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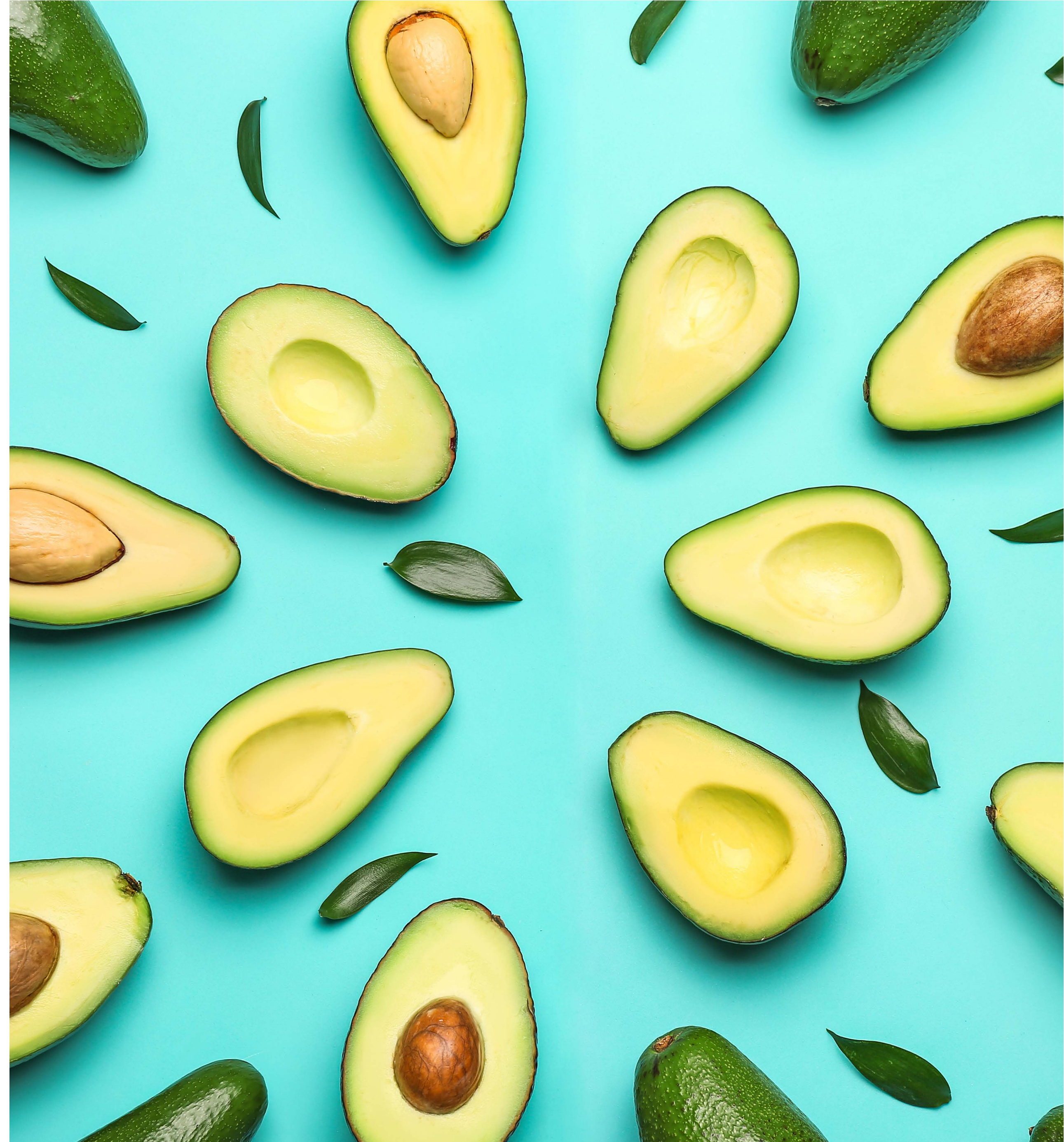
SPOTLIGHT
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Avocados

Content

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How avocado packhouses can boost capacity and meet rising quality expectations

So many consumers around the world have developed a taste for avocados that growers cannot plant the trees quickly enough. Avocado businesses are doing so well that the fruit has been nicknamed "green gold". But history warns us that gold rushes don't last forever. Growers and packhouses profiting from today's boom would be wise to prepare for tomorrow. Market forces have a habit of changing, and when they do, fortune will favor those businesses that have taken measures to futureproof themselves.

Here we take a brief look at the challenges currently facing avocado packhouses; how retailers' requirements are expected to change; and why state-of-the-art sorting and grading solutions not only enhance packing efficiencies but also put packhouses in better shape for the future.

Popularity has brought pressures

One of the biggest challenges in avocado production is the relentless pressure on packhouses to increase throughputs. This is driven by market demand and exacerbated by the regional nature of avocado cultivation. Though there are relatively few places on our planet where the climate is suitable for growing avocados, the whole world seems to want them.

