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Xtend packaging retains the waxy bloom of blueberries

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StePac L.A. Ltd. has developed customized, proprietary, polyamide-based packaging technology for ensuring long-lasting freshness in bulk deliveries of blueberries to distant destinations. The new multi-layered packaging, which is the outcome of several years R&D ensures this high value fruit arrives in wholesome condition, with its natural protective bloom intact.



Bloom, taste and firmness are key factors in Chinese consumers purchasing decision.

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The Xtend packaging solution enhances the consumer experience and safeguards retailers against waste. This resolves the common challenge faced by growers and exporters (mainly from Chile and Peru) who conduct long-haul shipments to faraway countries, such as China — a leading consumer of blueberries. The result is that blueberries shipped in Xtend packaging arrive at destination, even after 35 days, with the full freshness reaped upon harvesting.

Last November, during an arrival evaluation, Elizabeth Paredes Cruz of Fiamma Inc., StePac's Peruvian distributor, interacted with various Chinese importers to understand what the locals consider to be the pertinent quality criteria for blueberries. Highest on their priority list was the appearance of the "bloom"– the natural powdery white wax on the surface of the fruit which innately protects the fruit and reduces evaporation. Second was the taste and the third most important criterion was firmness of the fruit.

StePacâ??s breathable, multilayered polyamide-based Xtend packaging is designed to not only regulate headspace gas composition, but also relative humidity. This significantly reduces the risk of condensation build-up and ensures that any condensation that might form within the packaging diffuses out.

According to Gary Ward, Ph.D., Technical Development Manager for StePac, blueberries are often packed in polyethylene-based modified atmosphere packaging which minimizes weight loss due to its very low water vapor transmission rate

(WVTR). “This is important, but the advantage of reduced weight loss is outweighed by the disadvantage that condensation will inevitably form and become trapped in the packaging. This free moisture is an enemy of the natural bloom and is highly likely to be washed from the surface of the blueberries making it less appealing to the eye and in fact increases the risk of decay.”

“The preservation of natural bloom is a far more important parameter than slightly lower weight loss,” notes Ward. “It is the outward indicator of freshness and translates into higher prices for blueberries in the Chinese market.” Sources from within the industry disclosed that at the time of the visit, Peruvian fruit with high bloom arriving in Xtend packaging were typically sold for prices reaching RMB160-200 per carton of 12 clamshells, in comparison to RMB100-120 per carton of 12 clamshells for fruit with less bloom arriving in polyethylene packaging.

StePac uses a wide range of polymers with varying WVTR values, including polyethylene, for the delivery of fresh produce in different packaging formats. “Custom-designed packaging that provides optimal modified atmosphere and moisture control and ensures that the produce arrives in prime condition requires a thorough understanding of the interaction between the physiology and pathology of fresh produce and its packaging environment,” adds Ward. “. Polyethylene-based packaging solutions are suitable for certain produce items and applications, but are an inferior solution for bulk shipment of blueberries.”
The product will be showcased at the upcoming Fruit Logistica 2019 in Berlin, February 6-8, Hall 26, Booth F-12.

StePac specializes in functional packaging for fresh produce. With more than 20 yearsâ?? experience in the fresh produce industry, the company has developed over 17 proprietary film structures, used for different produce types, applications and packaging formats. Its brands include the globally recognized **Xtend®, Xgo™, Xflow™** and **Xbloom™** packaging solutions. The company is a wholly-owned subsidiary of Johnson Matthey PLC. StePac is represented in Chile by Empack and in Peru by Fiamma.