



Customer Story: Andean Valley

Bühler facilitates Chinese market expansion for Royal Quinoa processing giant.

Bolivia-based Andean Valley Corporation attributes its successful entry into the Chinese market to its investment in Bühler's optical sorting technology. The company has also seen a more than two-fold increase in its processing capacity, as well as ongoing expansion of its product portfolio and a significant improvement in its color sorting, all thanks to Sortex solutions.

Since the COVID-19 pandemic began, studies conducted around the world have shown a significant rise in depression and anxiety levels. Medical professionals suggest physical activity and lifestyle changes as a first resort, including an increased intake of complex carbohydrates, fiber and protein-rich superfoods such as quinoa.



Superfood benefits

Quinoa seeds contain all essential amino acids, iron and B vitamins, in addition to magnesium – known to boost levels of serotonin, or 'the happy chemical', in the brain. Their slow releasing energy and low glycemic value ensure optimal blood sugar, while the presence of sleep-inducing hormone melatonin helps to ensure a good night's sleep.

"Our black Royal Quinoa is particularly rich in lithium which can help to regulate depression," says Javier Fernandez Villalobos, CEO, President and Owner of Andean Valley Corporation. Royal Quinoa, which is exclusively cultivated in the Andean region of Bolivia, is considered to be the highest quality of quinoa. At quadruple the size of other quinoa varieties, it contains a higher concentration of vitamins and minerals, as well as a distinguishable, nutty flavor.





Boosting capacity

Since the COVID-19 pandemic began, Andean Valley has experienced a drastic increase in demand for its Royal Quinoa, recording its highest ever sales in the company history. “With our Sortex technology we have been able to meet this rise in demand,” states Fernandez. Indeed, with the highest capacity optical sorting solution for quinoa in the market, Andean Valley has more than doubled its processing capacity, from two to five metric tons per hour.

“Prior to investing in Sortex technology, if we wanted to ensure a high quality end product we had to significantly reduce capacity, this was costing us a lot of time and money. With Bühler we’ve been able to boost our quality and capacity, without sacrificing one for the other,” says Fernandez.

With its expandable and modular structure, Sortex optical sorting technology enables higher product throughput without compromising on the accept product quality. Additionally, the flexible configuration allows the product to have multiple passes, enabling Andean Valley to obtain a much more concentrated reject. Subsequently, the company has been able to recover approximately five metric tons of accept quality quinoa every month.



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— **Javier Fernandez Villalobos**,
CEO, President and Owner of Andean Valley Corporation.



Expanding portfolio

Established in 1998 and as one of the first companies to be certified ‘organic’ in Latin America, Andean Valley is committed to producing, processing and exporting organic food made with Royal Quinoa. The company is on track to process over 5,700 metric tons of quinoa by the end of 2020 with the help of almost 500 farmers and 147 employees who work across three processing facilities (covering 80,300 sq. meters) located in La Paz.

The company has developed a range of 50 organic, gluten-free and non-GMO, red, white and black Royal quinoa-based products. Fernandez says: “One of the most important elements that has helped us in our product development, has been the support of companies like Bühler in furthering our technological development.

“By enabling us to perfect our de-stoning and cleaning of the grains, we can trust that we are producing the best quality in the market, so we are able to think bigger. The unmatched technology gives us the support and confidence that we need.

“As a result, our sales channel has evolved from supplying bulk containers of Royal quinoa to companies, to now providing restaurants, cafés and supermarkets with high quality, ready-to-eat Royal quinoa-based products.”

Improved color sorting

The main challenge that the company faced prior to its Sortex investment was detection and removal of immature pale green and overly mature pale pink grains, which are both very similar in color to the main white quinoa.

With Bühler's RGB camera sensors, Andean Valley is now able to detect very slight color variations, with a clear image. The patented algorithm allows the operator to easily select which defect to remove, without touching any other color. Moreover, the Sortex machine continuously tracks the product color, enabling automatic calibration of camera gains and background references.



The Supplier's Program

The improvement in color sorting aligns perfectly with Andean Valley's Supplier's Program wherein the company purchases locally cultivated quinoa from almost 500 small farmers, most of whom lack advanced farming management. Subsequently, their grains often contain defects which would not be accepted by other quinoa processors in the region. However, with its Sortex technology, Andean Valley is able to handle lower quality input material and so can successfully support its local farmers and provide them with a steady income.

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“We set up our Suppliers Program so that small farmers are in a position to leave their businesses to their children, safeguarding their land and produce for future generations. This also involves strengthening their skills in pest control, sustainability and soil conservation,” Fernandez adds.

The Chinese market

Not only has Sortex color sorting supported small farmers in Bolivia, but also Andean Valley's export markets. Currently the company exports its Royal Quinoa to 13 countries. However, without Sortex technology, Fernandez states that it would have certainly failed to enter the Chinese market.

“The Chinese market demands a stringent separation of black, red and white quinoa; thanks to Bühler's advanced color sorting we can guarantee that. Today we are able to comfortably fulfill our existing demand and also demand from China.”

The combination of the high speed and precise ejector system teamed with Bühler's developments in digital image processing gives Andean Valley confidence that their Royal Quinoa will continue to meet the toughest export requirements.

Looking ahead

Fernandez concludes: “With our Sortex stamp of high quality, we are looking to further expand into new markets that have an organic, high quality food interest. Additionally, we are in the finishing stages of installing our first gluten-free pasta line and a smoothie line.

“We are also very excited to be boosting our sales potential with a brand new Research and Development department. Our aim is to continue developing our product range, so watch this space!”

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