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# Pack the punches in food safety thru high barrier packaging technology



*Left frame:* **JACOBINA, an original Filipino square biscuit produced since 1947. The original packaging for Jacobina has remained unchanged for more than seven decades. it consists of a single layer film, which can keep the biscuit safely stored for three weeks.** *Middle and right frames:* **Use of high barrier packaging technology has increased its shelf life to 24 weeks, thus expanding its market potential.**

Did you know that great food losses and food wastes are due to discarded food because it is unsafe?

Far from the common notion, that many people go hungry because of lack of food, is the direct correlation to the way food is packaged. A 2011 FAO report noted that if left unchanged, economically avoidable food losses could negatively affect income of both farmers and consumers.

Further, packaging technology studies at the Industrial Technology Development Institute (DOST-ITDI) show that farmers commonly transport fresh produce like vegetables and fruits in containers without proper packaging. This manner of transport can result to as much as 40 to 70 percent of damages say in broccoli a high-value vegetable. Damages in fresh produce include scratches, broken tips, and cracks; here food safety issues become a concern as these become entry points for pathogenic bacteria, viruses, or parasites that contaminate food.

Albeit there may be a variety of ways, by which one may package these produce to keep them safe for consumption, DOST-ITDI developed **high barrier packaging technology** to enhance product shelf life and ensure consumer safety. Certainly, food values that packs the punch.



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High barrier packaging technology minimizes the rate that water vapor, oil, oxygen, aroma, flavor, gas, or light passes through. **Jacobina**'s, shelf life can be adversely affected if these elements migrate into or out of the package.

Other food products that are now enjoying the benefits of this technology are ***pastel, biscocho***, **sweetened pili nuts** and **frozen durian**.


**Other products using the high barrier packaging technology.**

Before use of the packaging intervention, *pastel* was directly packed in a box; this can make the product susceptible to cross contamination. Use of a high barrier primary packaging not only ensures product safety; it also increases its shelf life from 5-7 days to 30 days.

Meanwhile, long-distance transport of **frozen durian fruit** used to be limited due to its over powering aroma. Through use of a multi-layer high barrier packaging technology, this is no longer a problem. As weel, the technology is able to keep the flavor and aroma of frozen durian inside the package for at least one year.

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