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## Polyphenols and free radical Scavenging Properties of Kenyan Tea Seed Oil Cake

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### **Abstract:**

Studies were conducted on the polyphenolic content, individual and total catechins and the free radical scavenging capacities in the tea seed oil cake of six selected tea cultivars of Kenya. Total polyphenolic content was analyzed by use of UV-Visible spectrometer with Gallic acid as the standard. Individual catechins were analyzed by use of Reverse Phase-Higher Performance Liquid Chromatography. Free radical scavenging capacity was measured by UV-Visible spectrophotometer and using 2,2- diphenyl-1-picrylhydrazyl (DPPH) as a free stable radical. Tea seed oil cake contained polyphenols and catechins which were in the range of 1.03-2.60% and 0.66-1.40% respectively. Individual catechins results were as follows, EGC was in the range of 0.067- 0.086%, +C was in the range of 0.019-0.024%, EC was in the range of 0.025-0.063%, EGCG was in the range of 0.402-0.883% and finally ECG was in the range of 0.113-0.409%. The antioxidant activity of tea seed cake was evaluated by scoring the percent free radical scavenging activity which ranged from 8-16%. From these results tea seed oil cake is rich in polyphenols and catechins that contribute the found antioxidant activities.

Keywords: Catechins, Free radical scavenging capacity, Polyphenolic content, Tea seed oil cake,

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