

Chlorophyll Content Determination in Different Olive (*Olea Europaea*) Cultivars Grown Under Agro-Climatic Condition of Pakistan

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Abstract—Study for Chlorophyll content was conducted of olive varieties (Frantoio, Arbequina, Uslu, Moraiolo, Dolece-agogia, Coratina, Leccino and Gemlik) in Pakistan. Measurements were made at 663 nm and 645 nm via spectrophotometer. Chlorophyll contents in different cultivars of *Olea europaea* varies. Indeed, the concentration of chlorophyll was significantly different among different cultivars at 663 nm that is Dolece-agogia (0.325ppm), Moriolo (1.2515 ppm), Coratina (0.748ppm), Leccino (0.7275ppm), Gemlik (0.297ppm), Uslu (0.54ppm), Arbequina (0.622 ppm) and Frantoio (0.6615ppm). Likewise, the concentration of chlorophyll was significantly different among different cultivars such as Dolece-agogia (0.4175 ppm), Moriolo (0.489ppm), Coratina (0.419ppm), Leccino (0.3035ppm), Gemlik (0.1845ppm), Uslu (0.2715ppm), Arbequina (0.301ppm) and Frantoio (0.274ppm) measured at 645nm. Concentration of chlorophyll among different cultivars was found between (0.1845ppm and 1.2515ppm). Highest concentration of chlorophyll was (1.2515ppm) in Moraiolo, while lowest concentration of chlorophyll content was found in Gemlik that is 0.297 ppm at 663 nm; and the highest concentration of chlorophyll was 0.489 in Moraiolo, while lowest concentration of chlorophyll content was found in Gemlik that is 0.1845ppm at 645 nm. It was recommended that high chlorophyll content was found in cultivar Moriolo and the lowest was found in cultivar Gemlik. Variation in chlorophylls composition of different cultivars might be due to soil type and climatic condition of these areas.

Keywords—Composition, *Olea Europaea*, Chlorophyll Contents, Olive, Pakistan