GAU Res. J. 1996. 22 (1) : 124-126

Yield, Quality and Economics of Safflower (*Carthamus tinctorias*) as Influenced by Different Sowing Dates

B. M. Patel, S. G. Sadaria, V. D. Khanpara, B. B. Kaneria and R. K. Mathukia

Department of Agronomy, Gujarat Agricultural University, Junagadh-362 001

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) and high in available potassium (302 kg/ha) and slightly alkaline in reaction (7.9 pH) with normal E.C. (0.30 dS/m). The treatment comprising four dates of sowing (10, 20 and 30 October and 9 November) in main plots and five varieties (Bhima, Tara, Manjira, A-1 and NRS-209) in sub-plots were replicated four times in split plot design. Half dose of N and full dose of P were applied in form of urea and single super phosphate, respectively at the time of sowing and remaining half dose of N was top-dressed in form of urea at 40 days after sowing. The crop was sown at 45 cm row spacing.

Sowing of safflower on 10 October out yielded the rest of the dates of sowing by recording significantly the highest seed and stover yields. This appeared to be probably due to convenient temperature for longer time favourable for germination as well as vegetative and reproductive growth of plants as sowing of crop on 10th October significantly improved yield attributes viz., heads/plant, seeds/head and test weight. The results are in close confirmity with those of Ghule *et al.*, (1987). Dates of sowing failed to exert any significant influence on harvest index. Protein content of seed was not affected significantly due to varying dates of sowing, whereas maximum oil content (30.39%) and oil yield (5.65 q/ha) were recorded under 10 October sowing. Early sowing might have improved root development and ultimately better nutritional environment within plant resulted in increase oil content. These findings are in concurrence with those of Alessi *et al.*, (1981). Crop sown on 10th October recorded the maximum net realization of Rs 6939/ha.

Significantly the highest seed and stover yields were recorded by variety Bhima. Yield attributes viz., heads/plant, seeds/head and test weight were significantly the highest in variety Bhima. The higher genetic yield

TABLE 1

Effect of different treatments on yield, yield attributes, quality and economics of safflower.

Treatments	Yield (q/ha)		Heads/ plant	Seeds/ head	100-seed weight (g)	Harvest index (%)	Protein content (%)	Oil content (%)	Oil yield (q/ha)	Net realization (Rs/ha)
	Seed	Stover								
Date of sowing										
10th October	18.40	52.82	18.94	20.90	3.93	25.80	20.01	30.39	5.65	6939
20th October	16.32	47.19	18.64	19.17	3.80	25.67	19.76	30.29	5.02	5767
30th October	13.38	38.59	15.38	16.73	3.66	25.72	19.99	29.82	4.02	4107
9th November	7.99	23.03	13.68	15.55	3.48	25.73	20.32	29.49	2.35	1064
C. D. at 5%	1.24	3.30	1.79	0.96	0.13	N.S.	N.S.	0.34	0.42	—
Variety										
Bhima	17.71	51.29	18.32	21.40	4.62	25.63	18.84	31.42	5.56	6552
Tara	13.21	38.04	16.62	17.26	3.34	25.74	10.72	30.51	4.06	4011
Manjira	12.07	34.76	16.61	17.17	3.11	25.75	20.21	29.66	3.60	3367
A-1	12.50	35.95	16.04	16.33	3.54	25.76	20.36	29.57	3.84	3610
NRS-209	14.61	41.99	15.99	18.25	3.98	25.79	20.98	28.84	4.25	4800
C. D. at 5%	0.68	2.00	1.63	0.73	0.09	N.S.	0.38	0.27	0.23	—

potentiality and greater adaptability of variety Bhima may be responsible for higher yields. However, none of variety exert any significant influence on harvest index. Remarkably higher protein content was recorded in variety NRS-209, whereas variety Bhima recorded considerably higher oil content and oil yield. Maximum net realization of Rs 6552/ha was secured by variety Bhima.

(Received on 13th Dec., 1995)

REFERENCES

Alessi, J., Power, J. F. and Zimmermon, D. C., 1981. Effect of seeding dates and population on water use efficiency and safflower yield. *Agronomy Journal*, 73 (5) : 783-787.

Ghule, B. D., Jagtap, A. B., Dhumal, V. S. and Deokar, A. B. 1987. Effect of sowing time on incidence of aphid on safflower. *Journal of Maharashtra Agricultural University*, 12 (2) : 259.