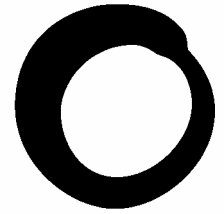


June 2005



**Friends of  
the Earth**

# Briefing

## Checking out the Environment?

Environmental impacts of supermarkets

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**Friends of the Earth, 26-28 Underwood Street, London N1 7JQ**

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**The last fifty years have seen major changes in the way that people buy their food. Fifty years ago most people bought their food from markets or specialist food shops, such as greengrocers, butchers and fishmongers. Today, £76bn is spent on groceries, and more than 80 per cent goes to supermarkets. These are huge corporations; Asda Walmart is now the world's largest company by turnover, while Tesco takes one in every three pounds spent in the UK. This change in food retailing has had many impacts, not least on the environment. This briefing looks at the environmental impacts of supermarkets at the local, national and global scale.**

## Local impacts

For many people, the most obvious environmental impact of big supermarket chains is seen when a new store is built locally. The characteristic retail outlet for these chains is the **superstore**, typically more than 30,000 square feet in size. A recent survey of all supermarkets estimated that, including car parking, supermarkets now cover a land area of 24.5 square miles, or the equivalent of 15,000 football pitches<sup>1</sup>.

Whenever a new superstore opens, smaller local shops can struggle to compete. As local shops are lost, food retailing becomes concentrated at a few locations – the supermarkets. When they are located out-of-town or edge-of-town, people will be less likely to make other purchases in the same trip<sup>2</sup>, and another car trip may be needed for the rest of their shopping, increasing the number of local car journeys overall.

Traffic congestion is already a real problem for many towns and cities<sup>3</sup>, so stores generating thousands of new car journeys will significantly add to local problems. Recent work for DEFRA suggests that car use for food shopping results in costs to society of more than £3.5 billion per year, from traffic emissions, noise, accidents and congestion.<sup>4</sup>

## Wider impacts

Traffic congestion occurs on a larger scale too - the distribution systems used by supermarkets generate large amounts of traffic, both in this country and overseas. Over the last decade, the distance that food travels before it reaches shoppers has increased: as the UK's grocery market has grown by twenty five per cent, growth in the movement of food has increased by thirty per cent<sup>5</sup>.

And the supermarkets continue to distribute the vast majority of their goods by road freight. A recent survey found that:

- Only two supermarkets use rail transport, and it accounts for less than 4% of their total freight mileage<sup>6</sup>.
- It is calculated that the lorries of the nine supermarket chains involved in the survey travel a total of 670 million miles per year, equivalent to nearly four return trips to the moon every day<sup>7</sup>

Such volumes of traffic will also produce large quantities of climate changing emissions (see *Global impacts*, below).

## Pressure on organic farmers

Organic farming has been shown to help wildlife - a recent independent review of all the

scientific evidence concluded that organic farms usually have more wildlife living on them than conventional farms<sup>8</sup>. There has been a continued demand for organic food over the last decade, and the big supermarkets have not been slow to exploit this. Supermarkets now account for around 70 per cent of organic sales<sup>9</sup>.

Increased Government support and the growing market have led to a large rise in the number of farmers converting to organic production<sup>10</sup>. But while the supermarkets have put some effort into supporting organic farming in the UK, they have also met demand by developing overseas supplies<sup>11</sup>. Around 56% of UK organic produce is currently imported<sup>12</sup>. Because the big supermarkets are primarily interested in making good returns for their shareholders, there have been now serious concerns about their impact on the future of organic farming.

Tesco recently stated that it intended to extend the market for organic produce to “*price sensitive*” consumers, with their buyers concentrating on “*availability and affordability*”<sup>13</sup>. Does this mean organic farmers, just like their conventional counterparts, will have to produce more food at a lower cost? Tesco has not made any commitment to buying UK organic produce either, although some supermarkets, such as Waitrose and Marks and Spencer have done so.

A price squeeze on organic farmers could drive UK farmers out of organics altogether, which would be bad news for UK wildlife. Despite the continuing demand for organic produce, there is already evidence that many organic farmers are struggling. In 2002-3, ten per cent of UK organic farms stopped being organic, and the rate of conversions from conventional agriculture fell<sup>14</sup>.

### **Pesticide use and food wastage**

Supermarkets place very exacting specifications on their suppliers. Fruit and vegetables must meet very high appearance standards, such as size, shape and colour, and uniformity. Such requirements force farmers to use environmentally damaging practices in order to meet these demands, and encourage waste within the food chain.

A Friends of the Earth survey of fruit growers<sup>15</sup> found that the strict specifications caused a range of problems for growers.

- Fruit was rejected because it had too much colour, too little colour, was the wrong size, wrong shape or because of blemishes that did not affect eating quality.
- Worryingly, more than half of the growers surveyed said that they had to use additional pesticides just to meet the appearance specifications of the supermarkets.

At the same time, these specifications cause a great deal of waste in the food chain.

- Some growers in the survey stated that they couldn't even harvest their fruit, or that they simply had to dump fruit that was fit to eat.

Similar results are found for other fresh produce. It is estimated that between 40 and 50 per cent of raw vegetables and salad (by weight) are rejected at some stage of the production line before reaching the shopper<sup>16</sup>.

## Packaging

It's not just rejected food that causes waste. Packaging makes up nearly a quarter of household waste, and 70 per cent of that is food related<sup>17</sup>. Supermarkets' policies make it difficult to avoid this packaging.

A UK project looking specifically at how food manufacturers could reduce the environmental impact of their food packaging found that *"in many cases ... it is the retailer specifications that are not flexible in terms of finding compromise packaging specifications."*<sup>18</sup> In other words, it is often the supermarkets' specifications that determine how much packaging is used in the first place. The project found that in the case of celeriac, some supermarkets didn't ask for any packaging at all while others required that each vegetable was wrapped in cling film and labelled<sup>19</sup>.

