

Producing food sustainably: Example 2 – Tomatoes

Pollution

Excessive use of fertilisers produces run-off into surrounding areas, causing problems for local wildlife.



Humanitarian and ethical concerns

Many workers in the polytunnels of Spain and Italy are very low-paid migrants, working an 8–9 hour shift under plastic in temperatures of up to 45°C, often with **no permanent accommodation, lacking clean water and sanitation.** They may be exposed to high levels of pesticides, damaging to their health.^[2]

Even in England there have been recent protests about **employment rights** of seasonal workers at Thanet Earth.

Greenhouses

The biggest contributor to the tomato's carbon footprint is artificial heating and lighting! It's best to enjoy tomatoes grown in season, in the UK, without extra heat – but if you do want a special treat out of season, better to get them from a hot climate, despite the longer journey. CO₂ emissions saved from not heating and lighting greenhouses for **1kg tomatoes in the Netherlands would offset a 20,000 mile journey in an articulated lorry or 2,800 miles by air (long haul).**^[3,4]

Also, specialist tomatoes grown in greenhouses have lower yields than standard varieties, so take more greenhouse space – and up to five times more heating and lighting.^[5]

Water

Hot countries are often dry countries and producing fruit and veg uses a great deal of water. The average water footprint for tomatoes is **170 litres per kilo.**^[1]

In places like southern Spain, water use for tomatoes and other salad crops is **4–5 times the annual rainfall.** This water comes from underground aquifers (where it is not being replaced fast enough), and consequently the water is becoming more and more salty.

Eat seasonal salads, grown locally

GHGs

Growing tomatoes takes an enormous amount of energy. Producing one kilogram of Dutch tomatoes takes **17 times the energy** needed for the same weight of Dutch carrots^[6], which means 17 times the greenhouse gases!

Fertilisers

Non-organic fertilisers are made from fossil fuels such as gas and coal. Making them consumes 1.2 per cent of all world energy, and generates about 1.2 per cent of world GHG emissions.^[6]

Try our tomato footprint quiz!



Waste

61,300 tonnes of tomatoes are **thrown away** in the UK each year.

14,700 tonnes of tomatoes brought from Spain **simply go to waste.**^[7]

Store salads carefully

Food miles

Although every mile that food travels to get to our plates adds to the CO₂ produced, a mile by air generates six times more CO₂ than a mile by articulated lorry, and 46 times more than a mile in a cargo ship.^[4] Local and seasonal is always best for perishable foods like tomatoes.



Eat what you buy

Salad gets wasted in the home more than any other food, so buy little and often, keep it fresh in bags and check what you need before you go shopping!

“So, if I can't have tomatoes in winter, what can I have for my salad?”

Lots! For example:

- Carrot – grated or in strips
- Beetroot – cooked or raw
- Celery – delicious raw
- Celeriac – wonderful in strips with carrots
- Leeks – cooked, served in a vinaigrette sauce
- Lettuce – winter varieties are available until December
- Radishes and watercress are delicious in the spring



Look no tomatoes!

[1] The water needed to make Pasta and Pizza. UNESCO/IHE Aldaya and A.Y. Hoekstra, 2009 www.waterfootprint.org/Reports/Report36-WaterFootprint-Pasta-Pizza.pdf

[2] Not on the Label: What Really Goes into the Food on Your Plate (Penguin books) Felicity Lawrence (May 2004)

[3] Environmental Information in the Food Supply System Fuentes C. & Carlsson-Kanyama A. (Eds.) Biel A., Bergström K., Carlsson-Kanyama A., Fuentes C., Grankvist G., Lagerberg., Fogelberg C., Shanahan H., and Solér C. FOI – Swedish Defence Research Agency 2006 www.fcm.org.uk/sites/default/files/Environmental_information_in_the_food_supply_system.pdf

[4] 2010 Guidelines to DEFRA/DECC's GHG Conversion Factors for Company Reporting DEFRA 2010 www.defra.gov.uk/environment/business/reporting/conversion-factors.htm

[5] Environmental Impacts of Food Production and Consumption, Final report to DEFRA December 2006, Manchester Business School 2006 www.defra.gov.uk/science/Project_Data/DocumentLibrary/EV02007/EV02007_4601_FRP.pdf

[6] IPCC Fourth Assessment Report: Climate Change 2007, 7.4.3.2 Fertilizer manufacture www.ipcc.ch/publications_and_data/ar4/wg3/en/ch7s7-4-3-2.html

[7] Waste: Uncovering the Global Food Scandal, Tristram Stuart Penguin 2009