SUSTAINABLE PRODUCTION OF HEALTHY FOOD, AVAILABLE TO ALL, AFFORDABLE BY ALL

Photo: UNILEVER/VLAM/AGFPN

PROFEL

There have been great advances in crop production over the last 100 years, such as varietal improvements and developments in irrigation, fertilizer and plant protection – which have led to higher crop yields. However, over the same period, the world's population has risen to almost four times the size it was at the start of the 20th century[1].

With global population growth set to continue, scientists are predicting that by 2030 the world's water needs will rise by 30%[2] , the demand for energy will go up by 50%[3] and global food requirements will increase by 50%[4].

Securing our continent's future food supplies is rapidly becoming a 'hot topic'. National governments are actively setting their priorities for food for the next two decades, and have identified the following areas:

- Nutrition & Healthy Eating
- Managing Food Waste
- Sustainable Production and Consumption & Carbon Footprint
- Availability, Affordability and the need to reconnect consumers with food

The processed vegetable sector is responding to these challenges and has some of the answers.

1 NUTRITION – BENEFITS OF PROCESSED VEGETABLES

In most European countries vegetable consumption remains low and frequently falls short of the WHO recommended minimum intake levels of 400g of fruit and vegetables per day.

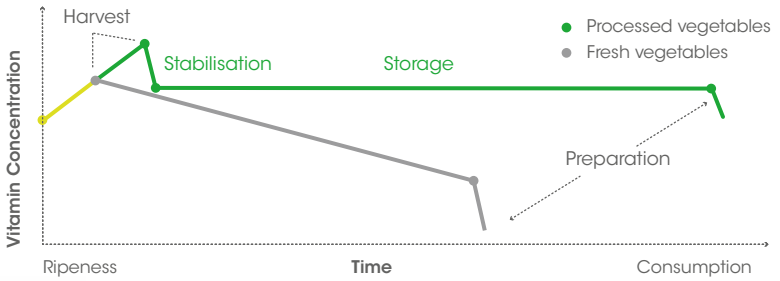
Vegetables are at their best immediately after they are picked from the field or garden, when they are brimming over with vitamins and minerals. From the moment of picking vegetables start to lose nutrients, vitamins and quality.

By freezing or canning[5] shortly after harvest, the vegetables are preserved at peak ripeness and retain most of their nutrients and vitamins, locking in the goodness. Frozen and canned vegetables are complementary to fresh produce and can play a vital role in a healthy diet and in fulfilling 'Five-A-Day' recommendations.

Prof. Emeritas Andre Huyghebaert, Department of Food Safety & Food Quality University of Gent; Chairman of the Scientific Committee of the Belgian Federal Agency for the Safety of the Food Chain:

"Although 'garden fresh' vegetables are often used as a reference, practice has shown that fresh vegetables in the shop are not always as fresh as 'garden fresh' vegetables. Scientific studies have sufficiently proven that frozen and canned vegetables usually preserve nutrients more effectively than many fresh vegetables purchased in retail outlets. As such, frozen and canned vegetables contribute in a significant manner to the intake of essential nutrients in our daily diet."

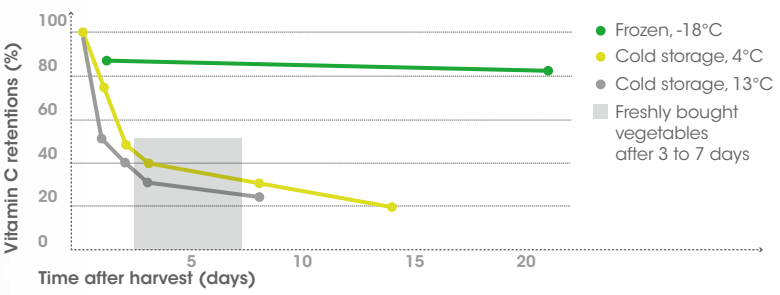
An independent study carried out by INRA[6] looked at the evolution of vitamins through the harvest and supply chain for fresh and processed (frozen & canned) vegetables:



Source: INRA

Photo: UNILEVER LAM AGHPN

Looking more specifically at vitamin C in green beans, the losses against time for chilled fresh and frozen products are compared:



Source: University of Ghent, Belgium

[1] *United Nations Department of Economic and Social Affairs (2008)*
[2] *International Food Policy Research Institute (IFPRI)*
[3] *International Energy Agency (IEA)*
[4] *Food and Agriculture Organization (FAO)*
[5] *Canning refers to both vegetables in cans and in glass jars*
[6] *INRA (French National Institute for Agricultural Research): Expertise scientifique "Les fruits et légumes dans l'alimentation. Enjeux et déterminants de la consommation" (2007) www.inra.fr*

2 FOOD WASTE

UK Government Office of Science
"The Future of Food and Farming" 2011

"It has been estimated that as much as 30% of all food grown worldwide may be lost before and after it reaches the consumer. Some estimates have placed it as high as 50%."

