Specimens of Phlomis leucophracta P. H. Davis & Hub.-Mor. which is an endemic taxa were collected in 3 different reaping periods that are before flowering, flowering and after flowering periods between 2012 and 2015 in the Lakes District of Turkey. A total of 70 volatile Component were determined by SPME analyses. Among of them, (E)-2-Hexenal, Limonene and β-Caryophyllene were found as main components. In before flowering period, ratios of β-Caryophyllene, Limonene and (E)-2-Hexenal were determined as 22.32%, 13.64% and 7.50% respectively. The ratios were found as 22.45%, 14.56% and 8.74% in flowering period and 20.12%, 10.93% and also 6.10% after flowering period respectively.