

Beetroot Powder Capsules: A Novel Formulation for Natural Antioxidant Delivery

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Abstract: *Beetroot (Beta vulgaris) is a root vegetable recognized for its rich nutritional profile and health-promoting properties. This project explores the development and evaluation of beetroot powdered capsules as a natural dietary supplement. The primary objective is to harness the high nitrate, antioxidant, and micronutrient content of beetroot in a convenient capsule form, making it accessible for individuals seeking to enhance cardiovascular health, stamina, and overall well-being. The process includes selection, cleaning, slicing, drying, and grinding of fresh beetroots into a fine powder, followed by encapsulation using vegetarian-grade capsules. The study also assesses the stability, bioavailability, and potential health benefits of the capsules, comparing them with raw beetroot and commercial alternatives. The findings support the feasibility of beetroot powder capsules as an effective nutraceutical product, offering a shelf-stable, easy-to-consume alternative to raw beetroot with retained nutritional value.*

Keywords: Beetroot, Betalains, Nitrate Antioxidants; Inflammation; Oxidative stress

