

What happened to 'Food Miles?'

November 10 2014



Some years ago we were being advised to buy UK-grown fresh produce to avoid the 'food miles' associated with importing air-freighted fruit and vegetables due to concerns over how this was contributing to the release of CO₂ emissions. But it seems that that these concerns were far too simplistic. A true assessment of the 'footprint' of foodstuffs requires an audit of every aspect of the associated activities, from sowing the seed to consuming the produce.

Research led by Bangor University into the social and environmental benefits of [food](#) grown locally and overseas, was the first ever rigorous life cycle assessment of the entire crop production chain included farming, transport, storage and cooking.

Working with Surrey University, research by the team at the University's

School of Environment, Natural Resources & Geography concluded that agricultural inputs outweigh transportation considerations alone. There was no straightforward relationship between the transport distance and the overall environmental impacts of the commercial life-cycle of crops.

When the results were shared with industry, the realisation that transport or 'food miles' was only a very small percentage of the CO₂ expenditure related to any crop was instructive in moving the onus of responsibility from the purchaser to the provider.

The emerging picture was a highly complex one of inputs and outputs concerning everything from the type of soil on which a crop is grown, to where and how it is stored and packaged for sale to the customer. It's true to say that the picture is far from complete- with current interest focussing on the CO₂ released from different soil types.

Although intercontinental transport of vegetables contributes significantly to [greenhouse gas](#) emission, growing vegetables in UK greenhouses through the winter was found to be less energy efficient than transporting them from Spain where they were grown outside.

"Everyone's focus was on food miles, but it was far too simplistic an analysis," says Ed Moorhouse of G's Fresh, the UK's largest fruit and vegetable production and distribution company.

"The analysis done by Bangor clearly demonstrated objectively that the very hypothesis of [food miles](#) was flawed. Some supply chain distances were less significant to the [carbon footprint](#) of the final product than the growing conditions we had to operate under."

Scientists, growers and supermarkets alike are now far more concerned and engaged with the carbon footprint of the whole process of growing, delivering and selling our food.

The research has provided the impetus for some major UK companies to make significant changes to the way they work in order to reduce their CO₂ emissions.

A number of companies are also funding to continued research in this area.

G's Fresh is one company who have really engaged with the research, having made significant changes and commissioning further work.

Ed Moorhouse, again:

"The initial footprint research work from Bangor gave great insight into key hotspots within the product chain and gave us a framework to think seriously about how to tackle the whole area of greenhouse gas footprint for our produce and supply chain."

"Bangor's research was really good, instead of something done on the back of a fag packet, it provided hard numbers. It was very much the catalyst to take the business forward and spawned individual areas of interest."

One of the changes the company made was to move salad onion production to Senegal, with the crop freighted by ship rather than being grown and flown from Mexico and Egypt. This reduced greenhouse gas emission by nearly 8000 kg CO₂ per tonne of produce- a reduction of over 90%.

This was as a result of further work (by Bangor) looking at the supply chain and comparing- specifically, air freight from Mexico, road freight from Spain, sea shipping from Senegal and a mix of air and sea from Egypt- which found that the best proposition was Senegal, freighting the produce by sea.

Moorhouse continues: "This information gave us the basis and the confidence to move forward with our strategic planning. It informed our thought process and planning for our future supply strategy and has given us confidence to invest in Senegal as the best long term solution in terms of energy efficiency and greenhouse gas emissions."

"Having this understanding puts us in a stronger financial position and is a foundation for our greenhouse gas reduction plan. Our target is to reduce [greenhouse gas emissions](#) by 30% by 2020 based on working with Bangor we are already, with 6 years to go, well ahead of our targets and in hindsight we were not ambitious enough."

It's not solely about greenhouse gas. Moorehouse also mentions that the work has enabled them to reduce their energy use and become more energy efficient- which he sees as becoming a more expensive resource in the future.

Paul Cross of Bangor University explains: "Sadly there's no simple guiding principle for the consumer. A tomato grown outdoors in Spain will have had fewer inputs, despite being transported, than one grown in the UK, for example."

But the producers and distributors have grasped the nettle, realising that there are significant benefits for the companies in getting to grips with the whole-life inputs- as there's also a focus on efficiency and waste reduction goes hand in hand with... overall reduction of waste to landfill of 15%

Waitrose also came on-board working with G's Fresh and also commissioning their own work-and to date, have 'carbon footprinted' 50 fresh produce supply chains. Since 2008, Waitrose have funded research which has led to reduction of carbon footprint of Waitrose and its' suppliers- sharing the research findings with its entire supply chain.

For them, the [research](#) validated major changes such as a change in refrigerant gas used to chill products.

Provided by Bangor University

Citation: What happened to 'Food Miles?' (2014, November 10) retrieved 11 May 2024 from <https://phys.org/news/2014-11-food-miles.html>

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