

Milk protein-based edible food package

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Food packaging mainly involves petroleum-based products for different packaging processes. Petroleum based products used in packaging contain several issues such as less sustainability, it cannot be degraded easily and tons of plastic waste is generated that sits in landfills for years. To solve this problem, an edible, biodegradable and sustainable food package made from the milk protein, casein, is being started to be used widely. This environment-friendly film, made up of casein, is much better than the petroleum-based plastics at preventing oxygen from getting into the food. Edible films made from starch are already available in the market, but they are extremely porous and oxygen is allowed through those pores, hence leading to food spoilage. However, the casein-based edible film has smaller pores and a higher protein network, thus acting as an excellent oxygen barrier. Furthermore, it dissolves easily in water. Therefore, citrus pectin is added into the blend to make edible food packages more resistant to water and temperature. Casein-based edible food packaging is found to be similar to that of plastic packaging and wrappers. The packaging is entirely made up of protein and is hence safe to eat. Although it is tasteless, the taste can be improved further by adding various flavouring agents. This biodegradable and sustainable milk-based edible food package film thus prevents food spoilage effectively and provides the scope of value addition to the eatables.

Keywords: Edible film, Biodegradable film, Sustainable film, Casein film, Milk protein

Citation:

Prathima HS. Milk protein-based edible food package. The Torch. 2022. 3(15). Available from: <https://www.styvalley.com/pub/magazines/torch/read/milk-protein-based-edible-food-package>.