



The Dutch horticulture sector aims to reduce its greenhouse gas emissions by 30%.

The carbon footprint of a kilogram of tomatoes

Organisations and retailers increasingly wish to understand the sustainability performance of products, such as CO₂ emission. The Dutch horticulture sector has developed a tool for assessing the carbon footprints of vegetables, fruit and flowers. Growers and traders can use this to assess the carbon footprint of their entire product chain.

DANIËLLE VAN GILS

PHOTO: MARCEL VAN DEN BERGH

Dutch entrepreneurs and horticultural organisations have set out to become the most sustainable horticulture sector in the world by 2020. In accordance, the sector aims to reduce its greenhouse gas emissions by 30%. At the same time, there is a growing demand from the food industry for *environmental labelling*. In Britain, many food products already have a CO₂-label. The French government is considering legally requiring *environmental footprinting*. To meet the demand, it is important to determine a footprint to offer insight into CO₂-emissions.

To enable calculation of this carbon footprint, the Dutch Product Board for Horticulture has cooperated with other countries, governments, knowledge institutes and entrepreneurs in developing a standard assessment tool. It is an instrument for horticultural entre-

preneurs to meet the growing demand for sustainability information. The project was carried out in association with the British Standards Institution (BSI), through investments of the Dutch Product Board for Horticulture.

From seed to shop

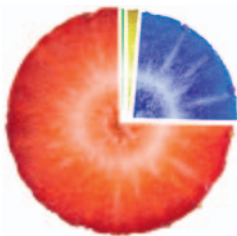
“The standard is an instrument for objectively and quantitatively measuring the horticulture sector’s CO₂-emissions, from seed to shelf”, says Agnes van Ardenne, chair of the Dutch Product Board for Horticulture. Van Ardenne: “With the standard and the related certificates, Dutch entrepreneurs can show the results of their sustainability methods. It is now up to retailers and consumers to express their desire for CO₂ reduction in their consumer behaviour. Our sector is ready to meet those wishes.”

More and more, consumers demand to be properly informed about the origins and the manufacturing of products they buy and eat. Therefore, calculating the carbon footprint is an important tool for horticultural entrepreneurs to demonstrate their conscious efforts to produce in a sustainable way. Philip Smits is general manager of The Greenery, a Dutch company that specialises in the distribution of fresh produce. He notes: “This internationally accepted calculation method gives us entrepreneurs a tool to actually work with. This will help us strengthen our market position.”

The hunger for information

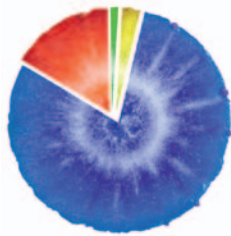
It is the sector’s own responsibility how they communicate their CO₂ performance to the consumer. One way might be through a label, like the energy-efficiency labels found on

Energy cultivation 73%
 Transport 1%
 Soil and manure 3%
 Materials and processing 23%



Strawberry Netherlands greenhouse

Energy cultivation 17%
 Transport 2%
 Soil and manure 4%
 Materials and processing 77%



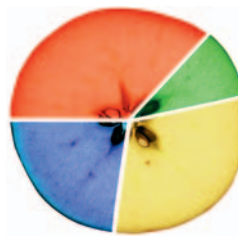
Strawberry Netherlands on shelves

Energy cultivation 32%
 Transport 1%
 Soil and manure 58%
 Materials and processing 3%



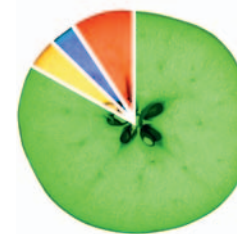
Cauliflower Netherlands summer

Energy cultivation 31%
 Transport 16%
 Soil and manure 30%
 Materials and processing 23%



Apple New Zealand

Energy cultivation 9%
 Transport 83%
 Soil and manure 5%
 Materials and processing 3%



Apple Netherlands

washing machines. In the future, we may find products with CO₂-labels on the shelves in our supermarkets. Wageningen University & Research Centre investigated whether the use of such a label would influence consumer behaviour. A simple label with only the CO₂-emission figures has no demonstrable effect on consumer behaviour. The consumer apparently needs more additional information. According to the research, if the label is expanded to include a reference and explanation of the carbon footprint, more people will choose a more sustainable product. The standard offers more possibilities than merely calculating the carbon footprint. The tool also demonstrates the impact of energy reduction within a company. Also, the entrepreneur can see where in the chain of a specific product emission is highest, enabling him to take possible action.

The online tool (see link at the bottom of this article) helps the horticultural entrepreneur to get a better general understanding of the carbon footprint of a specific product. Certification is much more complicated and costly. It is often necessary to hire a consultancy to help with the calculations. The data and computations then need to be verified by an external controller. After the last corrections have been made, the entrepreneur will receive a carbon-footprint certificate.

Special case

The standard for the horticulture sector is based on PAS 2050, an international, leading method for assessing greenhouse gas emissions of goods and services. "For our sector we needed to answer a couple of specific questions," says Anne Gaasbeek of the Dutch Product Board for Horticulture. "We needed to look into the possibilities to deal with issues such as Combined Heat and Power (CHP) and crop rotation. This specification answers these questions. After all, the climate in the greenhouse and the use of fossil fuels depend on the circumstances outside. A little less or a little more sun has an immediate effect on the use of gas, and consequently on CO₂ emissions. The carbon footprint of a kilogram of tomatoes or a bunch of roses differs from week to week." ●

Contact:
 Anne Gaasbeek
 a.gaasbeek@tuinbouw.nl
 Phone: +31 (0)79 3470707
 Dutch Product Board for Horticulture

How does it work?

Both the standard and the tool assess a product's total greenhouse gas emissions along the entire chain, from farming to transportation. These are the six greenhouse gases from the Kyoto Protocol, expressed in CO₂-equivalents. One CO₂-equivalent (CO₂e) represents the greenhouse effect of the emission of 1 kg CO₂. Accordingly, the emission of 1 kg of methane represents 21 CO₂e, and 1 kg N₂O equals 310 CO₂e. The standard also assesses the emissions of fluorine compounds CFK, PFK and SF₆.

source:
 Statistics Netherlands (CBS)