

Wilkin & Sons

Case study

Conserving quality





Hidden away in the leafy village of Tiptree in Essex, one of Britain's leading makers of quality preserves, Wilkin & Sons, has been pioneering innovative freezing technology to help streamline its production peaks.

Established more than 125 years ago, Wilkin & Sons started life as a farm and the company still grows a wide variety of soft and stone fruit today including strawberries, loganberries, tayberries, blackberries, plums, raspberries and quince.

As makers of quality preserves, marmalades and condiments, the company aims to source as much soft fruit as possible from its own farms and a number of other UK-based suppliers. Citrus fruits, such as oranges, lemons and limes, are imported from countries with sunnier climates.

Over the past five years, the business has doubled in size and today produces many millions of jars of jams and marmalades each year, which it supplies to leading supermarkets and other retailers in the UK and around the world.

World class jam-making

The company has traditionally made as much product as possible at the time of harvest but the recent introduction of world class manufacturing methods has led to a focus on reducing inventory and making more product to order.

The company approached Air Products to find out more about state-of-the-art freezing technologies and how they could be used to protect the freshly-picked soft fruits until the moment they are processed to make jam.

When considering a freezing solution, Wilkin & Sons was impressed by both the performance and economic benefits of using the Freshline® DM tunnel freezer. The hi-tech tunnel freezer uses liquid nitrogen with a temperature of -196°C to individually freeze the delicate fruits as quickly as possible, while protecting their form, texture and taste. They are then stored in bulk containers ready for processing. Capable of handling up to 1,300 kg of product per hour, the tunnel freezer is rented directly from Air Products. The rental option adds flexibility, eliminating the need for Wilkin & Sons to make a high capital investment.



Chris Newenham, farm director at Wilkin & Sons, said:

“The tunnel freezer has met our expectations by demonstrating its ability to individually freeze each fruit as quickly as possible and since installing the system in 2008, we have been pleased to see that a high standard of product quality has been maintained.

“We are a business that values and wants to retain our traditional production methods but we also need to move with the times. By adapting our processing in this way, we can streamline our production and build in the extra capacity needed.”

In the run up to 2014, Wilkin & Sons is seeking to continue to increase production and to expand its product range. Longer term, the company is planning to invest in a new factory based on the existing site in Tiptree village, adjoining the company's established strawberry fields and orchards.

Working in partnership with Air Products, the company is keen to explore other chilling and freezing technologies that could be used to optimise production, while always protecting the quality of fruit and other ingredients.

Emma Guthrie, food technology expert at Air Products, said: “The ability to freeze the fruit quickly was a top priority for Wilkin & Sons and the Freshline® DM tunnel freezer has provided an effective solution. Our commercial understanding has also enabled us to deliver a solution that is financially viable in the medium and potentially the longer term, as business needs evolve.”

“When choosing a freezing solution, we needed something to take us through to 2014 and beyond. It makes a lot of sense to use value added technology that gives us the quality assurance we expect, on flexible terms,” concluded Chris Newenham.



Freezing strawberries

One of the most popular product lines manufactured by Wilkin & Sons is its world famous 'Tiptree Little Scarlet' conserve, which is made using only the highest quality Little Scarlet strawberries.

The company produces hundreds of tonnes of fresh strawberries at its farms each year, including Little Scarlets and all are harvested during the strawberry picking season, which gets underway in June and lasts for no more than four weeks.



The Little Scarlet strawberries are processed immediately to make the premium conserve. The majority of their other strawberry varieties are individually quick frozen (IQF) so they can be processed over a longer timeframe. The IQF fruit is stored in 300 kg bulk-bins and held in a cold store set at -28°C until they are needed for processing.

Chris Newenham adds: "As a seasonal food producer, we have a limited window of just a few weeks in which to pick the fruit and historically we tried to process everything immediately. The Freshline® DM tunnel freezer allows us greater flexibility in processing the fruit and the rapid freezing means we can achieve this while preserving the quality of the fruit."

For more information about Air Products' food chilling and freezing systems, visit [**www.airproducts.co.uk/food**](http://www.airproducts.co.uk/food).

About tunnel freezing

Tunnel freezers achieve temperature reduction by the direct application of very low temperature gases, such as liquid nitrogen, onto the food.

Whereas mechanical freezers are usually owned and operated by the food producer, tunnel freezing systems are commonly leased, requiring minimal initial capital investment.

With a liquid nitrogen temperature close to -196°C , tunnel freezers are capable of reducing the temperature of the food, by a process of heat exchange, very quickly indeed. The technology is ideal for individually quick freezing delicate foods with high moisture content, such as soft fruits and prawns.

Research has shown that fast freezing reduces moisture and yield loss and minimises changes in product texture, colour or flavour.



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