

Case Study: Fresh thinking delivers sprout solution for food processor.

When you're responsible for processing around 17,000 tonnes of brussels sprouts every year, it's essential that each individual vegetable is kept in peak condition as it makes its way from the field to the supply chain and, ultimately, onto a dinner table somewhere in the UK. When heavy seasonal rainfall caused processing problems for one major vegetable grower, Polygon stepped in to help find a solution.

The Challenge

Polygon was approached by an innovative agricultural business faced with a specific processing challenge. The company produces and packages a huge number of vegetables every year, supplying some of the UK's leading supermarkets. This includes 60 million servings of brussels sprouts, which are harvested into large containers before they are moved into the refrigerated processing plant for preparation and packaging. During a period of persistent bad weather, excessive rainfall was accumulating on the surface of the sprouts, causing difficulties within the processing environment and threatening the quality of the end product.



The Solution

The company sought to introduce a drying mechanism into the process workflow without compromising the low temperatures needed to keep the sprouts at optimum freshness. The existing system involved feeding air from the plant into the loaded container via a sealed unit – effectively a plenum chamber – which has a refrigeration coil inside. The cooled air keeps the sprouts below 5°C, with 'used'



air then cycled back into the plant. Thanks to the skill of Polygon's technicians, a TCS1350 dehumidifier was incorporated into the plenum chamber set-up, enabling moisture to be removed from the sprouts while keeping temperatures at the low level required.

The Result

Each container holds around 9.5 tonnes of product, which equates to roughly 633,000 individual sprouts. Analysis had shown that 0.03 grams of water needed to be removed from each sprout on average to ensure they would be presented to the processing plant in prime condition. Polygon therefore implemented a 12-hour drying cycle that equates to the removal of 1.6kg of water per hour. In doing so, they were able to protect the vegetables and ensure they arrived for packing in prime condition.

