**Seed and petal yield of non-spiny cultivars of safflower (*Carthamus tinctorius* L)**

**under rainfed conditions**

P Padmavathi and Praduman Yadav

ICAR-Indian Institute of Oilseeds Research, Hyderabad-500 030, Telangana

Abstract

 Eight non-spiny cultivars were evaluated under rainfed conditions during the post rainy season of 2012-13 for their seed and petal yield in comparison to two spiny cultivars. Spiny cultivars yielded (1515 kg/ha) significantly greater than non-spiny cultivars (911 kg/ha). Among the non-spiny cultivars NARI-NH-1 and NARI-6 (1175 kg/ha) were significantly superior over other non-spiny cultivars ( 823 kg/ha)

**Keywords**: non-spiny varieties, hybrids, seed yield, petal yield

 Non-spiny cultivars of safflower were released at different centres of AICRP safflower to ease harvesting of crop and also to harness petals value as petals contain medicinal properties. Therefore the study was carried out to compare the productivity (seed and petals) of non-spiny cultivars in comparison to spiny cultivars of safflower under rainfed conditions.

 A field experiment was conducted at ICAR-Indian Institute of Oilseeds Research in Vertisols during post-rainy season of 2012-13. Total of 9 cultivars of safflower (seven non-spiny and two spiny) were evaluated in RBD with three replications. Seeds were sown in the third week of October. An amount of 755 mm of rainfall was received Eight rows of 5 m length was harvested by excluding two border rows on either side of plot (6 x 4.5 m2) at the time of physiological maturity. Petals were harvested 15 days before harvest of seed in each plot in non-spiny cultivars.

 Seed and petal yield of spiny and non-spiny varieties and hybrids differed significantly (Table 1). Seed yield of both spiny cultivars, NARI-H-15 (spiny hybrid) and Annigeri-1 (spiny variety) were statistically on par (1580; 1450 kg/ha) and was significantly greater than non-spiny cultivars. Seed yield of NARI-NH-1 (non-spiny hybrid) and NARI-6 (non-spiny variety) was on par to each other (1200; 1150 kg/ha) and significantly higher than other non-spiny cultivars. Highest petal yield was recorded with NARI-NH-1 (160 kg/ha) which was on par with NARI-6 (140 kg/ha). The genetic differences with respect of seed yield was also reported by Mohankumar *et al* 2005 and Koutroubas 2004.

 Therefore it was concluded that, among non-spiny cultivars NARI-6 and NARI-NH-1 were better yields both in terms of seed and petal yield compared to other non-spiny cultivars.

Table 1. Seed and petal yield of safflower cultivars

|  |  |  |  |
| --- | --- | --- | --- |
| S. No. | Cultivar | Seed yield (kg/ha) | Petal yield (kg/ha) |
| 1 | Annigeri-1 | 1450 | - |
| 2 | NARI-H-15 | 1580 | - |
| 3 | NARI-6 | 1150 | 140 |
| 4 | NARI-NH-1 | 1200 | 160 |
| 5 | PBNS-40 | 680 | 90 |
| 6 | JSF-97 | 800 | 110 |
| 7 | JSF-99  | 940 | 120 |
| 8 | JSI-7 | 870 | 100 |
| 9 | JSI-73 | 850 | 95 |
| 10 | SSF-658 | 800 | 100 |
|  | SEm± | 70 | 9.2 |
|  | CD (P=0.05) | 210 | 28 |

References

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