

Second harvest yield of pigeonpea as influenced by different varieties and plant population density

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Field experiments were conducted during 1985-86 and 1987-88 at N.D. University of Agriculture and Technology, Faizabad (U.P.). The soil was silty loam with poor organic carbon, medium in available P and rich in available K with pH 7.8. Three pigeonpea varieties viz., T21, UPAS-120, and Pusa 78 were grown under four plant population levels (0.8, 1.6, 3.2 and 4.8 lakh plants/ha) with two systems (i) ratooning (plants cut at 30 cm above the ground) and (ii) picking of pods. The treatments were tested in split plot design with three replications. The combinations of varieties and plant population levels were kept in main plot and systems were taken into sub-plots. Crop was sown on June 21 and 18 during 1985-86 and 1987-88, respectively. Ratooning and picking of pods were done at the time of harvesting of first flush and thereafter the plants were left in the field for regeneration and growth. In case of ratooning plants were cut 30 cm above the ground. During February, 10 kg N/ha alongwith one irrigation was applied to the crop.

Variety T 21 produced maximum weight of pods/plant which was at par with UPAS 120 during both the years. Pusa 78 gave 7.87 and 15.31 per cent lower weight of pods/plant than T 21 during 1985- 86 and 1987-88, respectively. Number of seeds/pod was 6.82 per cent higher in UPAS 120 than Pusa 78 but was at par with T 21 during first year (Table 1). The variation among varieties in respect of the yield components was due to genetic variation which resulted the dif-

ference in values. Highest weight of pods/plant and seeds/pod were recorded at lowest plant population level (P1) during both the years. This was mainly due to more space available for plant growth and development at lowest plant population level.

The effect of system on different yield components was non- significant but the maximum weight of pods/plant and seeds/pod was higher in ratooning than picking because of better regrowth in ratooning than picking.

The total produce was maximum in T21, which was 9.36 and 25.81 per cent higher during 1985-86 and 12.65 and 16.32 per cent higher during 1987-88 than UPAS 120 and Pusa 78, respectively. This was due to higher values of yield attributing characters in variety T 21 than rest of the varieties. Among different plant populations, effect on total produce was non-significant. Total produce in the system of picking was 61.98 and 101.25 per cent higher than ratooning during first and second year, respectively. This was mainly because the ratooned plants were harvested at 30 cm above the ground whereas the whole plant was left in picking at the time of first harvest. Vankatratnam and Sheldrake (3) have reported higher harvest yield in non-ratooned plants than ratooned plants.

The grain yield of the first harvest was significantly affected by varieties and plant population levels. However, systems did not affect the yield. In case of second harvest.