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**HUMAN  
RE-ENGINEERING**  
Who's in control?

**HUNTER  
GATHERERS  
OF THE 21st  
CENTURY...**  
Life and death  
on a Mexican  
rubbish dump

**SKINNY  
LATTES vs  
JELLIED EELS**  
...last stand at  
Francesca's Café

# PRISON S NUTRITION

Why is the government ignoring the link  
between poor nutrition and crime?



**37  
PAGES**

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Food hero of the month • Cosmetic preservatives  
• Organic & Biodynamic wine club • Chic green  
office clothes • Energy-efficient lightbulbs... yawn •  
Allotments: peppering your plot • Wastebusting



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## THIS MONTH IN HISTORY: MARCH 1989

In the early hours of March 24, 1989 the Exxon Valdez, captained by relapsed alcoholic Joseph Hazelwood, ran aground at Bligh Reef and more than 11,000,000 gallons of crude oil haemorrhaged from its ruptured hull into the waters of Prince William Sound.

The oil contaminated 1,400 miles of pristine Alaskan shoreline and clean-up attempts, while costly, were largely ineffective. Among the many casualties were 2,800 sea otters, 300 harbour seals, 250 bald eagles, 22 killer whales and an estimated 250,000 seabirds. To this day the oil continues to wreak havoc among spawning salmon, herring and other species of fish, as well as inter-tidal mussel beds.

In September 1994, Exxon was ordered by a US jury to pay \$5 billion in punitive damages to more than 34,000 people – fishermen, natives, local governments and others – affected by the spill. But the company's exploitation of the US appeals process over the last 12 years has meant that, so far, no money has been paid to those whose lives were devastated, and incomes decimated, by the catastrophe. See [www.evostc.state.ak.us](http://www.evostc.state.ak.us) for updates.

# ecologist

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## EDITORIAL

Last month saw the launch of *The Doomsday Funbook* – a collection of old and new *Ecologist* editorials and the Richard Willson cartoons that originally accompanied them. What's striking about the book is that articles written in the late Seventies – about climate change, pollution, corruption of the regulatory system could easily have been written yesterday. They are no less relevant today than when they were first published, prompting one reviewer to conclude – depressingly – that the debate has barely progressed in thirty-five years.



But in fact things have changed. Whereas the *Ecologist* was born into a political vacuum – at a time when the magazine's message was new, and its potential audience minute – today the debate has entered the mainstream. In the last couple of months, that has become increasingly clear.

For example, shortly before this edition made its way to the printers, news came in of a high profile campaign – initiated by a group of 88 evangelical Christian leaders, including college presidents, broadcasters and so-called 'mega-church' pastors – to put climate change at the top of the US political agenda.

These people speak for vast numbers of voters – the very same whose support President Bush has been able to count on unconditionally. The group has already placed full-page ads in national papers, and will screen television ads nationally, calling on the US government to back legislation to cut emissions.

It's hard to exaggerate the significance of this shift. For many, the American religious right represents the last defence against political momentum to take climate change seriously, and its apparent U-turn will add hugely to the pressure already faced by the Bush administration.

According to the group's leaders, the U-turn is the consequence of pressure on the evangelicals from their own support base – the majority of whom, they say, now demand immediate action – even if that represents a cost to the American economy. And it's exactly this dynamic that has triggered a shift in other sectors.

A few days before the evangelicals launched their campaign, Britain's Marks and Spencer – our best known retailer – unveiled a widespread advertising campaign of its own. The company has already banned 56 chemicals from its clothing dyes, 60 chemicals from its food range, and led campaigns for higher regulatory standards generally. It has earned applause from radical environmental groups on issues ranging from packaging and animal welfare to sustainable fishing. Now, according to the ads, it has become the first UK highstreet retailer to sell clothes made from Fairtrade cotton.

The M+S campaign isn't an ethical one. It's a practical, strategic one, and it follows hugely detailed market research. What the company has discovered – like the evangelicals – is that its support base demands action – and that it will reward action.

The same story is repeated in other sectors. In media, for instance, the UK broadsheet that is performing best is the paper with daily cover stories that break all known rules of the newspaper trade. *The Independent* routinely publishes heavy, serious, often depressing environmental stories in the place where most papers favour the frivolous – and its readership levels are growing.

It's happening in religion, the media and retail. As a result of the same pressure, it's begun to happen in politics too. When David Cameron declared that concern for the environment would form a central part of his platform, there began an immediate competition between the main parties to appear greenest.

