

## DEVELOPMENT OF A RANGE OF INSTANT LATTE INCLUDING MATCHA AND FUNCTIONAL HERBAL INGREDIENTS

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Powder form of green tea called *Matcha* has significant health benefits, but it is not popular across the world except Japan due to its bitterness. Hence, a study was conducted to develop a range of instant *latte*, which is a popular beverage made by steamed milk, using *Matcha*. Five different instant *lattes* were produced as follows: product 1 (ginger and cocoa powder), product 2 (ginger powder and orange grapefruit flavor), product 3 (moringa powder, coconut and mango flavor), product 4 (turmeric, pepper powder and coconut flavor) and product 5 (cinnamon, ginger, cardamom powder and chai flavor). A sensory evaluation was undertaken with 6 trained panelists to select the best three products out of the above five. The highest ( $p < 0.05$ ) overall acceptability was recorded for products 1, 3 and 5. Thus they were subjected to analysis of physico-chemical properties, caffeine content, antioxidant activities and total polyphenol content. The products were also evaluated for microbiological count and sensory properties during storage under refrigerated (4°C), room temperature (32°C) and accelerated conditions (in incubator at 37°C) for 12 weeks to determine the shelf life. There were no significant differences ( $p > 0.05$ ) in relation to sensory properties of each product during the three month storage period. Antioxidant activities of selected three products were  $131.50 \pm 0.75$ ,  $123.29 \pm 1.95$  and  $201.20 \pm 2.10$  mg/100 ml of Gallic acid equivalents and the total polyphenol contents were  $311.86 \pm 4.18$ ,  $248.97 \pm 10.05$  and  $290.12 \pm 3.10$  mg /100 ml of gallic acid equivalents. Total plate count, yeast and mold, coliform and *E.coli* counts were within the specifications of tea and herbal infusions as per the European guidelines. In accelerated condition, one week is expressed as one month, hence three products have one year shelf life. In conclusion, the products 1, 3 and 5 could be used as instant *lattes* with desired chemical, microbiological and sensory properties.

**Keywords:** Green tea, Health properties, Sensory evaluation, Shelf life