

## Production Partner Case Study

### Overview

#### Region

Northern Europe

#### Partner Profile

Modern, well-invested vegetable grower and processor

#### Main Product

Fresh snack carrots

#### Challenge

High proportion of sound but unmarketable and wasted produce

#### Solution

Production of high-value lacto fermented vegetables, using an effective combination of mixed-strain starters, techniques and support

#### Benefits

- Waste vegetables converted into profitable added-value products
- Fit into existing distribution channels and help to enter new health-aware markets
- Unique market position based on technological advantages



### European grower and processor of fresh snack carrots partners with Vitality Foods Ltd to convert waste produce into premium lacto fermented vegetables

#### A unique combination of starters and support enables scalable and reliable production

SIA SunCrisp is a rapidly-expanding vegetable grower and processor located in Latvia. Its main product is high quality fresh snack carrots, which are packed in mini plastic bags, cups and trays, and marketed as healthy snacks under the company's own brand.

The entire production cycle is carefully managed, from seeding and harvesting to packing, warehousing and distribution. The carrots are washed and hand-sorted. A constant temperature is maintained throughout, and the convenient location ensures quick deliveries to customers throughout Northern Europe. There is ample capacity for expansion, both in the nearby company-run fields and in the factory itself.

#### Challenge

Snack carrots are required to be a uniform size and shape. A large proportion of the company's production fails to meet the strict size and shape criteria and is sold at a lower price on the open market. More profitable use of this otherwise good quality produce was therefore a prime objective.

SunCrisp has the flexibility to increase the production of carrots and other vegetables, and volumes can be adjusted to focus on whichever product is shown to optimise profitability. The ideal solution would also:

- Make good use of existing investments in temperature control, storage and processing
- Enable small-scale trial production in order to test the market
- Be flexible enough to allow the production of new products in the future
- Provide a unique selling point
- Enhance the company's reputation for producing healthy products

Lacto fermented vegetables were considered as a preferred option. However, most commercially-available fermented or pickled vegetable products did not meet most of the above requirements, because they:

- Are widely available at low prices and correspondingly low margins for the producers
- Are heat-treated, preserved in vinegar or other chemical preservatives
- May require investment in a pasteurisation line
- Do not have a healthy image

On the advice of Acrementia Ltd, an independent group of international consultants specialising in the food industry, the Managing Director of SunCrisp contacted Vitality Foods Ltd.

## Implementation and Product Development

### Leaders in the Field

SIA SunCrisp chose to work with the undisputed leaders in the field of raw lacto fermented vegetables.

Vitality Foods Ltd is the marketing partner of Caldwell Bio Fermentation Canada Inc (CBFC).

### Technology backed by experience

CBFC is an associate of Agriculture and Agri-Food Canada. They are the first to apply sustained in-depth microbiological research and practical production know-how to the traditional practice of lacto fermentation of vegetables.

Their comprehensive solution, comprised of unique starters, production techniques and support:

- Ensures consistent, stable production, without pasteurisation, vinegar or preservatives
- Preserves the texture, flavour and colour of traditionally-fermented vegetables
- Offers consumers a prestige range of products that are full of health benefits
- Increases profitability and reduce waste

### Recipe for Success

The Vitality Foods - CBFC partnership also ensures:

- Ongoing research in the field of raw lacto fermented vegetables
- Development of new recipes and product ranges
- Reliable scientific and technical support for client producers world-wide

### Staged implementation combined with careful preparation ensures successful results

The solution was implemented in three stages: preparation, trial production and full production.

#### Preparation

The basic implementation package includes an initial site visit. SunCrisp received detailed advice on raw materials, equipment, factory layout, procedures, timing and staffing, all tailored to their individual requirements. The snack carrots were also analysed at the Food Research and Development Centre (FRDC) in Quebec, in order to determine sugar and acid levels. The factory already possessed sophisticated temperature control facilities and a high speed shredder, keeping initial investment to a minimum. Standard food grade plastic barrels were ordered for the fermentation and maturation phases of the trial, with a view to upgrading to larger capacity stainless steel vats for full production. A sampling tap was added to each barrel for testing pH levels. Other sundry equipment was purchased, and a timeframe was agreed for the start of trial production.

#### Trial Production

This stage includes an on-site visit by an experienced microbiologist from the FRDC, to provide detailed instructions and hands-on training. SunCrisp management and employees were carefully guided through all the stages of initial production. Rejected carrots from the snack carrot line were used as the basic ingredient, along with salt, local spring water, and CBFC's unique mixed-strain starter. Although the production process is relatively straightforward and easily learnt, attention to detail is always crucial, especially when adapting to a new process. By the end of the trial, SunCrisp's management and employees possessed an excellent understanding of the entire workflow, backed up by detailed documentation. After the trial, SunCrisp received remote technical support and advice as required. The shredded carrots were fermented for about a week, matured for a further six weeks, and then packed and shipped for market testing.

#### Full Production

Following feedback from the test markets in Northern Europe, SunCrisp resumed production and began experimenting with a variety of single and mixed fermented vegetable products. The juices resulting from the fermentation process also represent an additional product range, for sales in the health food sector. The raw fermented products are rich in live friendly bacteria, and are arousing a great deal of interest among health-aware consumers in a number of countries. Target markets include food service, health food outlets and retail. Ongoing technical and commercial support from Vitality Foods and CBFC is proving to be an important part of SunCrisp's entry into this new field and continues to ensure a technological advantage in the marketplace.

#### Contact

For more information, please visit <http://www.vitalityfoods-eu.com/>.