None of this yet translates into the kind of action necessary. But what's clear is that there is a public mandate for a genuine response, which wasn't the case when the *Ecologist* first appeared.

Zac Goldsmith

# Letters



## LET'S BRING THEM ALL BACK

Further to your most recent article, 'Time to cry wolf', in the December/January 2006 edition, it's damn right it is.

Were the ecosystem fully restored, as it should be – ie (Eurasian) Beavers, (Wild) Boar, Wisset or Eurasian Bison, omitting the now extinct aurochs and notably those predators, the wolves, brown bears, lynx etc – then the Caledonian Forest would recover at a far faster rate than by any well intentioned laudable endeavours by the Forestry Commission, Scottish Natural Heritage, Trees For Life and Alladale Estates etc. That is, of course, if the much maligned animals, notably predators, weren't persecuted.

Furthermore, I should like to add that I know of only one wolf attack, as was cited in Dr Felix Rodriguez de la Fuentes' magnificent 11 volume *World of Wildlife* (Orbis Publishing 1970-73), where, in 1969, a small child was abducted in Northern Spain and lamentably never seen again.

However, there are two known reported incidents of abandoned children having been raised by a pack of wolves, one in 1920's Northern Indian (hence the Mowgli story) where two abandoned children were

saved by a pack of wolves. The other in 1960's California (which was the subject of a docu-drama starring David Janson, the name of which I cannot recollect).

Should you have any doubts, then read Dr Felix Rodriguez de la Fuentes' chapter entitled 'The Cry of the Wolf' (Volume 6 of the *World Of Wildlife*). It is a magnificent account of the five years he spent researching and quite literally living with a pack of wolves.

**Andrew Kirk Stokesley, Yorkshire**

## FRESH, WILD AND CLIMATE CHANGING?

Just wondering what the *Ecologist* and its readers' views are on Fresh and Wild contributing to greenhouse omissions by purchasing fruit and veg from other countries around the world?

**Evy Magoulas**  
By email

## BRINGING THE NUCLEAR INDUSTRY TO ACCOUNT

For over 20 years now, Green Audit and the Low Level Radiation Campaign, have been researching the link between licensed radioactive releases around Sellafield and

the abnormally high incidence of cancer in communities close to the nuclear reactor and surrounding coastline. Despite compelling evidence, the government has continually denied that radiation is causing these cancers.

Most recently Green Audit has been investigating a child leukaemia and brain tumour cluster around the Menai Straits, North Wales. The results showed a continuation and worsening of the incidence of child leukaemia in those living near this contaminated coastline, to a point where it is now 20-times the national average.

Again, the authorities denied the cluster, and the research was further rubbished by the Wales Cancer Intelligence Unit in Cardiff (WCISU) and the government's Committee on Medical Aspects of Radiation in the Environment (COMARE).

And yet when Green Audit reanalysed the work of the WCISU and COMARE, it became clear that they had used incorrect data for the population size, thus rendering their findings obsolete. The Green Audit report on this issue is now part of an enquiry by the Royal College of Physicians.

In light of this latest failure of the government radiation risk committees to properly assess the threats to our health from radiation, MP Michael Meacher has tabled a Parliamentary Early Day Motion No 1464 calling for COMARE to be replaced.

We urge readers of the *Ecologist* to ask your MP to support EDM 1464. It helps if your MP has a copy of the EDM to sign. Print one from [www.llrc.org/edm1464.pdf](http://www.llrc.org/edm1464.pdf) and send it to Your MP, House

**Send letters for publication to: Letters, The Ecologist, Unit 18, Chelsea Wharf, 15 Lots Road, London SW10 0QJ. Email: [editorial@theecologist.org](mailto:editorial@theecologist.org). The Ecologist reserves the right to edit letters as necessary.**

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of Commons, London SW1A 0AA. If your computer can't read the file go to [www.llrc.org](http://www.llrc.org) or you can telephone LLRC on 01597 824771.

**Chris Busby,**  
**Green Audit**  
**Richard Bramhall,**  
**Low Level Radiation**  
**Campaign**

## PESTICIDE ACTION NETWORK

We were delighted to see the space given in the February edition of the *Ecologist* to the issue of organic cotton and the problems of pesticide use in conventional production (photographs and story by Kate Eshelby). At Pesticide Action Network (PAN), we have run an organic cotton project supporting conversion of small scale farmers in Africa since the early 1990s, and from 2000 have been actively encouraging UK companies to both increase their use and purchases of organic cotton from West Africa. Might it be possible to indicate this link in the next edition of the *Ecologist*? We will be launching our new organic cotton website, which includes a market guide to organic cotton clothing, during February.

