

Most cattle don't get to feed peacefully in grassy meadows. Most cattle eat pellets rich in energy and protein. Some cattle never see grass at all.

Why does this matter?

Producing food sustainably: Example 1 – Beef and dairy

Animal welfare

Cows or cattle kept in sheds are susceptible to various health problems, including **lameness and infection**. There are concerns about animal welfare, as well as the routine use of



antibiotics which then contaminate the meat or milk.^[6]

Greenhouse gases (GHGs)

Beef and lamb production generates **12–20 times the GHG emissions** of nuts; 30–40 times that of lentils. Cheese generates six times as much as nuts and 12 times as much as lentils.^[5]

Normally about half the GHGs are from **methane** produced in the animal's digestion. For intensively reared cattle, production of feed must also be taken into account: **fertilisers** for the grain, **fuel** for the tractors...

However, grass-fed meat grows more slowly, so generates more methane – **all meat is high in GHGs**, compared to plant protein.



Waste

Dairy waste by the consumer is estimated to be **187,000 tonnes a year** in Britain.^[7]

Of all beef cattle that go to slaughter, humans eat **little more than half** the carcass – the rest is fed to other animals, or sent for specialist rendering or incineration.^[1]

Water

Water is often needed to irrigate grazing land or to feed crops, as much as **15,000 litres per kg beef**.^[4]

Don't waste it!

Land

We give nearly **40 per cent of the cereal** we grow to farm animals, worldwide.^[1]

It takes up to **10kg grain** to make 1kg beef.^[2]

Even grass-fed beef cattle take a lot of **space** – in Brazil, cattle ranches have been created by cutting down Amazon rainforest.

Clearing **1 hectare of land releases 300–500 tonnes CO₂** – for a space that will support up to two adult animals.^[3]

Eat less meat and dairy

Let cattle eat grass: grain is for people

Pollution

Intensive farms produce huge quantities of slurry from animal manure – this can easily **pollute local rivers or streams** if it's not very carefully managed.

	GHGs	Water
1 kg beef	up to 18 kg	up to 15,000 litres
1 litre milk	up to 1.3 kg	up to 1,000 litres
1 kg hard cheese	up to 12 kg	up to 5,000 litres
1 kg dried lentils	0.9 kg	5.9 litres

Sustainability in meat eating

With a growing world population, we can't afford to keep increasing our consumption of meat and dairy produce, and still feed everyone in the world when:

- One in eight people who currently go hungry could be fed by the grain used to rear cattle.
- Beef and dairy farming has a large carbon footprint, which contributes to climate change.

A local, more sustainable option for beef

Beef cattle are grazed on the commons and open meadows along the River Cam in Cambridge. Many are an old English breed, Red Poll, which are hardy and can stay out for most of the year. English-grown hay pellets or reject root vegetable may be used to supplement their grazing. Fertiliser for the grass is provided by the cattle themselves. The cattle are raised for around two years before being slaughtered for beef.



[1] Waste: *Uncovering the Global Food Scandal*, Tristram Stuart Penguin 2009
 [2] *Feeding the animals that feed us*, Soil Association 2010
 [3] *Energy and Carbon Emissions: the way we live today*, Nicola Terry UIT Cambridge Ltd. 2011
 [4] www.waterfootprint.org
 [5] *Meat Eaters Guide*, Environmental Working Group
 [6] *Compassion in World Farming*, www.ciwf.org.uk
 [7] *The Food We Waste*, WRAP 2008