

EFFECT OF INORGANIC NUTRIENTS AND BIO-INOCULANTS ON BLACKGRAM (*VIGNA MUNGO* L.)

Karunesh Tripathi, V.K. Trivedi*, R.K. Pathak and Gautamveer Chauhan

Department of Soil Science & Agril. Chemistry C.S.Azad Univ. Of Agril. & Tech. Kanpur U.P.

Received-20.02.2017, Revised-06.03.2017

Abstract: A pot experiment on blackgram crop was conducted at pot house of the Department Soil Science and Agriculture Chemistry, C.S.Azad University of Agriculture and Technology Kanpur during kharif -2013 with variety shekhar-2 . The dose of experiment were 50% SR , 50% SR+Rh , 50% SR+PSB, 50%SR+Rh+PSB , 100% SR , 100 %SR+Rh , 100% SR+PSB, 100%SR+Rh+PSB , . The result showed that number of branches /plant varied from 1.5 to 4.5 and 2.5 to 5.5 at 30 and 60 DAS, respectively. The number of nodules ranged from 8.75 to 23.0 and 16.0 to 30.50 at 30 and 60 DAS, respectively .The grain yield varied from 8.50 to 15.20 q/ha and stover yield varied from 12.60 to 23.80 q/ha . The N content in grain ranged from 3.16 to 4.24 % and P from 0.60 to 0.69 % .The N content in stover varied from 1.03 to 1.09 % and P from 0.24 to 0.29 % . The total nitrogen uptake ranged from 39.83 to 90.60 kg/ha and P uptake from 8.35 to 16.6 kg/ha . The protein content in black gram grain showing the range of variation from 19.75 to 26.62 % The treatment T₉ (100%SR+Rh+PSB) gave the best results in terms of branches , number of nodules, grain and stover yield, nutrient content, uptake values and protein content.

Keywords: Black gram, Crop, Inorganic nutrient, Production

REFERENCES

- Ahmed, M.K.A., Afifi, M.H. and Mohamed. M.E.** (2003). Effect of biofertilizers, chemical and organic fertilizers on growth, yield and quality of some leguminous crops. *Egyptian Journal of Agronomy*, 25:45-52.
- Amba, A.A. and Agbo, E.B.** (2013). Effect of nitrogen and phosphorus fertilizers on nodulation of some selected grain legumes at Bauchi, Northern Guinea Savanna of Nigeria., *International Journal of Biosciences (IJB)*, 3, 10, 1-7, 22.
- Chapman, H.D. and Pratt, P.F.** (1961). Method of analysis for soils, plants and water. University of California, U.S.A..
- Gawande, C.G. et al.** (2007). Soil fertility dynamics as influence by cropping system and fertilizer levels. *Asian Journal of Soil Science*, 2 : 2, 48-50.
- Olsen, S.R.; Cole, C.V.; Watanable F.S. and Dean, L.A.** (1954). Estimation of available phosphorus in soil by extraction with sodium bicarbonate. *Circ. U.S. Deptt. Agric.*, 939.
- Saleh, M. A.; Zaman, S. and Kabir, G.** (2013). Knowledge Yield response of Black gram to inoculation by different *Rhizobium* strains using various types of adhesives. *Asian Journal of Biological Sciences*. 6: 3.
- Singh, Y.P. and Chauhan, C.P.S.** (2005). Effect of sulphur, phosphorus and Rhizobium inoculation on yield, content of micronutrient and Phosphorus utilization of lentil. *Indian J. Pulses Res.* **78** (2): 211-213.
- Subbiah, B.V. and Asija, G.L.** (1956). A rapid procedure for the estimation of available nitrogen in soil. *Current Science*. 25 : 259-260.
- Tiwari, R.C., Sanjay, Debiprasad, Dash, Kumar S. and Dash, D.** (2003). Sulphur status of soils and crops and response of crops to doses and sources of sulfur eastern Uttar Pradesh. *Fertilizer News* **48**: (8)35-38, 41-42.
- Walkley, A. and Black, T.A.** (1934). Examination of the Deglareff method for determination of soil organic matter and a proposed modification of the chromic acid titration method. *Soil Science*. **37**: 29-38.

*Corresponding Author