

## Nitrogen Uptake of Different Safflower (*Carthamus tinctorius* L.) Genotypes at Different Growth Stages in Semi-Arid Conditions

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**Abstract :** Safflower has been grown for centuries for many purposes worldwide. Especially it is important for the orange-red dye from its petal and for its high-quality oil obtained from the seeds. The crop is high adaptable to areas with insufficient rainfall and poor soil conditions. The plant has a deep taproot that can draw moisture and plant nutrients from deep to the subsoil. The research was carried out to study the nitrogen (N) uptake of different safflower cultivars and lines at different stages of growth and different plant parts in the experimental field of Faculty of Agriculture, Eskişehir Osmangazi University under semi-arid conditions. Different safflower cultivars and lines of varied origins were used as the material. The cultivars and lines were planted in a Randomized Complete Block Design with three replications. Two different growth stages (flowering and harvest) and three different plant parts (head, stem+leaf and seed) were determined. The nitrogen concentration of different plant parts was determined by the Kjeldahl method. Statistical analysis were performed by analysis of variance for each growth stage and plant parts taking a level of  $p < 0.05$  and  $p < 0.01$  as significant according to the LSD test. As a result, N concentration showed significant differences among different plant parts and different growth stages for different safflower genotypes of varied origins.

**Keywords :** *Carthamus tinctorius* L., growth stages, head N, leaf N, N uptake, seed N, Safflower

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