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Performance of Safflower (*Carthamus tinctorius*) Varieties Under Different Sowing Dates

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A field experiment was conducted at Agronomy Farm, Gujarat Agricultural University, Junagadh during *rabi* season of 1992-93. The soil was clayey in texture, medium in total nitrogen (0.07%), medium in available phosphorus (34 kg/ha), high in available potassium (303 kg/ha) and slightly alkaline in reaction (7.9 pH) with normal E.C. (0.30 dS/m). The treatments comprising 4 dates of sowing (October 10, 20, 30 and November 9) and 5 varieties (Bhima, Tara, Manjira, A-1 and NRS-209) were tested in a split plot design with 4 replications taking dates as main plot treatment. Half dose of N and full dose of P_2O_5 were applied in forms of urea and single-super phosphate, respectively at the time of sowing and remaining half dose of N was top-dressed at 40 days after sowing. The crop was sown at 45 cm row spacing using 15 kg/ha seed rate.

Dates of sowing significantly influenced growth and yield of safflower. Each delay in sowing after October 10 significantly reduced the growth and yield of the crop. The growth and yield attributes viz., plant height, plant spread, primary and secondary branches/plant, seeds/head, 100-seed weight and seed yield/plant were higher in October 10 sowing. However, October 20 sowing was on a par with October 10 sowing with respects to plant spread, primary and secondary branches/ plant and heads/plant. Harvest index remained unaltered under different dates of sowing. The results are in concurrence with those reported by Ghule *et al.* (1987).

Growth parameters viz., plant height and primary and secondary branches/ plant as well as yield attributes viz., heads/plant, seeds/head, 100-seed weight and seed yield/plant were significantly higher in variety 'Bhima'. However, there was no significant difference in plant spread and harvest index among the varieties. The variety 'Bhima' recorded significantly highest seed and stover yield, which have evidently resulted from higher growth and yield parameters. The higher genetic yield potentiality and greater adaptability of variety

TABLE 1

Effect of sowing dates on growth and yield of safflower varieties.

Treatment	Plant height (cm)	Plant spread (cm)	Branches/plant		Heads/ plant	Seeds/ head	Seed yield/ plant (g)	100-seed weight (g)	Yield (q/ha)		Harvest index (%)
			Primary	Secondary					Seed	Stover	
Dates of sowing											
October 10	78.80	38.35	8.3	13.1	18.9	20.9	15.20	3.93	18.40	52.82	25.80
October 20	71.80	35.95	8.0	12.4	18.6	19.2	12.07	3.80	16.32	47.19	25.67
October 30	71.15	31.55	6.6	9.3	15.4	16.7	7.86	3.66	13.38	38.59	25.72
November 9	69.50	30.35	5.7	8.5	13.7	15.6	5.57	3.48	7.99	23.03	25.73
C. D. at 5%	4.44	2.96	0.7	0.9	1.8	1.0	0.97	0.13	1.24	3.30	NS
Varieties											
Bhima	76.87	35.50	7.6	11.3	18.3	21.4	13.78	4.62	17.71	51.29	25.63
Tara	68.87	31.31	7.2	10.1	16.6	17.3	9.91	3.34	13.21	38.04	25.74
Manjira	73.18	34.43	6.8	11.2	16.6	17.2	8.71	3.11	12.07	34.76	25.75
A-1	70.75	34.06	6.5	10.3	16.0	16.3	9.93	3.54	12.50	35.95	25.76
NRS-209	74.37	34.93	7.6	11.2	16.0	18.3	11.57	3.98	14.61	41.99	25.79
C. D. at 5%	3.16	NS	0.6	0.8	1.6	0.7	0.50	0.09	0.68	2.00	NS

'Bhima' might be responsible for higher yield. Such kind of varietal difference was also studied by Bhanvadia (1993).

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