



## **Meat-Free Monday**

The practice of designating one day a week as Meat-Free is becoming a global phenomenon. And no wonder when the environmental, human health and animal welfare benefits are so substantial. In May, Ghent City Council in Belgium attracted worldwide media and public attention when it announced that every Thursday would be meat-free. The initiative aims to encourage the city's inhabitants to reduce their contribution to climate change and boost their health simultaneously. In the UK and Australia, Sir Paul McCartney has just launched Meat-Free Monday with the same objective. Meanwhile, in the USA, the Great American Meatout has grown annually, thanks to campaigning by groups such as FARM. And in Israel the owners of a food magazine have launched a similar campaign – they are encouraging restaurants to provide a special vegetarian menu on Mondays.

Given that climate change is one of the biggest challenges we face, going meat-free one day a week is a simple action that each of us can take, and one that will produce a reduction in emissions of dangerous greenhouse gases. A healthy, sustainable city can help governments to reach important climate change targets and help to ensure the future of our fragile world.

### **Protecting the planet**

#### **Global Warming**

The keeping of animals for meat and dairy foods causes pollution to land and water and is a major source of harmful greenhouse gases. The United Nation's Food and Agricultural Organisation has estimated that animals bred for food generate roughly 18 per cent of greenhouse gas emissions worldwide – more than the entire transport sector.<sup>1</sup> The majority is methane, which cattle in particular produce through excrement and belching.

The meat industry is also responsible for significant levels of carbon dioxide and nitrous oxide – harmful gases also linked to global warming.<sup>2</sup> The head of the United Nation's climate agency, Yvo de Boer, announced in June 2008 that 'the best solution would be for us all to become vegetarians'.<sup>3</sup> To give a graphic illustration of the scale of the problem, The Rowett Research Institute estimates that 'the average cow contributes as much to global warming as a family car that travels 12,000 miles'.<sup>4</sup> And in the words of Caroline Lucas MEP: 'A vegan driving a 4x4 does less damage to the planet than a meat-eater on a bicycle!'<sup>5</sup>

#### **Water Shortages**

Just as farmed animals bred for meat and dairy compete with people for food, so they also take precious water supplies. According to the executive director of the Stockholm International Water Institute (SIWI), 'animals fed on grain, and also those which rely on grazing, need far more water than grain crops'. SIWI quotes the following figures:

- A kilogram of grain-fed beef needs at least 15 cubic metres of water
- A kilo of lamb from a sheep fed on grass needs 10 cubic metres
- A kilo of cereals needs from 0.4 to 3 cubic metres

With water supplies running low in many parts of the world, SIWI's conclusion is that 'it's going to be almost impossible to feed future generations the kind of diet we have now in Western Europe and North America'.<sup>6</sup>

### **Destroying Rainforests and Creating Deserts**

As demand for meat grows, more pasture and cropland is needed to keep animals and/or to grow feed for them when they are confined – as the majority are – in factory farms. In Brazil, for example, vast areas of Amazon rainforest are destroyed to grow soya, the vast majority (80 per cent) of which goes to feed intensively farmed animals.<sup>7</sup>

Where animals are kept on the land, overgrazing is becoming an ever-increasing problem. Grazing too many animals destroys soil fertility, leaving increasing areas of land unfit to grow any food at all. Globally, 50 million acres of fertile agricultural land is lost to desertification every year.<sup>8</sup> Animal farming is a major cause.

### **Environmental Pollution**

The massive number of animals being bred is poisoning the planet, causing pollution of land, water and air. Manure from livestock oozes into watercourses and waterways, often ruining groundwater quality. In the Netherlands, for example, the government has had to demand a 25 per cent reduction in pig production because of the damage that the waste from pig farms has caused to the nation's water supplies.<sup>9</sup> Waste from farmed animals is also a significant cause of land pollution. While animal manure was once a valued traditional source of soil fertility, so many animals are now being bred that the high quantities produced – particularly on factory farms – cannot be safely absorbed on the limited areas of land available. Too much effluent contaminates the soil.<sup>10</sup>

### **Not Many Fish in the Sea**

The United Nation's Food and Agriculture Organisation estimates that, worldwide, 75 per cent of edible fish species are now overfished or exploited to their maximum.<sup>11</sup> This means that there is no prospect of feeding the human population through an increase in fishing.

