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Document Title : *Antioxidant Activity of Phytochemicals From Various Cultivars of date Palm Fruits*
النشاط المضاد للأكسدة للكيمويات النباتية من أنواع مختلفة لثمار نخيل التمر

Document Language : Arabic

Abstract : Fruits and vegetables are good sources of natural antioxidants, containing many different antioxidant components which provide protection against harmful free radicals and have been associated with lower incidence and mortality rates of cancer and heart diseases in addition to a number of other health benefits. Fruits and vegetables are a combination of colour , taste, and nutritional value, contain a wide array of phytochemicals and moderate to high levels of natural phenolics or flavonoids, and a good source of carotenoids that are important nutritional antioxidants found in human diet. Polyphenolics phytochemicals extractions of three cultivars of date (Phoenix dactylifera) Helwa , Barhee , and Ajwa were performed using 80% aqueous methanol with ultrasound assistance and extracts were analyzed for total phenolic, flavonoids , and antioxidant capacity. Total phenolics contents of various cultivars of dates were in range of 173 to 396.2 mg / 100 g , expressed as gallic acid equivalents (GAE), on fresh weight basis. Total flavonoids concentrations ranged from 124.4 to 203.8 mg catechin equivalents (CE) / 100g fresh weight. Carotenoids extractions of dates were performed using (-20°C) acetone Total carotenoids contents of various cultivars of dates were in range of 46- 320 µg / 100 g fresh weight. The stable radical chromogen, ABTS^{•+}, commonly employed for antioxidant activity measurement, was used to evaluate antioxidant capacity of dates. The total antioxidant capacities, expressed as vitamin C equivalent antioxidant capacity (VCEAC) of fresh dates for phenolics ranged from 273 to 348.6 mg / 100 g, while the total antioxidant capacities for carotenoids ranged from 6.8 to 22.12 mg /100 g. The total phenolics contents, total flavonoids contents, and total carotenoids contents are decreased at the end of the season compared to that at the beginning of the season. We were able to identify four flavonoids; Quercetin, Rutin, Kaempferol, and Isorhamnetin, and determine two carotenoids; β - carotene and Lutein.

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