**Barbara Dinham**  
**Director, Pesticide Action**  
**Network UK**  
[www.pan-uk.org](http://www.pan-uk.org)

## THE DEEPING GATE 'STOP THE MAST' ACTION GROUP

In May 2005, a few residents of Deeping Gate received letters from the Peterborough City Council (PCC) advising them that Hutchinson 3G (H3G) had applied for planning permission to build a 3G 25m (approx 80ft) radio base station at Mumby's Yard, Suttons Lane.

The Deeping Parish Council and 44 local residents wrote letters to the council objecting to the initial planning application on the grounds of:

1. Health concerns as a result of electromagnetic radiation given off by the mast (and especially the effects on young children and those with specific health conditions). One resident in particular sent physicians and doctors letters to the landowners, H3G and PCC where the qualified medical opinion was that the mast should not be erected near this person's property as it could have 'unpredictable, serious consequences' not only on her, but also upon the machinery that keeps her alive.
2. The effect on 'visual amenity' as this is a rural area with a flat landscape that sits on the edge of a conservation area and it is easily visible from the main A15 approach

road into the historic town of Market Deeping.

3. The availability of alternative existing mobile phone masts in the area, which could accommodate the 3G mast as part of existing structures. As H3G itself stated in a letter, this is only 'one of the best sites'.

As a result of the residents' concerns, PCC rejected the application, which we hoped would end of the matter.

Unfortunately, H3G appealed to the Planning Inspectorate (Secretary of State), who allowed the appeal and granted planning permission against our wishes and the PCC's recommendations. The key reason the PCC gave for rejecting the application was the effect on the character and appearance of the area. The inspector states that 'because of its slender appearance and the fact that it would be viewed from afar, the mast would (in his singular opinion) have little impact on the overall landscape of the area.'

Interestingly, Tony Blair wrote with regard to planning for a mast in his constituency: 'This one should be erected in a less conspicuous area, on the outskirts of the village away from the population.'

The strong sense we get from extensive research into the subject of phone masts is that the government has sold the rights to 3G licences at great cost to the phone operators, and so are obligated to providing the infrastructure, thus riding 'roughshod' over any community concerns about health, landscape and environmental issues.

As a result of this decision, many local residents have decided to appeal. A High Court claim was lodged at the end of January with a deadline

of end of February to serve the evidence. Local residents have banded together to fund the first stage of legal proceedings out of their own pockets. We are currently trying to raise funding for the remainder of the case, which is estimated at £10-£15k (total cost exposure of £30k if we were to go the whole way and lose). It seems terribly unjust that local residents and taxpayers have to go to this expense if they choose to appeal against a decision made by the Planning Inspectorate against local residents and local (local parish and city) councils' wishes.

We urgently need your support in the interests of our local environment, landscape, and our families' health. If you would like to find out more or join our campaign, please contact **Simon Hoppe on 01733 502888 (daytime) or 01778 345543 (evenings).**





PHOTOGRAPH BY KATE ESHELBY

## AFRICAN FARMERS SAY **NO TO GM COTTON**

Ordinary cotton-growers and other farmers have voted against introducing genetically modified crops in a novel 'citizens jury' in Mali – the world's fourth poorest country and the largest producer of cotton in sub-Saharan Africa.

To arrive at their decision the jurors cross-examined 14 international witnesses including scientists, agencies such as the Food and Agriculture Organization, and farmers from South Africa and India with first-hand experience of growing GM crops.

After reviewing the evidence the jurors proposed a package of recommendations to strengthen traditional agricultural practice and support local

farmers. Though not binding, the jurors' decision is expected to influence the future direction of agricultural policy in Mali and across the region where most people rely on subsistence farming. Commenting on the event Dr Michel Pimbert, of London-based International Institute for Environment and Development (IIED), said: 'We must all recognise that local people have the right to decide the food and farming policies they want. This citizens jury has provided a safe space for farmers to reach an informed, evidence-based view on this complicated and often controversial issue, which can then be amplified to policy-makers.'

# 9000

The number of pieces of space junk currently orbiting the earth. Pieces measuring four inches or more total some 5,500 tons – and scientists say there's no way, technically or economically, of cleaning it all up.