Indeed, Europe now has so few fish left in its own waters that much of the seafood eaten here is brought in from hundreds or even thousands of miles away. This includes West Africa, the Caribbean and other poor areas.<sup>12</sup>

### **Polluted Oceans**

An additional problem is pollution of the world's seas and oceans. Litter dumping (particularly plastic), sewage and crude oil leaks and spills from ever-larger tankers are major problems. Polychlorinated biphenyls (PCBs), dioxins and mercury – amongst the most poisonous chemicals to humans – are found in increasing quantities among fish populations.<sup>13</sup> Scientists researching sea life along the UK coast have discovered lots of evidence of the effects of chemical pollution on fish, including, in one case, female eggs growing inside male bodies.

### **How much land do we need?**

Simon Fairlie of *The Land* magazine recently published some interesting research about whether Britain could become self-sufficient in food production. He found that it would take three million hectares of arable land to feed our current population on a vegan diet – only half of the area currently in use for food production. The UK could, in other words, help to feed others as well as ourselves on a plant-based diet. As award-winning environmentalist and respected journalist

George Monbiot stated in The Guardian, 'a vegan Britain could make a massive contribution to global food stocks'.<sup>14</sup>

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## Feeding the world

Even though there are more and more mouths to feed, there is currently enough grain being produced to feed everybody. The main problem is not the amount of food, but the ways in which the world's grain harvest is being used and distributed.

### Crimes Against Humanity

There are a lot of reasons why many poor people do not get enough food – including conflicts, political corruption, the widening gap between rich and poor, climate change and the high price of oil. But one major new element is the increased use of land to grow biofuels. Using fertile soil to grow crops to create fuel, instead of to feed people, is clearly a luxury the world cannot afford. The United Nations has described it as 'a crime against humanity'.<sup>1</sup>

Yet a far greater luxury we cannot afford is meat. Seven times as much grain is currently fed to animals to produce meat than is used to create biofuel.<sup>2</sup> Instead of adding to the amount of food available, meat simply creates even more mouths to feed; those of farmed animals. They are fed no less than half of the world's harvest.

### Why is Meat Worse?

The 'return' is extremely poor. It takes roughly eight kilograms of grain to produce one kilogram of beef and two kilos are required for one kilo of chicken.<sup>3</sup> More meat means that land is devoted to growing grain to feed the rising number of farmed animals, when it would make far more sense to grow food that humans can eat directly – grains, pulses, legumes, nuts, vegetables and fruits.

As resources become ever more scarce, experts now agree that the human population must rely more upon a plant-based diet. Patrick Wall, chairman of the European Food Safety Authority, questions whether it is 'morally or ethically correct' to be feeding grain to animals while 'people

starve'.<sup>4</sup> The Health Editor of The Independent newspaper states that 'to maximise food production it is best to be vegan'.<sup>5</sup>

### **Who Eats the Most Meat?**

The current increase in demand for meat is coming mostly from the 'emerging economies' of India, China and Brazil. These nations are using the newly-found wealth of the richer people in their communities to devote more of the grain harvest to meat production. In China, they consume 150 per cent more meat per person than they did in 1980, while India has seen a 40 per cent increase over the last 15 years.<sup>6</sup>

Nevertheless, these countries still eat far less meat than wealthier countries like our own. In the UK, we consume an average of one kilo of meat per person per week. Although this figure has not risen very much over the last 30 years, it's still about 40 per cent above the global average.<sup>7</sup> If the whole world followed our example, it would be impossible to produce anything like enough grain to feed the world.

