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Influence of row spacing and phosphorus levels on seed production of Dhaincha (*Sesbania aculeata*)

Boini Venkanna
Acharya N. G. Ranga Agricultural University, India

A field experiment entitled "Influence of row spacing and phosphorus levels on seed production of Dhaincha (*Sesbania aculeata*)" was conducted at College Farm, College of Agriculture, Rajendranagar, Hyderabad on sandy clay loam soils with slightly alkaline in soil reaction, medium in organic carbon, low in available nitrogen and medium in available phosphorous and potassium. The treatments comprised of three row spacings (30 cm, 45 cm and 60 cm) and three phosphorus levels (0 kg, 25 kg and 50 kg ha^{-1}). The experiment was laid out in a randomized block design with factorial concept and replicated thrice.

The results revealed that row spacings and phosphorus levels significantly influenced the growth parameters, yield attributes and yield of dhaincha crop.

Among the three different row spacings (30 cm, 45 cm and 60 cm) studied, dhaincha sown at closer row spacing of 30 cm recorded more drymatter production, yield (seed and stalk) and NPK uptake. But wider row spacing of 60 cm produced more number of pods plant^{-1}, seeds pod^{-1} and test weight than other row spacings (45 cm and 30 cm). The improved per plant yield attributes at 60 cm row spacing has not reflected in per hectare seed and stalk yield of dhaincha.

Among the three different phosphorus levels (0, 25 and 50 kg ha^{-1}) studied, dhaincha with 50 kg ha^{-1} phosphorus application performed better in plant height, drymatter production, number of branches plant^{-1}, number of pods plant^{-1}, seeds pod^{-1}, test weight, yield (seed and stalk), NPK content and uptake than the other phosphorus levels (0 and 25 kg ha^{-1}).

Higher gross returns, net returns and B:C ratio was obtained at 50 kg ha^{-1} phosphorus application than lower levels (0 and 25 kg ha^{-1}). But B:C ratio obtained at 50 kg ha-1 phosphorus application was at par with 25 kg ha^{-1}.

Among the treatment combinations, 30 cm row spacing with 50 kg ha^{-1} phosphorus application (S_1P_3) produced the highest drymatter production, yield (seed and stalk), NPK uptake, gross monetary returns, net monetary returns and benefit - cost ratio followed by 30 cm row spacing with 25 kg ha^{-1} phosphorus application (S_1P_2).

From the present investigation, it can be inferred that dhaincha can be grown successfully with a row spacing of 30 cm and 25-50 kg ha^{-1} phosphorus application during *rabi* season under Southern Telangana Agro-climatic conditions of Andhra Pradesh.

Biography

Boini Venkanna has completed his BSc. (Ag) at college of Agriculture Aswaraopeta and M.Sc (Ag) from Acharya N. G Ranga Agricultural University, Hyderabad. He achieved first class grade in both at UG and PG levels. He is presently pursuing Ph.D. in Department of Agronomy at College of Agriculture, Acharya N G Ranga Agricultural University, Hyderabad.

venki.boini1435@gmail.com

Development of germplasm information system

Sujai Das and Utpal Sen
National Institute of Research on Jute & Allied Fibre Technology, India

Germplasm is the reflecting property of a crop. Particular germplasm is required for a particular demand. Selection of germplasm is very important for a particular need. It is very difficult to work with all aspects taking together, in germplasm selection. For that, computer software assists in the selection process. There are many numbers of entries in germplasm database. It may have characters like seed weight, yield, maturity days, flower color, flower shape, plant height, etc. For selection of germplasm, customized software has been developed containing indexing, compression, searching, identification, scaling and many statically analysis.

sujai_das@yahoo.com

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