

Sustainable packaging

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Currently, the globe is experiencing a rapid growth in plastic production, which threatens human health as well as the environment at a global scale. It has been estimated that, out of overall plastic production, 60% goes for packaging. Packaging material, which is meant to provide protection, containment and convenience is not completely recovered for recycling after its use. It is usually discarded as waste. Out of the overall plastic waste generation, only 14% is being recycled. According to the studies, it is reported that by 2050 oceans would contain more plastic than fishes. Hence, a sustainable packaging approach could restore and regenerate the design thereby protecting nature from the adverse effects of plastic. Sustainable packaging innovations could be achieved based on the strategies, such as reuse, rethink and recycle. Emerging scientific studies mainly focus on the recycle and rethink strategies. As a result of the rethink strategy, the bio-based polymer idea has emerged. Out of overall polymer production, only 2.05% is contributed by biopolymer, 24% is contributed by polylactic acid and 6% by polyhydroxyalkanoates respectively. By increasing the recyclability of plastic packaging materials from 14% to 70% and introducing bio-based biodegradable packaging material, the plastic can be kept in a circular economy and out of the environment.

Keywords: Sustainability, Packaging, Biodegradable, Recycle, Polymer, Reuse, Rethink, Bio-based polymer, Plastic, Circular economy

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