

Research Notes

Positional influence of inflorescence on productivity and seed quality in safflower cv. K1

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Safflower (*Carthamus tinctorius* Linn.) produces flower heads in different positions of mother plant and the period of flower initiation and maturation vary with each position. Sundaralingam (1995) and Akilan (1986) reported variations in maturation and translocation of assimilates from source to sink of different umbel order in carrot and coriander, respectively. Information on seed quality of safflower as influenced by position of heads is scanty. Hence, studies were conducted with safflower cv. K1, in the Department of Seed Science and Technology, Tamil Nadu Agricultural University, Coimbatore, Tamil Nadu, India.

From a bulk crop of safflower cv. K 1, 100 plants were selected at random and the capitulae were collected from different positions of the plant viz., primary, secondary and tertiary. The capitulae collected irrespective of position served as control. A field trial was laid out with the seeds collected from

different positions along with bulk in plot size of 5x4 m with five replications adopting Randomized Block Design. The seeds were sown at a distance of 30 cm in row spacing of 45 cm each. The field emergence for each position was recorded. The crop was raised with recommended package of practices and assessed for their productivity. Then the resultant seeds were cleaned, dried to 12% moisture content and evaluated for their seed germination and seedling quality characters. The oil content of seeds was assessed using Soxhlet apparatus adopting the procedure described by AOAC (1960). The data gathered were analyzed statistically as per Panse and Sukhatme (1967) for understanding their level of significance.

The results obtained for the parameters viz., field emergence, seed yield, seedling vigour parameters viz., root length, shoot length were non-significant high lighting that the

Table 1. Influence of position of head on the plant on seed yield and seed quality characters

Position of head	Field emergence (%)	Seed yield (kg/ha)	Germination (%)	Root length (cm)	Shoot length (cm)	Oil content (%)
Primary	98	785	88	14.4	15.8	30.4
Secondary	98	802	94	14.5	15.4	29.7
Tertiary	96	780	82	14.0	15.6	30.5
Bulk (control)	94	782	84	14.0	14.9	30.1
CD (P=0.05)	NS	NS	0.92	NS	NS	0.02

position of head on mother plant did not influence the productivity and seedling vigour. But, the seeds collected from secondary heads recorded numerically higher yield by 2.56 % compared to primary 0.38 % over bulk seeds. But on the other hand, the observation on germination (%) and oil content exerted a significant influence due to position of heads on plant in safflower. The seeds obtained from secondary heads recorded higher germination which might be due to accumulation of more food materials needed for germination. In cotton also Thiagarajan (1977) reported that seeds from second picking are superior over first and third pickings. But, the oil content was lower in secondary head than other positions and bulk. It could be observed that seeds harvested in bulk irrespective of position of the mother plant could be used for commercial purpose. Since, the germination of seeds of secondary head are comparatively superior with lesser oil content these seeds could be utilized for carry over purpose of

highly valuable seeds like nucleus (or) breeder seed.

References

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Research Notes

Effect of micronutrients and sulphur on yield and nutrient uptake by maize in an alfisol

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Maize is the fourth major grain crop grown in Tamil Nadu for poultry feed. Intensive cropping coupled with introduction of high yielding varieties have extensively exhausted the soil fertility with respect to macro and micronutrients. Further, use of S free fertilizers has caused depletion of S in soils. Zinc

deficiency in Indian soils and responses to its application on various crops has been reported earlier (Singh, 1999). Next to Zn, B deficiency is wide spread in many soils and in calcareous and coarse textured soils in particular leading to low crop yields. The research carried out on the use of organics