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**Relative Determination of Micronutrients of Different Species of Teff (Eragrestis) Seeds of Ethiopia Origin by Calibration Free Laser Induced Breakdown Spectroscopy Technique** DILBETIGLE ASSEFA MAMO, ASHOK K. CHAUBEY, Addis Ababa University — The laser-induced breakdown spectroscopy technique has been used to analysis the multi-component of three different species of Teff seeds (Red, White and Sirgegna) of Ethiopia origin using a second harmonic (532 nm) of a nanosecond Q-switched Nd: YAG laser focused on the surface of the pelletized powder of Teff seed. Based on the idea of the plasma is homogeneous. The seven essential micronutrients in three species of Teff seeds are identified carbon as a matrix element. Electron density and plasma temperature are calculated applying Saha-Boltzmann equation and Boltzmann plot method. And making use of the semi-quantitative method the three species relative concentrations of (Ca, Mg, Al, Si, Mn, Fe and K) are obtained using Calibration Free Laser Induced Breakdown Spectroscopy (CF-LIBS) technique. The result demonstrated that the relative concentrations of the some elements in the species are different. In Red Teff species Ca is more, but Mg is least. On the contrary Mg is high in Sirgegna and White Teff as compared to Red Teff. And High content of Calcium, Magnesium and Iron micronutrients are found in the three species.

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