Avocados have long been a staple food of Central and South America, but it is mostly because of North America that sales are skyrocketing. Every year more U.S. consumers recognize avocados as a superfood, desirable for their high levels of healthy monosaturated fat and essential vitamins and minerals. U.S. avocado consumption more than doubled between 2010 and 2020, according to research by multinational banking and financial services company Rabobank, and the latest figures show that sales are still growing.

By the end of this decade, the U.S. will account for 40% of global avocado imports, according to the United Nations' Food and Agriculture Organization (FAO). The European Union will account for 31%, with sales increasing in regions such as Australasia, China and the Middle East. Global production is expected to reach 12 million tons by 2030, three times more than in 2010 – but by then, the market could have reached maturity, stabilizing demand.

When supply does catch up with demand, competition will focus more on product quality. Of course, reasonable quality is already essential, but when the market becomes saturated, superior quality will be a sales-winning differentiator. This will put packhouses under another pressure: to match high throughputs with consistently high quality.

Another factor that will gain importance is sustainability. This is especially true because of concerns about water consumption growing avocados, and because the land is being cleared for avocado-growing in some locations through deforestation.

Consumers are mindful of such issues and increasingly want to know about the provenance of the fresh produce they buy. This will increase the need for avocados to be grown, packed and distributed with traceability.

This, then, is the Holy Trinity for avocado packers: delivering with quantity, quality, and traceability. But achieving this doesn't require a miracle. In fact, all three objectives can be met easily, by adopting state-of-the-art sorting and grading solutions. The best of these, offered by industry-leader TOMRA Food, significantly improve the consistency, accuracy, and packout of sorted product.

Raising quantity and quality

The most urgent of those three objectives, increasing packhouse capacity, can be accomplished through automation. When sorting and grading products passing down a packing line, machines are not only more accurate and consistent than humans, they also do the job more quickly. To give one recent example: after acquiring a TOMRA sorter and grader, Peru-based Agricola Cerro Prieto (ACP) almost doubled its packout to 60 tons per hour.

ACP's plant manager, Luis Macher, says: "TOMRA offers solutions that agribusinesses need – they know how to meet producers' needs. Now that we've taught the sorting system how to work, it gives the results we need and is not limited by speed."

ACP's operations manager, Richardo Acha, affirms: "Technology is of the utmost importance to us and thanks to the constant advances, we can work on processing bigger volume. With the Spectrim sorter, our volumes have almost doubled."

Whereas most automated systems can typically pack about three-and-a-half tons of avocados per lane per hour, TOMRA's machines pack about five tons per lane per hour. Another valuable advantage complements this productivity boost: the premium grading and weighing accuracy of TOMRA's systems help ensure that packout meets customers' specifications on quantity and quality without giving away product through over-supply. As ACP Spectrim operator Edin Menor puts it: "This machine allows us to classify the highest quality fruit."

Automated sorting and grading also solve the issues associated with recruiting, training, managing, and retaining labor – operational requirements, which are already headaches in some avocado-growing regions and likely to become more difficult in others. At ACP's facility near Chiclayo, plant manager Luis Macher says simply: "We've stopped relying on manpower. Our sorter gives the results we need and is not limited by speed."
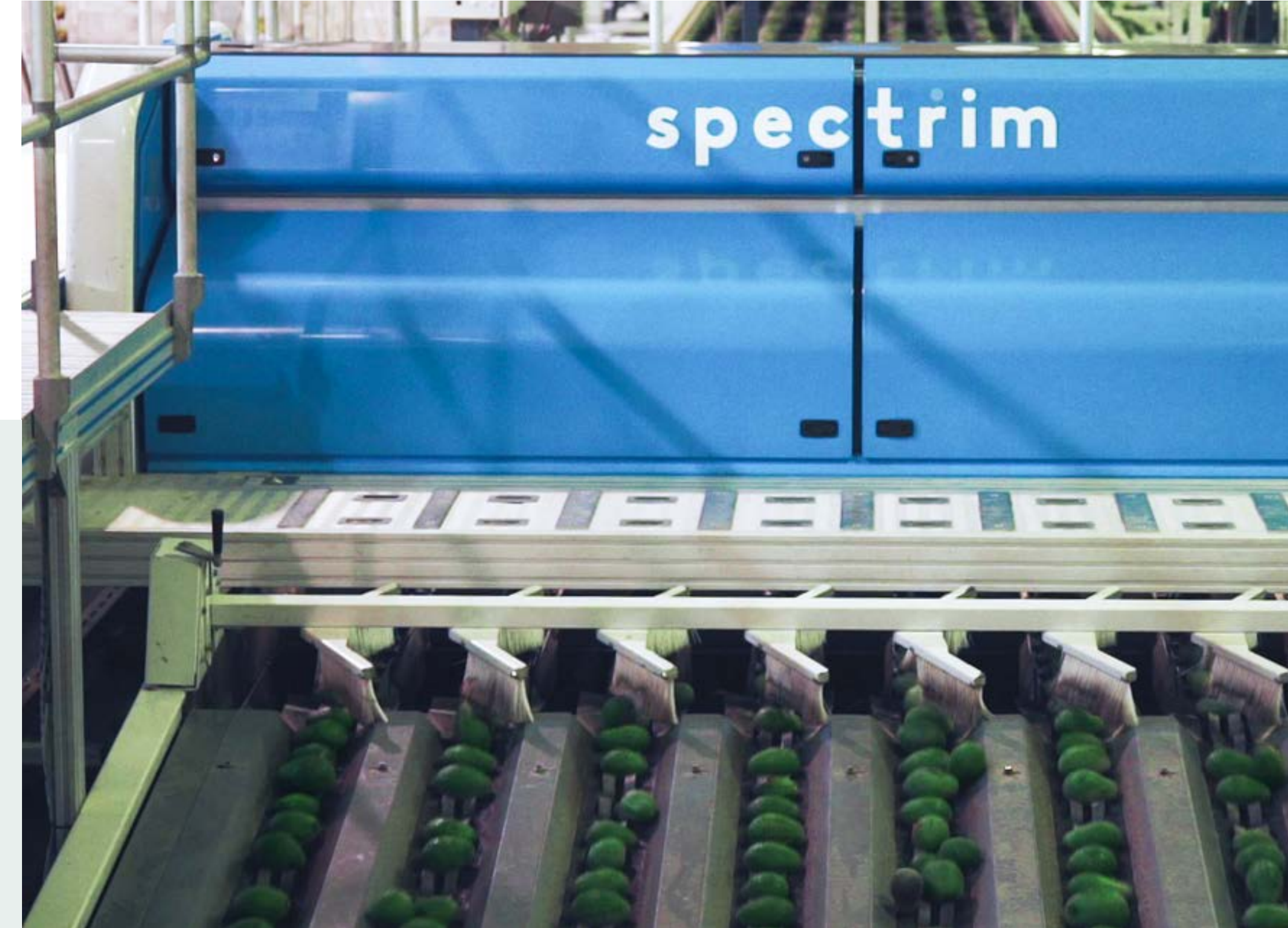
ACP's CEO, Alfredo Lira, says: "TOMRA stands out by how much they invest in advancing the technology they have. And the service TOMRA offers is very important because our line cannot stop at all while we are in peak season."

