**Marine polysaccharide-based edible film as an alternative to plastic packaging: Preparations, applications and recent advances**

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The increasing demand for environmentally-friendly and sustainable food packaging solutions has spurred significant interest in edible films. Marine polysaccharides, derived from various marine organisms, present a promising alternative to traditional plastic packaging due to their biodegradable, renewable, and bioactive properties. This review examines the diverse range of marine polysaccharides sourced from marine animals, plants, and bioorganisms that have been utilized in the production of edible films, including exopolysaccharides, hyaluronans, and chondroitin sulfate. Key properties (e.g. mechanical strength, antioxidant capacity, and water solubility)and methods adopted to indicate these qualities are discussed. Additionally, various preparation methods and applications of marine edible films are outlined. Despite the promising advancements, challenges related to scalability and industrial adoption persist. Recent progress has primarily focused on the development of intelligent and active films to enhance their properties. The integration of intelligent sensors, indicators, metal-organic frameworks (MOFs), and active extracts has significantly broadened the application of marine polysaccharide-based films. In conclusion, marine polysaccharide films are recognized as prospective materials for the future advancement of sustainable food packaging.

An oral presentation will eventually be the presented for this work.