

Somrat Tiwsangvarn 2011: Product Development of Functional Drink for Men. Master of Science (Agro-Industrial Product Development), Major Field: Agro-Industrial Product Development, Department of Product Development. Thesis Advisor: Assistant Professor Withida Chantrapornchai, Ph.D. 163 pages.

At present, consumers pay more attention on their health, including male consumer. Functional drink is a beverage supplemented with health-benefit nutritional ingredients, such as color and flavor in order to give good attributes and satisfy consumer need. Market survey of functional drink product in Thailand found that among 64 products, there were only 5 products that specifically designed for male consumer. Studying of male consumer need from 210 men, who used to consume functional drink using questionnaire in order to generate product concept, found that they want functional drink with a benefit of brain and memory nourishment, and relieving tension. It should be ready to drink, mixed with fruit juice, had sweet and sour taste without carbonation, and provide normal energy. The highest price per unit of this drink that consumers were willing to spend was approximately thirty baht. Factor affecting buying decision consisted of 1) Health benefit and safety 2) Marketing 3) Taste and appearance 4) Package and label 5) Quenching and energy and 6) Shelf life. Ingredients of functional drink with brain benefit for 1 serving unit (470 ml) composed of ginkgo biloba leaf extract 120 mg., vitamin B6 2 mg., vitamin B12 2 µg., folic acid 200 µg., magnesium 350 mg., sodium benzoate 200 ppm, sugar 10%, strawberry juice from concentrated strawberry 5% and citric acid 0.20%. The developed product was analyzed and found that they were red-orangenish with L\*, C\* and h° value of 91.71, 14.22 and 60.94° respectively. The titratable acidity was 0.19%, total soluble solid 10.0 °Brix, pH 4.25, vitamin B6 2.59 mg., vitamin B12 2.73 µg., folic acid 257.56 µg., magnesium 340.75 mg. and total plate count, yeast and mold < 1 colony/ml (est.), Coliform < 0 MPN/100 ml. *Escherichia coli*, *Staphylococcus aureus*, *Salmonella* spp., *Bacillus cereus* and *Clostridium perfringens* were not detected. The most preferred bottle shape was bowling pin. Acceptance test of finished product revealed that it had liking score in the level of like slightly (6.3). Moreover, 71.9% of male consumers accepted and 71.43% intended to purchase this product, and after product's health benefit was provided, male consumer accepted and intended to buy product significantly increased ( $p \leq 0.05$ ) to 92.38% and 82.86%, respectively. The highest price per unit that male consumers were willing to spend were approximately 41.00 baht and 48.50 baht before and after being informed of product's health benefit.

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Thesis Advisor's signature