

عنوان مقاله:

Evaluation of medical metabolites in Boraginaceae family

محل انتشار:

سومین کنفرانس بین المللی پژوهش در مهندسی، علوم و تکنولوژی (سال: 1395)

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خلاصه مقاله:

Boraginaceae family is known as a medicinal plant classified in dicotyledons. It is originated from Asia (Middle East). The aim of this study was to evaluate ingredient between 4 species of Boraginaceae family based on physiological & phytochemical traits as well as seed fatty acid contents. 4 species (*E. russicum*, *E. italicum*, *E. amoenum*, *B. officinalis*) were evaluated carefully. All seeds cultivated in identical conditions in a greenhouse in Tehran to assess parameters such as tannins, phenols, anthocyanin, total protein, seed oil contents, Superoxide Dismutase (SOD) and Catalase (CAT) activity. Analysis of oil from seeds of *Echium L.* determined 7 different fatty acids include Linolenic acid (35.1%), Linoleic acid (16.8%), Oleic acid (16.6%) and Arachidonic acid (15.5%) as major fatty acids, while stearic acid (4.42%), Palmitic acid (6.22%), Gamma-Linolenic acid (6.04%) were the minor fatty acids extracted from seeds. Low protein content observed in *E. russicum* (70 mg/g) and maximum level of protein was in *B. officinalis* (91 mg/g). *E. amoenum* had maximum phenols (38 mg/g) whereas *E. russicum* had minimum (26 mg/g). For total phenol, *B. officinalis* had maximum phenols (8.1 mg/g) whereas *E. italicum* had minimum (3.9 mg/g). Anthocyanins: *E. russicum* had maximum anthocyanins (65 mg/g) whereas *B. officinalis* had minimum (41 mg/g). In conclusion it can be said that different species have different amounts of secondary metabolites so that no regular relation would be detected among plant species that we studied.

کلمات کلیدی:

Boraginaceae, *Echium L.*, *Borago L.*, Fatty Acids, Metabolites

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