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Review article

Technological interventions in exploration of underutilized berries for multilevel values

Amudhamathi, E[1]., S. Senthilkumar[2]* and S. Manivannan[2]

[1]RVS Padmavathy College of Horticulture, Sempatti, DindigulDist, Tamil Nadu- 624 707
[2]Department of Horticulture, Central University of Tamil Nadu, Thiruvarur- 610005, India
Email: *senthilshanmugam87@gmail.com*

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ABSTRACT

Berries are associated with numerous health benefits, potentially addressing a variety of diseases. Polyphenols, particularly anthocyanins, have garnered significant attention in the literature for their health-promoting properties. In vitro studies have shown that anthocyanins and other polyphenols present in berries may have a number of potential anti-cancer and heart disease advantages, including antioxidant, anti-inflammatory, and cell regulatory actions. Berry phenolic compounds can be used as natural antibacterial agents in a variety of applications, including food and medicine. Ozone therapy stimulated a defence mechanism against oxidative damage in blueberry fruit stored at 4°C. Extracts from blueberries significantly decrease skin inflammation and too represent a promising new defence against harm from cutaneous pollution. Because of their advantages in avoiding urinary tract infections, among the berries, cranberries have long attracted attention (UTIs). The ability of those cranberry products tends to prevent UTI and act as a non-antibiotic substitute could significantly impact public health by lowering the overall amount of antibiotics administered for UTI. Such health benefits emphasize the significant potential of berries in functional food and therapeutic applications.

Keywords: Anthocyanin, berries, health benefits, ozone treatment, phenolic compounds.