Independent Study Title	The Comparison of Epigallocatechin Gallate Levels in Matcha Powders in Ceremonial, Premium and Culinary Grade by HPLC Method
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ABSTRACT

This study compared EGCG content across ceremonial, premium, and culinary-grade matcha powders from Uji, Shizuoka, and Kagoshima using high-performance liquid chromatography (HPLC). A total of 27 samples were analyzed, and results showed that premium-grade matcha had the highest average EGCG concentration (19.28 mg/g), followed by culinary (13.60 mg/g) and ceremonial (8.19 mg/g). However, statistical analysis revealed no significant differences between the grades. Contrary to popular belief, ceremonial-grade matcha did not consistently contain the highest EGCG levels. These findings suggest that matcha grade and price are not reliable indicators of antioxidant potency. Premium-grade matcha may offer better value for those seeking health benefits associated with EGCG. Further studies are recommended to explore additional bioactive compounds and a larger sample size.

Keywords: Matcha, Ceremonial Grade, Premium Grade, Culinary Grade, EGCG, Catechin, Antioxidant, HPLC