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Short Communications

Performance of Chickpea Varieties Under Different Dates of Sowing

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In the middle Gujarat Agroclimatic Zone AES-III, rice is the major rainy – season crop. Chickpea after rice is becoming popular as it is highly remunerative under rainfed lowland conditions requiring low inputs. Farmers start the sowing of chickpea after harvesting of rice from the end of October to early December. Normally a prolonged winter helps to farmers to get reasonably good yield. The data of sowing of new genotypes is one of the most important factor influencing yield and disease and insect pest incidence. Therefore an experiment was conducted with a view to determine the optimum time for sowing of chickpea varieties in the AES-III.

Field experiment was conducted during winter season 1994-95.The experimental site was sandy loam in texture and netural in soil reaction. It was low in nitrogen and medium in phosphorus and potash. The treatments consisting of four dates of sowing (30th October, 15th & 30th November and 15th December) in main plots and three varieties (ICCC-4, Pusa-G-209 and Dahod yellow) as sub plots were arranged in split plot design with four replications. A uniform dose of 20 kg/ ha and 40 kg P_2O_5/ha was applied at the time of sowing. The seed was sown in furrows, 30 cm apart using a seed rate of 60 kg/ha and thereafter plants were thinned to an intra row spacing of 10 cm. The crop was irrigated at branching (30 DAS) flowering (45 DAS) and pod filling (65 DAS) stages.

Seed yield was significantly influenced by dates of sowing (Table 1). The highest seed yield of 3588 kg/ha was obtained when the crop was sown on 15th November. The seed yield in 30th October and 15th November sowing did not differ significantly.

This might be due to favourable temperature effect prevailing at the time of flowering and pod filling stages in case of sowing carried out on 15th November, which ultimately was responsible for increased number of pods plant and test weight. Our results are in agreement with those reported by Arvadia and Patel (1988) and Balyan *et al.* (1989) who obtained reduced yield by 21 and 49 per cent when sowing was delayed or carried out after 15th November and stated that drought condition, high temperature as well as incidence of pod borer prevailed at the time of flowering and pod filling stages were responsible for low yield. The linear decrease in yield was also observed by Dahiya *et al.* (1988) and Paikaray and Misra (1992) in case of sowing performed between 30th October to 15th December. Among the varieties tested, Dehod yellow yielded the highest

TABLE 1

Effect of sowing date and varieties on yield attributes and yield of chickpea.

Treatments	*No. of branches/ plant*	*No. of developed pods/plants*	*No. of seeds/ pod*	*Plant height (cm)*	*Seed grain yield (kg/ha)*	*Fodder yield (kg/ha)*	*Plant stand*	*Test weight (g) (100 seeds)*
Date of sowing								
D1—30th October	10.1	64.6	1.5	71.0	3356	2551	272.2	16.58
D2—15th November	10-4	68.5	1.5	65.7	3588	2400	270.8	15.29
D3—30th November	10.1	63.1	1.6	61.8	2828	2209	264.4	14.42
D4—15th December	10.7	60.9	1.5	61.7	1837	2199	267.2	14.50
S. Em.	0.2	2.1	0.03	2.8	120.3	72.3	2.43	0.17
C. D. at 5%	0.6	5.4	NS	7.2	385.5	231.2	NS	0.45
C.V. %	14.2	13.0	15.5	17.2	16.2	14.0	8.2	10.7
Varieties								
V1—ICCC-4	10.8	70.8	1.5	68.0	2676	2249	270.2	15.31
V2—Pusa G.209	10.0	62.1	1.6	64.1	2978	2245	269.9	14.34
V3—Dahod yellow	10.1	60.0	1.5	66.8	3072	2325	265.9	15.94
S. Em.	0.3	2.7	0.03	1.3	117.3	81.7	2.7	0.15
C. D. at 5%	0.7	6.5	0.08	3.2	283.4	NS	NS	0.36
C. V. %	8.0	11.1	8.5	14.6	15.0	10.7	3.14	3.94
Sig. Int.	NS	NS	NS	NS	NS	NS	NS	NS

TABLE 2

Interaction effect of sowing dates varieties.

Varieties	*Date of Sowing*	*V1 ICCC-4*	*V2 Pusa-G-209*	*V3 Dahod yellow*
D-1	30th October	3246	3593	3231
D-2	15th November	3170	3654	3940
D-3	30th November	2626	2868	2989
D-4	15th December	1660	1797	2129

S. Em. 236
C. D. at 5% NS

seed yield (3072 kg/ha) followed by Pusa G. 209 (2988 kg/ha), while ICCC-4 gave the owest seed yield (2676 kg/ha). However the nteraction effect of dates of sowing and arieties was not significant, the higher yields ere obtained when the sowing was erformed between 30th October and 15th lovember than the sowing carried out after 5th November in case at all the varieties sted.

Thus, results of this experiment clearly indicated that to obtain higher seed yield of chickpea in the conditions prevailing in middle Gujarat Agroclimatic Zone-AES III the sowing of chickpea should be performed between 30th October and 15th November.

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