

(54) Title of the invention : FORMULATION OF A NANOEMULSION-CONTAINING EDIBLE COATING SOLUTION FOR TOMATO PRESERVATION AND SHELF LIFE EXTENSION

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(57) Abstract :

The proposed invention presents a formulation for a nanoemulsion-containing edible coating solution designed to preserve and extend the shelf life of tomatoes. Tomatoes are highly perishable fruits, prone to moisture loss, microbial contamination, and enzymatic reactions, leading to significant post-harvest losses. The innovative coating solution incorporates nanoemulsion technology, which offers enhanced stability, improved solubility, increased bioavailability, and improved antimicrobial properties. The formulation consists of proteins, polysaccharides, lipids, and emulsifiers, creating a stable nanoemulsion system that can be uniformly applied to the tomato surface. The nanoemulsion-based coating acts as a protective barrier, reducing moisture loss, inhibiting microbial growth, delaying ripening, and extending the shelf life of tomatoes. The proposed invention aims to revolutionize tomato preservation by providing a natural and sustainable approach that enhances food safety, reduces waste, and contributes to sustainable food systems. Continued research and development of this innovative coating solution can have significant implications for the agricultural and food industries, improving the quality and availability of fresh produce for consumers. Accompanied Drawing [FIGS. 1-2]

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