FROZEN AND CANNED VEGETABLES CAN HELP TO REDUCE FOOD WASTE:

1. Removing the unusable parts of the vegetable at source

In most cases the vegetables grown for freezing or canning undergo a first stage preparation in the field during the harvest (peas are removed from their pods, the tops of carrots are cut off and cauliflower florets are separated from their stalk and leaves) where trimmings and unwanted parts of the vegetables are left on the field to deliver nutrients to the soil.

On entering the processing factory any remaining unusable parts of the plant are trimmed off immediately and collected for animal feed, or returned to the field after composting, or increasingly used to create energy through a biomethanisation plant.

At the point of delivery to customers, all unusable parts of the plants have been removed so that only consumable elements are transported to the store and taken home by the consumer.

2. Avoiding storage losses in the food chain

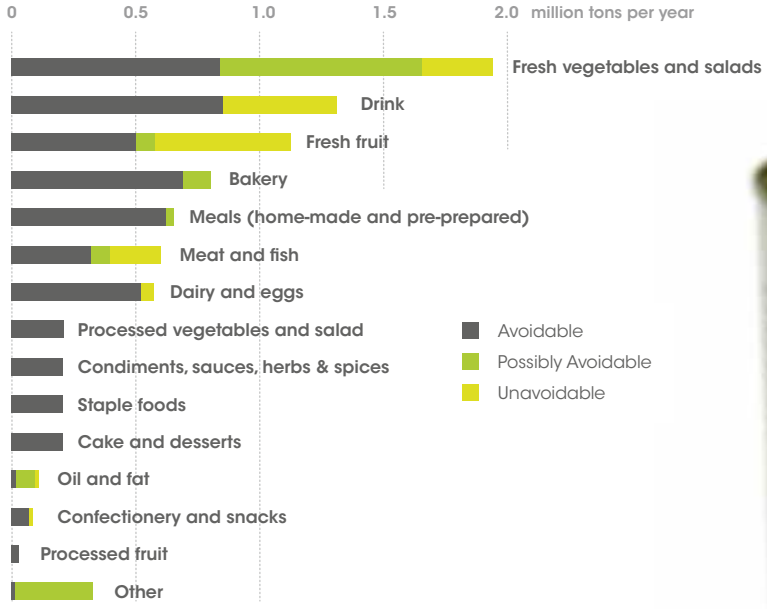
Most frozen or canned vegetables are processed on the day of harvest (peas often within 150 minutes). There are no losses resulting from product deterioration during storage at the producer, the retailer or in the consumer's home.

3. Reducing losses in the home

With up to one third of purchased food reported to be wasted[7] these days, a major part of the losses occur in the home.

Frozen and canned vegetables come ready-peeled and cut (no trimming losses during preparation), they have long shelf lives and are used as and when required, in easily managed portions – no losses from product deterioration.

Volume of food and drink waste in 2009 in the UK (total 8.3 million T), by food category



Source: Household Food and Drink Waste in the UK, WRAP, 2009

[7] *WRAP Food Waste Report, April 2008*

3 SUSTAINABLE PRODUCTION AND CONSUMPTION & CARBON FOOTPRINT

Seasonal Production

Frozen and canned vegetables are harvested from seasonally produced, outdoor crops that are ripened by the sun during the crop's optimal growing period and natural day length. In most cases, these crops provide valuable break crops in arable rotations.

Local Production

Vegetable freezing and canning factories are almost always situated within easy reach of the fields where the vegetables are grown.

CO_2 emissions generated during production

A number of industry studies have calculated the average CO_2 emission for processed vegetables to be approximately 0.7 kg CO_2 emission per kg of final product[8], making processed vegetables one the of food industry's lowest contributors to CO_2 emissions.

European average CO_2-equivalent per kg of different foodstuffs[9]:

- Beef 22.1 kg CO_2-equivalent per kg
- Pork 7.5 kg CO_2-equivalent per kg
- Poultry 4.9 kg CO_2-equivalent per kg
- Milk 1.4 kg CO_2-equivalent per kg

Photo: UNILEVER, VLAM, AGFPN

4 AVAILABILITY & AFFORDABILITY

Available, Affordable and Accessible

Affordable to all, frozen and canned vegetables offer high quality, nutritious and seasonal produce at any time of the year, providing consumers with excellent value for money.

An INRA study[10] in 2007 established that between 1960 and 2005, increases in the sales price of processed vegetables have been 40% lower than the average food-price increase.

Recognition and better Communication

Today, many European governments, retailers and consumers are not aware of the potential held by frozen and canned vegetables to provide a wide range of competitively priced foods:

- with a low environmental impact
- that are seasonally produced
- that are highly nutritious and can significantly contribute to improving diets

This should be recognised and better reflected in forthcoming policy initiatives and public communication campaigns, resulting in greater visibility and a raised profile for a sector that strives to meet the challenges.

PROFEL

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[8] Provided by a number of companies in the absence of any published figures by international or national authorities or independent bodies
[9] Source: European Commission Joint Research Centre, Evaluation of the livestock sector's contribution to the EU greenhouse gas emission http://ec.europa.eu/agriculture/analysis/external/livestock-gas/exec_sum_en.pdf
[10] INRA (French National Institute for Agricultural Research): Expertise scientifique "Les fruits et légumes dans l'alimentation. Enjeux et déterminants de la consommation" 2007 www.inra.fr