	25 % RDF + FYM @ 10 t ha ⁻¹ + Vermicompost @ 5 t ha ⁻¹	28257	101694	73437	3.60

The table shows that gross return was recorded maximum i.e. Rs. 1,23,112.00 ha⁻¹ with the application of RDF + FYM @ 5 t ha⁻¹ (T₆) followed by T₃ and T₇ respectively.

The highest return was recorded with the application of 75 % RDF + FYM @2.5 t ha⁻¹ +Vermicompost @ 1 t ha⁻¹ (T₆) Rs. 100506.00 as compared to control treatment (Rs. 45396.00 ha⁻¹). The Treatment T₂ (Rs. 93779.00 ha⁻¹) and T₇ (Rs. 85711.00) was also recorded higher as compared to other treatment.

B:C was high (5.45) with the application of 75 % RDF + FYM @2.5 t ha⁻¹ +Vermicompost @ 1.0 t ha⁻¹ followed by T₃ which received 100 percent RDF alone (5.44) as compared to treatment T₃ (FYM @ 10 t ha⁻¹) i.e. 3.18 followed with the application of 25 % RDF + FYM @ 10 t ha⁻¹ + Vermicompost @5.0 t ha⁻¹ (3.60).

Conclusion

On the basis of study conducted , the application of 75 % RDF + FYM @2.5 t ha⁻¹ +Vermicompost @ 1.0 t ha⁻¹ followed RDF (20 kg N+ 60 kg P₂O₅ + 20 kg K₂O ha⁻¹) and 50 % RDF + FYM @ 5 t ha⁻¹ + Vermicompost @ 2.5 t ha⁻¹ recorded highest net return (Rs./hectare).

References.

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