

DEVELOPMENT OF MILK BASED FRESH ASPARAGUS (*ASPARAGUS OFFICINALIS*) DRINK

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Asparagus (*Asparagus officinalis*) belongs to Liliaceae family. The growing shoot of the asparagus is consumed as a healthy green vegetable, which contains prebiotics such as inulin and antioxidants such as rutin. It is also known as a rich source of vitamins and minerals. The demand for fresh drinks has been increased recently due to its fresh flavour and health benefits. Nevertheless, it deteriorates rapidly and fully utilization of the vegetable could be done via processing. This research was conducted to develop a milk based fresh asparagus drink with optimal organoleptic properties. Asparagus juice extract, fresh milk, sucralose, strawberry essence and ice cubes were used to develop the drink. Initially, contents of moisture, ash, crude fiber, crude protein, crude fat and radical scavenging activity of the raw asparagus used for the study were determined. A series of experiments were conducted to formulate fresh asparagus drink with different ratios of asparagus juice, milk and sucralose, and other flavoring agents. Sensory evaluations were conducted to select the best percentages of asparagus juice, sucralose and flavoring agent for asparagus drink. Total soluble solids (TSS), pH and titratable acidity were determined in the best juice formulation.

Raw asparagus contains 93.7 (± 0.14) % moisture, 8.2 (± 0.32) % of ash, 1.1 (± 0.025) % of crude fat, 18.1 (± 0.44) % of crude protein 19.5 (± 0.14) % of crude fiber and 12.7 (± 0.2) % of radical scavenging activity of asparagus. Asparagus 40% with milk 40%, sucralose 1.0%, strawberry essence 0.5% and ice cubes 19.5% formulation was identified as the best treatment with desirable organoleptic properties. This drink has 3% TSS, pH 6.93 and 0.07 of titratable acidity. According to the consumer survey, 78% was satisfied with this best asparagus drink and 68% preferred to buy it repeatedly. Further, 64% consumers expressed their concern on potential competitors and 66% expected further improvements for asparagus drink.