Biopolymers Research

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Abstract

Biopolymers have emerged as sustainable alternatives to conventional plastics in food packaging, addressing environmental concerns while maintaining functional integrity. This study focuses on advancements in gas and vapor barrier properties of biopolymers, essential for preserving food quality and extending shelf life. Strategies such as blending, coating, and incorporating nanofillers are explored to enhance oxygen and moisture barrier performance. The role of processing techniques and compatibilizers in optimizing these properties is also discussed. Recent innovations in biopolymer-based films for food packaging applications are highlighted, emphasizing their potential to meet industry standards while reducing environmental impact. This work provides a comprehensive overview of gas and vapor barrier improvements in biopolymers, paving the way for more sustainable and effective food packaging solutions.

Keywords:

Introduction