

Development of whey based ready to serve (RTS) beverage using *Rhododendron arboretum* extract

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The aim of the present study was to formulate low cost ready to serve whey based health drink enriched with five ingredients namely, Milk Whey(65%), Buransh (*Rhododendron arboretum*) juice(10%), Honey (25%), Green Tea Extract (Guardian natural extracts- GUARDIAN®) (0.5%), Probiotic culture (Howard HOWARU® Bifido)(2%). The methodology for preparing the RTS beverage comprised of preparing whey, then mixing with *Rhododendron* (Buransh) extract/ juice, honey and green tea extract and pasteurizing the prepared RTS beverage. This step was followed by immediate incorporation of probiotics into the RTS, bottling, capping incubation, and storage under refrigerated conditions. The results of chemical analysis showed that the RTS beverage contains 115.580 calories, 1.28 g protein, 27.75 g carbohydrate, 0.28 g of total fat and 147.44 g calcium per 100 ml. In addition it has a Total Phenolic content of 0.00914 GAE/100g, Flavonoid content of 0.000138mg/100g and DPPH activity of 299.91 mg TE/100g. The RTS beverage has a TSS of 36.6°Brix, pH of 4.65, titrable acidity of 5.4g/l and had insignificant microbial growth on day one. Sensory evaluation of the product revealed that its organoleptic acceptability increased from 43.33% on the first day to 60% on the 7th day. Antioxidants from Buransh (*Rhododendron arboretum*) and green tea extract add to the therapeutic value of the RTS Beverage, helping the body to fight against oxidative stress, thereby strengthening the immune system. Unlike white sugar, honey added the benefit of providing antioxidants and a variety of nutrients. The RTS beverage has a shelf-life of 30 days under refrigerated conditions.

Key Words : RTS, *Rhododendron arboretum*, Whey, Beverage, Probiotic

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