PERFORMANCE OF PIGEON PEA UNDER IRRIGATED CONDITIONS IN UPER KRISHNA PROJECT COMMAND AREA

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ABSTRACT

Field experiments were conducted to evaluate the performance of ten pigeon pea genotypes in kharif 2001 and 2002. Among the ten genotypes tested, DEPS 9 (2959.38 kg/ha) recorded significantly superior yield over two checks viz., GS 1 (2484.85 kg/ha) and ICP 8863 (2288.51 kg/ha). But it was on par with ICPL 87119(2641.51 kg/ha). It gave 19.1% and 29.3% higher yield over GS1 and ICP 8863, respectively.

Key words: Pigeon pea, Varietal performance, Irrigation

Pigeon pea (Cajanus cajan (L) Millsp) is an important pulse crop of India and is cultivated in 3.64 mha with a production of 2.43 mt. In Karnataka, it is grown in 5.33 lakh ha with a production of 1.99 lakh tones (Anonymous, 2004). The productivity of pigeon pea in India (669 kg/ha) and Karnataka (395 kg/ha) is very low although the crop has the potential to yield up to 2000 kg/ha under favourable conditions. Low productivity is mainly due to moisture stress, incidence of pest (mainly pod borer) and diseases (mainly wilt and sterility mosaic). Reddy et al. (2006) recorded an additional seed yield of 68% in stress free pigeon pea as compared to rainfed environment. Increase in seed yield in pigeon pea was also recorded by Shelke et al. (1999), Rao et al. (2001), Kantwa et al. (2005) and Gajera et al. (2006) under irrigated conditions.

In order to increase the production and in turn productivity of pigeon pea, the crop has to be grown under irrigated conditions besides following IPM practices for the management of pest and diseases. The availability of irrigation water for some of the taluks of Gulbarga district (which produces 45% of total pigeon pea in the state) has made it possible to raise the crop under irrigated conditions. Hence, there is need to identify high yielding pigeon pea varieties for irrigated situations to boost production in order to meet the growing demand of the people.

The field experiment was conducted during kharif 2001 and 2002 at Research Farm, College of Agriculture, Bheemarayanagudi in medium black soil. The soils are low in available nitrogen, medium in available phosphorous, but rich in available potassium. Ten pigeon pea genotypes viz., BSMR 736, DEPS 9, GLS 9901, GS 1, ICP 8863, ICPL 87119, ICPL 94063, TAT 9621, WRP 230-1 and WRP 266 were evaluated in randomized black design with three replications. A plot size of 3.0 x 4.0m was used for each genotype, and seeds were dibbled at a spacing of 60 cm x 30 cm. The recommended agronomic practices for the region were followed to ensure a healthy crop growth under irrigated condition. The crop was irrigated to avoid the moisture stress. The observations viz., plant height (cm), number of primary branches, days to 50% flowering, pods per plant, 100 seed weight and grain yield/plot were recorded. The data were subjected to statistical analysis by adopting completely randomized design (Panse and Sukhatme, 1967)

The mean performance of different pigeon pea genotypes is presented in Table 1. The genotypes differed significantly for the grain yield in both the years. The pooled analysis revealed that genotype, DEPS 9 (2959.38 kg/ha) recorded significantly superior yield over two checks viz., GS 1 (2484.85 kg/ha) and ICP 8863 (2288.51
kg/ha). But it was on par with ICPL 87119 (2641.51 kg/ha). It gave 19.1% and 29.3% higher yield over GS1 and ICP 8863, respectively. The high yield of DEPS 9 was due to more number of pods per plant (264), tall plant height (211 cm) and significantly high test weight (11.83 g).

The genotypes, viz., ICPL 94063, TAT 9621 and WRP 230-1 were also found promising as they recorded on par yield with DEPS 9.

From the present study, it is concluded that DEPS 9 could be recommended for irrigated regions of Bheemarayanagudi area.

**REFERENCES**


