

## Physico-chemical and Microbial Analysis of *Morinda Citrifolia* (Noni/ Indian Mulberry) Fruit Extract

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Indian Noni or Indian Mulberry is the common name for *Morinda citrifolia*, a tropical fruit that is one of the most important traditional medicinal plants used in folk remedies for its broad range of therapeutic and nutritional value. Noni fruit remains an underutilized plant, and scientific studies about its therapeutic and nutritional properties are essentially lacking in the Sri Lankan context. This research mainly focuses on analysing the biochemical and microbial qualities of noni fruit extract because the bioactive compounds present in noni fruit extract and its medicinal power mainly depend on phytochemical constituents. The qualitative phytochemical analysis in the present study has revealed the presence of a broad spectrum of secondary metabolites including Glycosides, Saponins, Flavonoids, Alkaloids, Terpenoids, Anthraquinones, Phenols, and Tannins. Results of physicochemical analysis revealed that the pH of the sample is  $4.14 \pm 0.1$  and brix acid ratio is 20.3% and the total dissolved solids are 84.03 %, indicating that it has a high degree of simple sugar. The total plate count (CFU/g) of the sample is  $8.4 \times 10^3$  (SLS 516: part 1 - at 30 °C, 72h and the yeast and mold count of the sample is (CFU/g) is  $2.7 \times 10^4$  (SLS 516: part 2) at 25 °C - 5 days. Though preliminary studies demonstrated potentially beneficial effects, further in vitro and in vivo studies are essential for further development as a commercial product. However, the present study could ultimately help in the sustainable use of underutilized *Morinda citrifolia* fruit to produce a commercially available drink.

**Keywords:** *Morinda citrifolia*, fruit extract, noni