In contrast, buying fruit and vegetables from independent shops, markets or farmers' markets can produce far less waste.

- A study in Austria found that shoppers going to producer-consumer co-operative stores generated 75% less waste than those using supermarkets<sup>20</sup>.
- A survey of stallholders at a farmers' market in Birmingham found that most of the stallholders thought that selling at a farmers' market reduced their waste, as they were not forced to 'grade out' produce, which they would have to if they sold to supermarkets<sup>21</sup>.

## Global impacts

Global climate change is the single biggest environmental threat facing the planet. What we eat, and where it comes from, can make a big difference to the energy used and the climate changing gases produced as a result.

The contribution of the UK food chain to climate change is large – one study estimates that it could account for more than one fifth of total UK greenhouse gas emissions<sup>22</sup>.

Supermarkets are amongst the most powerful companies in the food chain, so they have a large responsibility for what happens.

## Imported food

During the period in which large supermarkets came to dominate, imports of foods increased by nearly three times. In 1980 the UK imported 6.3 million tonnes of food, feed and drinks, but by 2000 this had risen to 17 million tonnes<sup>23</sup>. Various studies have shown that people can reduce their greenhouse gas emissions by eating more locally produced, fresh and in-season foods<sup>24 25 26 27</sup>. But supermarkets are not the best places to find them:

- A survey by Friends of the Earth in 2003<sup>28</sup> found that, in the middle of the UK apple season, well over half of the apples in Asda and Tesco stores were imported.
- During that month Asda imported nearly one third of its apples from countries on other continents, such as the USA, New Zealand and Chile.
- Local and UK fruit were also more available and cheaper in greengrocers, street markets and farmers' markets than in the supermarkets.

Similarly, in 2002 Friends of the Earth undertook a national survey of food retail schemes, including farm shops, farmers' markets, farm box schemes and community supported agriculture schemes<sup>29</sup>. Most of these schemes sold food directly from their own land, and the majority were farming organically. But even when they were unable to get all their stock from their own land, the businesses went to considerable effort to source locally; 94 per cent of them sourced a proportion of their produce from within a thirty mile radius, and nearly a quarter sourced most or all of their food locally.

In contrast, the Liberal Democrats recently conducted a survey of supermarket policies with respect to local foods<sup>30</sup>. The supermarkets largely refused to answer questions on local sourcing of produce and the authors noted that "*many of the companies have different definitions for 'local' and 'locality' foods and will base their judgment more on whether the brand has high customer recognition than whether it originated from within a 30-mile radius.*" Another study estimated that, using a definition of local food as coming from within 30 miles of the store, supermarkets typically make only 1-2 per cent of turnover from local food providers<sup>31</sup>.

Imports of fresh produce are increasingly occurring via air transport too:

- Food now accounts for 13 per cent (by weight) of air-freighted goods, and this is increasing rapidly.
- In just the three years to 2002 food freight (by value) increased by 47% - the vast majority of which was shipped in dedicated freight planes<sup>32</sup>.
- A dedicated road into Heathrow Airport was built to facilitate the smooth handling of 140,000 tonnes of fresh produce per year<sup>33</sup>.

Tropical fruits imported by plane use over thirty times more energy per kilo than home-grown apples<sup>34</sup>

## **Transport**

Greenhouse gas emissions don't just arise from importing food. Around one in ten car journeys in the UK are for food shopping<sup>35</sup>, and it has been estimated that the carbon dioxide emissions generated by people driving their food shopping home could equal those generated by the commercial transportation of food within the UK<sup>36</sup>.

And although supermarkets are now using their own lorries more efficiently, an EU report on freight transport suggests that the UK is still generating higher levels of carbon dioxide emissions from transporting foodstuffs than any of the other European countries in the study<sup>37</sup>.

## **Energy efficiency**

The large, shed-like buildings used to house supermarkets are also extremely inefficient<sup>38</sup>. A survey by Sheffield Hallam University found that large superstores are the most energy inefficient buildings in the retail/light industrial sector, despite the relatively new building stock. Not only are superstore buildings inefficient, they are also very large.

Taking into account the average size of buildings, the amount of climate changing emissions from superstores compares very badly to those of other food businesses. Per square foot

they emit three times more carbon dioxide than greengrocers, and it would take more than sixty greengrocers to match the carbon dioxide emissions from a single average superstore<sup>39</sup>.

## Conclusion

A recent study of the full costs of the food chain concluded consumers' decisions on specific choices of food and transport can have an important effect on the environment.<sup>40</sup> There are plenty of things consumers can do to lessen their environmental impacts and avoid large supermarkets.

- Support local independent retailers, and encourage them to stock locally produced food
- Support local food schemes such as farmers' markets, box schemes and farm shops
- Grow your own fruit and vegetables
- Keep an eye on local planning proposals and applications and press the council to ensure retail developments have a full environmental, economic and social impact assessment

But supermarkets must also be made accountable for their impacts.

- Measurable and binding targets are required to make supermarkets reduce their waste and transport impacts
- A strict Code of Practice is needed to make supermarkets accountable for their social impacts
- A supermarket watchdog must be created to ensure that the grocery market is operating in the interests of consumers, farmers and small retailers
- More robust planning policies are needed to prevent congestion and transport increases and protect town centres and high street shops
- There should be a moratorium on any further mergers and takeovers until the competition authorities have conducted a market study to consider the wider impacts of supermarket power on society
- Corporate accountability legislation should be introduced to make companies accountable for their impacts on communities and the environment worldwide

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