

The Efficiency Measurement of Sun Protection Factor From Carotenoid Compounds in Juvenile, mature leaves and Shoot of *Sesbania grandiflora* (L.) Pers.

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Abstract

Agasta (*Sesbania grandiflora* (L.) Pers.) Contains of flavonoids and beta-carotene prevent in the sun's light, which causes this study aims to measure the efficiency of sun protection factor (SPF) from carotenoid compounds in Juvenile, mature and shoot Agasta leaves with UV visible spectrophotometer. Agasta extraction using 6 solvents included ethanol, methanol, ethylacetate, dichloromethane, hexane and acetone. Ethanol and Methanol extraction showed the most of %yeild as 19.6 and 13.0, the second was ethylacetate dichloromethane, hexane and acetone as 7.0, 3.4, 3.0 and 3.0 percent, respectively. The result showed that the most of beta-carotene from Juvenile, mature and shoot. Agasta leaves with ethanol extraction was 497.26 ± 2.81 , 319.30 ± 3.16 and 187.64 ± 9.37 mg/100 g in dried leaves and methanol extraction was 319.95 ± 13.49 , 318.76 ± 7.40 , 135.81 ± 12.11 mg/100 g in dried leaves, respectively. The measurement of the SPF from mature, Juvenile and shoot. Agasta leaves with ethanol extraction showed that the most SPF was 12.09 ± 0.39 , 9.38 ± 0.81 and 9.08 ± 0.12 otherwise Juvenile, mature and shoot Agasta leaves with methanol extraction showed as 8.29 ± 0.30 , 6.19 ± 0.35 and 1.55 ± 0.09 , respectively.

Keywords: *Sesbania grandiflora* (L.) Pers, Carotene, Beta-carotene, UV, flavonoids