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## **Health**

### **Obesity**

The UK has one of the highest rates of obesity in Europe.<sup>1</sup> In England, a quarter of the adult population and almost one fifth of all children under the age of 16 are classified as obese.<sup>2</sup> Changes in diet – moving away from plenty of vegetables and grains with a modest fat content, to a diet high in fat, salt and sugar – has been a significant factor contributing to soaring obesity rates. The other main factor has been the decrease in activity levels. Animal products are loaded with saturated fats. Fat contains more than twice as many calories, weight-for-weight, as protein or carbohydrate. Therefore, eating a diet high in meat and dairy products makes it easier to take in more calories than the body can burn off. And before you know it, you're putting on weight.

Not only is obesity much less common amongst those who follow a meat-free diet, but also overweight people tend to shed pounds when they switch to a vegetarian diet. This is hardly surprising given that meat accounts for 23 per cent of total fat in the average diet.

Is being obese or overweight associated with health problems? The evidence is clear. Carrying extra weight increases the risk of a range of diseases. Around 58 per cent of type 2 diabetes cases, 21 per cent of heart disease cases and between 8 per cent and 42 per cent of certain cancers are linked to excess body fat.<sup>3</sup>

### **Heart Disease**

Heart disease is one of the UK's biggest killers, claiming the lives of one in four men and one in six women.<sup>4</sup> Saturated fats, of which meat and dairy products are major sources, can raise cholesterol to dangerous levels and increase the risk of heart disease and stroke by blocking blood flowing through the arteries. The risk of developing heart disease is at least doubled, and the risk of stroke is six times greater with a large waist measurement.<sup>5</sup>

Fat is, in fact, vital for a healthy heart but it must be the right type of fat. Saturated fat, which is mainly found in animal products, is the wrong type. Plant sources of good fats (unsaturated) include beans, seeds, nuts and their oils. These all contain essential omega 3 – the subject of much scientific discussion and public concern. The consensus view is that a deficiency of omega 3 is linked to neurological problems and possibly cardiovascular disease. Plant sources of omega 3 are perfectly adequate and, unlike a significant proportion of fish, they do not come loaded with pollutants, such as mercury and dioxins from contaminated seas. Research published by the British Medical Association and in UK medical journal, The Lancet, has shown that a meat-free diet, together with other healthy lifestyle changes, can actually reopen blocked arteries.<sup>6</sup>

### **Diabetes\***

More than two million people in the UK have diabetes and the number is set to increase, as evidence shows that a typical Western diet of meat, dairy and processed foods greatly increases the risk.<sup>7</sup> The type 2 form of the disease – traditionally affecting those aged over 40 – is now becoming increasingly prevalent in overweight children. Being overweight makes it difficult for the body to control blood sugar levels. Studies suggest that individuals with type 2 diabetes can improve and, in some cases, even reverse the disease by switching to an unrefined plant-based diet.<sup>8</sup>

Research reveals that exposure as a child to cows' milk also increases the risk of type 1 diabetes, while plant foods have been shown to reduce it.<sup>9</sup> Evidence suggests that the problem lies with cows' milk proteins, which look very similar to the body's own insulin-producing cells. The body sees the milk proteins as 'invaders' and attacks them, along with the body's own similar-looking pancreas cells.

\* **Type 1 diabetes** is caused by the body's failure to produce insulin as a result of damage to the insulin-producing cells in the pancreas.

**Type 2 diabetes** is much more common and is caused by the body not producing enough insulin or not using what it produces effectively. It typically affects people who are obese or overweight.

### **Cancer**

The World Health Organisation estimates that dietary factors account for 30 per cent of cancers in industrialised countries,<sup>10</sup> coming a close second behind smoking as a preventable risk factor. Both the American Dietetic Association and the British Medical Association have found that vegetarians are less likely to develop certain cancers. In fact, a landmark study published in the British Medical Journal found that vegetarians suffer 40 per cent less cancer mortality than the population average.<sup>11</sup> One of the largest worldwide studies looking at the effects of diet on health (The China Study) indicated a direct link between animal protein intake and cancer – the more animal protein there was in the diet, the higher the risk of certain cancers. The China Study findings are supported by The World Cancer Research Fund, which spent five years examining 7,000 scientific studies on lifestyle and disease. Among its key findings was that red meat – beef, pork and lamb – and processed meats are strongly linked to bowel cancer. In contrast, a whole-grain plant-based diet including fibre and antioxidants was linked to lower rates of cancer.<sup>12</sup>

### **The Good News**

Fortunately, illnesses caused by poor diet can be prevented or sometimes reversed through changes in lifestyle. Research shows that some cancers, coronary heart disease cases and diabetes cases can be prevented by decreasing consumption of saturated fats (found in animal products such as meat and dairy) and increasing physical activity. The easiest way to reduce these risks is to go meat-free.

