

Oil Contents, Mineral Compositions, and Their Correlations in Wild and Cultivated Safflower Seeds

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Abstract : The safflower seed contains about 25-40% solvent extract and 20-33% fiber. It is well known that dietary phospholipids lower serum cholesterol levels effectively. The nutrient composition of safflower seed changes depending on region, soil and genotypes. This research was made by using of six natural selected (A22, A29, A30, C12, E1, F4, G8, G12, J27) and three commercial (Remzibey, Dincer, Black Sun1) varieties of safflower genotypes. The research was conducted on field conditions for two years (2009 and 2010) in randomized complete block design with three replications in Konya-Turkey ecological conditions. Oil contents, mineral contents and their correlations were determined in the research. According to the results, oil content was ranged from 22.38% to 34.26%, while the minerals were in between the following values: 1469, 04-2068.07 mg kg⁻¹ for Ca, 7.24-11.71 mg kg⁻¹ for B, 13.29-17.41 mg kg⁻¹ for Cu, 51.00-79.35 mg kg⁻¹ for Fe, 3988-6638.34 mg kg⁻¹ for K, 1418.61-2306.06 mg kg⁻¹ for Mg, 11.37-17.76 mg kg⁻¹ for Mn, 4172.33-7059.58 mg kg⁻¹ for P and 32.60-59.00 mg kg⁻¹ for Zn. Correlation analysis that was made separately for the commercial varieties and wild lines showed that high level of oil content was negatively affected by all the investigated minerals except for K and Zn in the commercial varieties.

Keywords : safflower, oil, quality, mineral content

Conference Title : ICAE 2015 : International Conference on Agricultural Engineering

Conference Location : Rome, Italy

Conference Dates : December 03-04, 2015