The next big challenge that packhouses will face, the need to consistently deliver higher product quality, can also be solved by sorting and grading machines. Aiming to raise quantities and quality at the same time might sound like pulling in opposite directions, but with the right technologies, it's possible. Some avocado growers have seen this first-hand because they also use TOMRA sorting and grading machines for citrus fruits and apples, which sell to markets with high quality expectations. Because TOMRA's sorters have multi-category capabilities, it is possible to set different machine parameters not only for different customer requirements with avocados, but also for different fruits.

Over the years, TOMRA has accumulated a deep knowledge of many food categories and what packhouses and food processors dealing with these categories want to achieve. Moreover, TOMRA's global reach means it is well-positioned to support customers in all corners of the world. TOMRA's core philosophy is to work closely with customers to develop solutions precisely calibrated to local and individual needs.

Inspecting, sorting and grading technologies

TOMRA's innovative, industry-leading solutions for avocado packhouse operations (and for citrus fruit and apples) include the TOMRA 5S Advanced sorting and sizing platform, the Spectrim sorter and grader, and the Inspectra[2] grading system.

The TOMRA 5S Advanced, which first became available in 2021, builds on the class-leading performance of Compac's Multi Lane Sorter (TOMRA acquired Compac in 2016), but was redesigned from the ground up. As its name suggests, this is the fruit industry's most advanced sorting platform. The software features provide for optimization and efficiency across the line, improving productivity, quality, and efficiency. These include

programs for element mixing, exact packout optimization, and throughput control, as well as a Dynamic Lane Balancer. All these programs are easily controlled via the sorter's intuitive graphic user interface.

Unrivaled efficiencies are made possible by the machine's specialized software features and connectivity to the cloud-based data platform TOMRA Insight, which can make sorting machines the digital heart of packhouse operations. This enables better, data-driven decisions and futureproofs packhouse businesses to meet the industry's evolving needs. TOMRA Insight also enables better flow of information up and down the supply chain and opens a pathway to traceability from bin to pack — exactly the kind of thing consumers want to see when questioning where an avocado has come from.

When using Spectrim, the avocados are sorted according to color and surface blemishes. Then the fruit can be graded for size and minor to major defects, including skin blemishes, insect damage, misshapen fruit, bruising and abrasions. Spectrim's sorting

parameters can be configured to grade for differing levels of defects, so that there's full control when matching product grades to different markets.

Inspectra² is a non-invasive solution for internal grading, particularly for dry matter content. This platform's near-infrared spectrometer can detect dry matter content, fruit by fruit.

By utilizing these capabilities, avocado packhouses can eliminate some of their toughest daily operational challenges, enhance efficiencies and profitability, and provide customers with precisely the product quantity and quality they've asked for. And in a world where the market value of food brands depends mostly on intangible assets, including brand equity, packhouses can also help customers protect their brand reputations.