## Costs to the NHS

Food-related illnesses have serious economic costs for an already overstretched NHS. Treating overweight and obese people is estimated to cost the NHS between £6 and £7 billion per year.<sup>13</sup> That's more than five per cent of all health costs.

In an attempt to improve health and cut high carbon emissions from the rearing of farmed animals, meat-free menus are to be promoted in hospitals across the National Health Service. Study after study suggests that not only are well-balanced vegetarian diets perfectly safe, they also have significant health advantages over meat-based diets.

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## Animal Welfare

Approximately one billion farmed animals are killed every year in the UK alone. To keep production costs down, they are given the bare minimum they need to survive. They are treated like unfeeling objects, but each and every one of them is capable of experiencing pain, fear, discomfort and distress – just like any dog or cat. Most farmed animals are slaughtered at just a few weeks or months old. By going meat-free you can help prevent the suffering and the slaughter.

### Pigs

Despite the myth, pigs like to keep themselves clean and are not happy wallowing in excrement. Yet farmed pigs are often forced to live standing and lying in their own waste. Or they are consigned to barren units with slatted floors. Condemned to a life of misery and squalor, their need to investigate their environment and to play, root and mother their young is thwarted. Approximately 80 per cent of UK breeding sows are housed permanently indoors. Repeatedly made pregnant, they are put into 'farrowing crates' about a week before they give birth and are kept in them for about a month afterwards. Farrowing crates are barren, metal and concrete cages designed to restrict the sow's movements so that she cannot accidentally crush her young. In reality, crushing is a product of intensification – the extreme selective breeding of animals to the point where their coping abilities are severely reduced. Equally, if sows were allowed to make nests, as they do in the wild, crushing would be far less of an issue. In farrowing crates, mothers are unable to step forwards or backwards, and cannot even turn

around. For the duration of their confinement, all they can do is stare at the wall in front of them. Although the natural weaning process takes two to three months, piglets are usually taken away at three to four weeks so that their mothers can be impregnated again. The growing piglets are likely to be raised in concrete pens. Such barren conditions cause boredom and aggression. In an attempt to limit the economically costly wounding of their 'stock', farmers subject the young pigs to mutilations, such as tail-docking and teeth-clipping.

### **Chickens**

In the wild, chickens spend their days scratching at the ground in search of food, and dust bathing. There are two main types of 'commercial' chicken – those raised to be eaten as meat and those whose function is to produce eggs. The first type are called 'broilers'. In modern broiler farms, they are crammed tens of thousands at a time into windowless sheds where, throughout their short lives, they remain unable to express their natural impulses. By the end of their six-week growing cycle, the tiny chicks have become unnaturally large birds. As they grow, the available space per bird becomes correspondingly smaller, until there is barely any room to move.

And yet, to get to the food and water points, the birds must push their way through a solid mass of other chickens. Many do not make it and die from thirst and hunger. The birds are selectively bred to fatten up so quickly that their legs may not be able to support their own bodies. Nearly one-third have difficulty in walking or cannot walk at all. Each year, millions of birds collapse under the strain and die before they even reach slaughter weight. Their deaths are inconsequential to the poultry farmers who view the loss as an expected, and acceptable, part of their industry. Broiler chickens are vulnerable to a host of other health problems, including fatty livers and kidneys, heart attacks, septicaemia and deformities caused by carrying so much weight on young bones. Because their growth rate is so rapid, their hearts and lungs struggle to maintain sufficient oxygen levels. They are given drugs in an attempt to fend off disease but their short lives are filled with pain and suffering.

