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RESEARCH PAPER

Evaluation of *Ashwagandha* herb to enhance shelf-life of *Ghee* against oxidative deterioration

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Abstract : *Ghee*, a crucial component in Indian cuisine, is prone to oxidative rancidity, affecting its shelf- life, flavor and nutritional quality. This research explores the potential of *Ashwagandha,* a medicinal herb, as a natural antioxidant to enhance *Ghee's* oxidative stability. The study involves the collection and preparation of *Ashwagandha* root, followed by the addition of its aqueous extract to cow cream during the ghee-making process. The herbal *Ghee* is then evaluated for acceptability based on various sensory parameters. Chemical analyses, including peroxide value, free fatty acid content, radical-scavenging activity using DPPH assay and total phenolic content, are conducted to assess the impact of *Ashwagandha* on *Ghee* quality and stability. The results show significant differences in peroxide value and free fatty acid content between control *Ghee* and *Ashwagandha*-infused ghee, highlighting the potential antioxidant effects of the herb.The study emphasizes the growing interest in utilizing natural, plant-based antioxidants to address concerns associated with synthetic antioxidants. While the addition of herbal extracts has challenges, such as flavor alteration and solvent residue, exploring alternative sources like *Ashwagandha* opens avenues for improving food preservation naturally. The findings contribute valuable insights into the potential use of herbs in enhancing the quality and shelf-life of food products.

Key Words : Ashwagandha, Antioxidant, Peroxide value, Oxidative stability

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