



Case study

Raspberry farm snaps up new freezer tunnel

Westerway Raspberry Farm, Tasmania

Westerway Raspberry Farm is a family-run business in the Derwent Valley that supplies fresh and frozen raspberries, blackcurrants, blackberries and other seasonal fruits to the juice, cordial, ice-cream and jam markets – as well as local farmers markets, independent shops and its very own farm gate shop.

For more than 20 years, the Clark family has focused on expanding its product line beyond fresh berries. After investing in mechanically harvesting technology to supply processing berries to juice customers, their attention turned toward setting up a processing facility to better process frozen berries for new markets.

Richard Clark, Owner of Westerway Raspberry Farm said: “The cryogenic freezer tunnel installed by BOC produces individually quick frozen (IQF) berries that retain the taste, flavour and texture of a fresh berry. The first season we produced 8,000 kilograms of frozen berries – next season we plan to quadruple this.”

The challenge

With demand for berries on the rise in Australia, Westerway Raspberry Farm knew getting into the untapped market for individually frozen berries would give them an opportunity to supply their high quality Australian berries all year around.

“Our biggest competitors are located overseas, with many frozen berries now imported from Asia, Eastern Europe and South America. We knew we had the strong food safety standards and enough supply to compete in this market, however we lacked the technology to really differentiate our product from the others.”

“The blast freezing we were doing previously would not achieve the desired efficiency or quality to grow the business – so we decided that individually quick frozen (IQF) product using a liquid nitrogen freezer tunnel would be a better option.”

The biggest challenge was then raising the capital to fund this new technology.

The solution

After receiving a \$260,000 Coles Nurture Fund grant, the team worked with BOC to install a Linde CRYOLINE® MT 5-600 quick freezing (IQF) tunnel and an 8,000 litre liquid nitrogen vessel.

“The berry season is very short, kicking off in December and running till early February – so when the grant was approved in September, BOC’s technicians worked very quickly to get it installed and commissioned in time.”

Combining state-of-the-art technology with a high-quality hygienic design, the CRYOLINE® tunnel freezer is easy to operate, clean and suitable for a wide range of application. It has high-speed internal fans, controllable gas injection and exhaust levels to optimise the application of cryogenic gases for cooling and freezing.

“BOC’s team worked closely with us to install the system and help integrate it into our packaging line – we built a vibrating table so the berries could be easily loaded into the tunnel.

“They then helped us pre-program each type of fruit as they have different freezing properties and require different amounts of liquid nitrogen – the electronic touch pad is very easy to use and gave us the power to continuously optimise the freezing process to our choosing.”



The benefits

Diversification

Since installing the tunnel, Richard believes his business is more dynamic and diverse – with the individually quick frozen (IQF) berry range giving the business an edge and plenty of room for growth.

“As we produce more high quality Australian-made frozen berries, we will be able to get more packets into Australian supermarkets and businesses – offering a more stable price and shelf life of up to two years.

“Our Linde CRYOLINE® tunnel helps us produce frozen berries more efficiently and economically than mechanically harvested fruit. With an added bonus of picking the raspberries when they are perfectly ripe and juicy, and freezing them instantaneously.”

At the peak of the harvesting season, the tunnel could process up to 150 kilograms of raspberries per hour – with a maximum production rate of 300 kilograms per hour.

“We are only just scratching the surface of what the tunnel can achieve – and we plan to fully test its capacity in the coming seasons.”

Quality

When it comes to producing a quality frozen berry, liquid nitrogen coupled with IQF technology has achieved far superior results for Richard than blast freezing or ammonia-based freezing.

“With liquid nitrogen, there is less cell damage with the berry as the water freezes rapidly. With blast freezing, you tend to get ice crystals that break the cell membrane – and you lose form and get a squishy product.

“When our berries enter the tunnel, they are evenly spaced and cover the whole belt, so when the liquid nitrogen contacts each individual raspberry, you get the best freezing and product quality result.

“This technology has enabled us to retain the taste, texture and flavour when the frozen berry is thawed – and most importantly, give Australian customers a high-quality local choice in the freezer aisle of the supermarket.”

About Westerway Raspberry Farm: The Westerway Raspberry Farm is a business run from the Clark Family’s farm, Lanoma Estate. From humble beginnings, the farm now has over 60 acres of fertile land under raspberry production, owns three state-of-the-art mechanical harvesters from the United States, produces over 300 tonnes of berries each season and employs over 150 seasonal staff to supply fresh and frozen berries for the Tasmanian and interstate market.

About BOC: BOC is a member of The Linde Group which supplies compressed and bulk gases, chemicals and equipment around the globe. The company develops safe, sustainable and innovative solutions for customers in many specialty sectors, heavy industry and medical environments. For more than a century the company’s gases and expertise have contributed to advances in industry and everyday life, including steelmaking, refining, chemical processing, environmental protection, wastewater treatment, welding and cutting, food processing and distribution, glass production, electronics and health care. For further information, see www.boc-limited.com.au.

About Linde: In the 2016 financial year, The Linde Group generated revenue of EUR 16.948 bn, making it one of the leading gases and engineering companies in the world, with approximately 60,000 employees working in more than 100 countries worldwide. The strategy of The Linde Group is geared towards long-term profitable growth and focuses on the expansion of its international business, with forward-looking products and services. Linde acts responsibly towards its shareholders, business partners, employees, society and the environment in every one of its business areas, regions and locations across the globe. The company is committed to technologies and products that unite the goals of customer value and sustainable development. For more information, see The Linde Group online at www.linde.com.

Let BOC help you implement a similar solution

BOC Limited

ABN 95 000 029 729

Australia

131 262
contact@boc.com
www.boc.com.au

New Zealand

0800 111 333
customer-service@boc.com
www.boc.co.nz

Papua New Guinea

675 472 2377
sales.lae@boc.com.png
www.boc-png.com