



## Research Article

# Bioactive Compounds and Antioxidant Activities of Avocado Peels and Seeds

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## Abstract

**Background and Objective:** Bioactive plant constituents from food industrial wastes could be utilized in food industry, for the development of functional or enriched foods. The present study aimed to determine biochemical composition as well as the antioxidant activity of peels and seeds in summer and winter avocado varieties. **Materials and Methods:** Biochemical composition and antioxidant activity of peels and seeds were assessed in 2 varieties of avocado fruits (*Persea americana*). Total poly phenols, flavonoids, carotenoids and tannins were determined in Duke (summer) and Fuerte (winter) varieties. Polyphenols and flavonoids were fractionated and identified using HPLC. The radical scavenging activity was determined by DPPH assay. **Results:** Both varieties are different in all measured parameters. Solvent type strongly affected active constituents 'contents as well as their antioxidant activities. The highest phenolic recovery, by methanol 80% revealed greater efficiency as antioxidant potency for peels and seeds of summer variety with significant differences ( $p \geq 0.05$ ). However, winter variety peels contained higher total carotenoids. Obvious relations were found among the extractable total phenolic components and DPPH scavenging potentials of avocado peel and seed extracts. Similar results were noticed for tannins content in the winter peels. Winter variety peels contained higher total carotenoids. The major polyphenols in avocado peels included catechin and 3-hydroxy tyrosol, while avocado seeds had catechin and pyrogallol. The major flavonoids; hesperidin, naringin and rutin in peels were significantly higher than those in seeds. **Conclusion:** Avocado seeds and peels could be explored as a valuable bioactive source and as a functional ingredient in food industries.

**Key words:** Avocado, antioxidant, phenols, flavonoids, tannins

**Received:**

**Accepted:**

**Published:**

**Citation:** Shafika Abd El-Hamid Zaki, Ferial Abd El-Aziz Ismail, Somia Hassan Abdelatif, Nehal Rafik Abd El-Mohsen and Shahinaz Ahmed Helmy, 2020. Bioactive compounds and antioxidant activities of avocado peels and seeds. Pak. J. Biol. Sci., CC: CC-CC.

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**Competing Interest:** The authors have declared that no competing interest exists.

**Data Availability:** All relevant data are within the paper and its supporting information files.