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## Abstract

The present study focuses on the histological characteristics of Basil's reproductive organ (*Ocimum basilicum* L.). Various organs of reproductive growth were examined during the flowering and fruiting stages of plants development, that being floral bud, fruit and nutlet. Histological characteristics were analyzed microscopically and photomicrographically across transverse sections of different reproductive organs in Basil. Basil nutlet electron scanning microscope was being considered. Furthermore, at maturity phase the biochemical study of Basil fixed oil has been performed. Total fatty acids of Basil seed of which linolenic is the major constituent comprised 49.58% followed by linoleic which being the second major component comprised 23.46% and oleic consists the third major component comprised 10.13% of the total fatty acids of Basil seed. Worth noting that the variations found in the literature and in the current research in nutlet gross morphology and anatomy of the pericarp can be due, primarily, to varying genetic conditions in the studied taxa.