



By Tom Joyce

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Maf Roda responds to Covid-19



The Line Pack automated packing robot

The coronavirus crisis is increasing demand for automated solutions that reduce the need for manual contact with products post-harvest, says Maf Roda

Since the 1980s, Maf Roda Agrobotic has contributed to the development of the fresh fruit and vegetable grading sector, creating machines for mechanical, electronic and automated grading. The company has also developed the process of pre-sizing in water, allowing its customers to work in two stages, for better control of their stocks, reduction of packaging costs and better reactivity to market orders.

Pre-sizing has another advantage, in that it is an automated process, with bins being emptied of products picked in the orchards using no manipulation by operators in the packhouse.

Batches of defined categories are sorted gently and without manual contact. The fruit is transferred through water channels to new bins and automatically cleaned by a bin washer, to be stored in coldrooms prior to packaging.

The company has been designing and producing water treatment and filtration systems for years, but in response to the

current Covid-19 crisis it has now gone further.

"This year we have developed new high-performance solutions to fight against possible bacteria and viruses that may come from apples or orchards," the company stated. "Water used to convey apples goes through treatment and filtration units which use UV combined with hydrogen peroxide to remove pesticide residues, then through a disinfection process with chlorine dioxide to allow the water to be preserved without bacteria and viruses. These treatment and filtration units thus maintain conveying water with a quality close to that of drinking water. These solutions also have the advantage of operating with reduced water consumption and of presenting no rejects harmful to the environment."

The group has designed the Line Pack, an automated robotic packing machine, to ensure a continuous process that guarantees product integrity and quality, as well as health and safety when the product is packaged for sale.

The pre-sized products are automatically packed in trays by several robot heads, to make one- and two-layer boxes, as well as bushels. The optical system positions the apples along the stem axis, with the best colour on top, in order to compose the most uniform trays possible.

"Line Pack is the efficient and reliable answer to market demand and changes, with operations allowing to avoid any contact between the operator and the product," the company stated. "It allows capacities of up to 320 fruits per minute to be reached, or more than 3.5 tonnes per hour on a configuration with ten robots."

To ensure the optimum quality of the apples packed, all fruit is analysed by the Globalscan 7 electronic grading system, which selects only those products with no external defects, while the additional internal quality control system, IDD4, eliminates products with internal defects such as internal browning or water core.

"In addition, its supervision is eased by a

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user-friendly and interactive human-to-machine interface which makes it possible to easily manage the different packaging formats used in the packhouse," the company stated.

At present, four apple packing lines equipped with the Line Pack have been installed and are operational in France and abroad. "And new developments

are currently underway to provide an adapted solution of the Line Pack for automatic packing of peaches and nectarines," the company added.