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Research Article

Response of growth, seed yield and its quality to source manipulation and plant growth regulators in cluster bean [*Cyamopsis tetragonoloba* (L.) Taub.] cv. PUSA NAVBAHAR

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Abstract : An investigation was carried out to study the response of growth, seed yield and its quality in cluster bean cv. PUSA NAVBAHAR to source manipulation and spraying of plant growth regulators. The experiment was carried out with three source manipulation treatments (Decapitation) and spraying of three plant growth regulators (NAA, GA_3 and thiourea) at flowering stage along with water spray as control. Without decapitation treatment recorded significantly the maximum number of leaves, leaf area and dry weight of plant at harvest. Decapitation at 70 days after sowing observed significantly the maximum number of pods/plant, weight of 1000 seeds and the highest seed yield with better quality seeds. Spraying of GA_3 40 mg/l at flowering stage recorded the maximum number of leaves, leaf area, leaf area index and dry weight of plant at harvest stage. Spraying of thiourea 500 mg/l registered maximum number of pods/plant, weight of 1000 seeds and seed yield with good quality seeds. Combination of decapitation at 70 days after sowing and spraying of thiourea 500mg/l at flowering stage recorded the maximum weight of 1000 seeds with good seed quality.

Key Words : Decapitation, Source manipulation, PGRs, Seed yield, Cluster bean

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INTRODUCTION

Cluster bean [*Cyamopsis tetragonoloba* (L) Taub.] is an important annual legume vegetable crop. It can be grown on soil of low fertility as well as drought prone arid and semi arid area. Pusa Navbahar is most popular variety of cluster bean for vegetable purpose. It is grown for its young tender green immature pods, which are used as a nutritive vegetable. It is single stem and pods are about 15 cm in length, tender, green in colour and have less fibre. It is cultivated during summer and rainy seasons. In Gujarat cluster bean is grown about 30,962 ha of land with the production of 2, 83,466 MT green pods during the year 2010-11 (Anonymous, 2011). Due to the wide spread cultivation and nutritive important in our daily life demand for seeds requirement is increasing day by day but, availability of pure and good quality seeds is not satisfactory. Various attempts have been made to increase production of seed with better quality seed but, results are not satisfactory. Hence, the present experiment was carried out to study the response of growth, seed yield and its quality to source manipulation (Decapitation) and plant growth regulators in cluster bean.

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