### **Turkeys**

Around 15 million turkeys are slaughtered each year in the UK. Many of the same welfare problems associated with chicken production are found in the turkey industry. Modern turkeys have been genetically selected for high meat yields and to fatten in as short a time as possible. They have a natural life span of approximately 10 years, yet factory-farmed turkeys are slaughtered at 12-26 weeks. In this short period, they may grow to nearly twice the size of their predecessors of only 25 years ago. As with broiler chickens, their legs are frequently unable to carry the weight of their ballooning bodies and many collapse and die of thirst and starvation. Disease is widespread on commercial turkey farms, contributing to the roughly 1.4 million deaths in sheds every year. Ulcerated feet and hock burns – caused by the birds having to live their lives standing in urine and excreta-soaked litter – are common.

### **Sheep and Lambs**

People see sheep in the driving rain and snow or in scorching heat and think it's all perfectly natural. But wild animals do not stand about in fields in fierce weather as sheep are forced to do; they take cover. But there is invariably no shelter for sheep. Nor can they rely upon being given enough feed, or even drinking water. As a result of the burdens put on sheep, they suffer endemic lameness, miscarriage, infestation and infection.

Ewes are often forced into producing lambs at the 'wrong' time of year, so that their pregnancies end not in the spring but in the dead of winter. The idea is to get lambs to market ahead of the competition – even though, with so many farmers engaged in early lambing, the advantage is lost. More than 2.5 million newborn lambs – about one in eight die within a few days of birth, mostly from disease, exposure or malnutrition. And around one in 20 adult sheep die annually from cold, starvation, sickness, pregnancy complications or injury. Often, sheep will die before a

farmer even realises anything is wrong. Lambs who do survive are usually killed for food at around four months old, having spent some time in the fields. A growing industry trend, however, is to confine lambs in sheds from the moment of their birth until they are transported to be slaughtered – a so-called ‘zero grazing’ regime.

### **Cows**

Cattle reared to be killed for beef are often seen roaming freely in fields but for up to six months of the year – throughout winter and early spring – they are packed into sheds that are often dirty, crowded and damp. The hard, concrete floors, to which they are not physically suited, are a major cause of lameness. Male beef calves are often castrated. Methods commonly used include surgical castration, tight rubber rings that restrict blood flow, and appliances that crush the spermatic cord of each testis. Cattle are also de-horned – a painful procedure – to prevent animals injuring each other. Horns contain both blood vessels and nerve endings, and so cauterisation is necessary to stem bleeding. If horns have already developed, they are removed with saws, horn shears or cutting wire. Young animals whose horns are not established can be ‘disbudded’. This is another painful procedure whereby a hot iron is applied to the horn-forming tissue when the calf is 4-6 weeks old, thereby permanently preventing growth.

### **Fish**

Billions of fish are killed every year. Dragged out of the oceans in huge nets, their eyes often pop out of their heads due to the rapid change in pressure and they are crushed amongst thousands of others. Tipped onto the decks of industrial trawlers, they are frequently gutted alive. Authoritative scientific research has demonstrated that fish experience pain, fear and the natural impulse to survive, just as other animals do. The fact that they may have led a ‘free-range’ existence does not make their slaughter any more excusable or their deaths any less brutal and unnecessary. The whole commercial sea fishing process is totally ungoverned by humane protocols, let alone laws. And the fish farming industry is scarcely more sympathetic to the fish it breeds and kills.

By 2010, half of all the fish the world eats will be farmed, according to the UN Food and Agriculture Organisation.<sup>1</sup> Farmed fish are kept in underwater cages in which they are unable to swim freely. They thrash about in filthy water until the time comes for them to be killed. Disease runs rife in such cramped conditions and the fish have to be dosed with drugs to kill parasites and keep infection at bay. Their short miserable existence ends when the conscious fish are killed by a variety of brutal methods. These include being clubbed, gassed or asphyxiated. Others have their gills cut and they bleed to death.

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More information contact Animal Aid. [www.animalaid.org.uk](http://www.animalaid.org.uk). Tel: 01732 364546