### RARE BIRD REVIVAL

At least 11 rare spoon-billed sandpipers have been discovered along the coast of Bangladesh. Concern rose over the fate of these small shore birds, named for their distinctive teaspoon-shaped bills, after a 2005 expedition failed to find a single bird in their traditional winter habitat along India's east coast. The discovery raises hopes for the survival of the birds, whose population has dwindled to just 300-350 pairs in the wild.

## NEW STUDIES CHALLENGE PESTICIDE SAFETY

### DIABETES FROM PLASTIC?

Exposure to small amounts of an ingredient in polycarbonate plastic may increase a person's risk of diabetes, according to new animal data. The synthetic chemical – bisphenol-A – is used to make dental sealants, sturdy microwavable plastics, linings for metal food and beverage containers, babies bottles, and numerous other products. Bisphenol-A can leach into food and water and is widely prevalent in human blood. In this study repeated exposure over several days produced insulin resistance, a pre-diabetic state in which tissues lose their sensitivity to normal levels of insulin.



### FUN PHONES RISK CHILD HEALTH

Mobile phones shaped like teddy bears are being marketed at children as

young as four – despite government warnings that they pose a health risk to children.

Only last year the government's Health Protection Agency chairman Sir William Stewart advised parents to discourage mobile phone use in children under eight as a precaution against potential health risks.

Euro-MP Caroline Lucas has called on the Children's Commissioner to ban ads for the products until their safety can be guaranteed.

'Children are especially vulnerable to the effects of radiation from mobile phone use, and it beggars belief that companies have been allowed to develop products whose safety is in doubt and market them directly at children.'

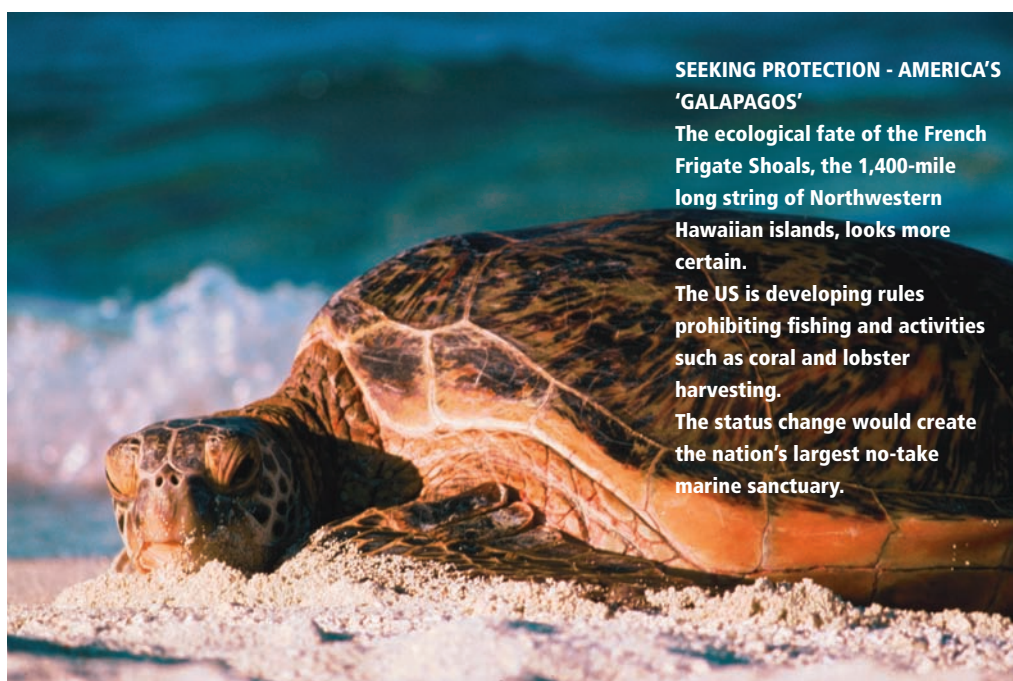
She called on the Children's Commissioner to act to halt young children's exposure to mobile phones – by immediately stopping manufacturers from marketing them at young children and exploring what powers exist to ban phones aimed at those aged under eight completely.

Three new studies have shown just how far-ranging the damage caused by chronic exposure to pesticides can be.

■ The journal *Occupational and Environmental Medicine* published new data showing that when pregnant women and children are exposed to pesticides and insect sprays, the risk of childhood cancer doubles. Researchers carried out detailed interviews with 280 mothers of children with acute leukaemia and found significant links between the regular use of fungicides and insecticides in the home and the development of the disease.

■ Researchers writing in the journal *Epidemiology* took urine samples from 268 males undergoing treatment for low sperm counts and discovered that a by-product of the pesticide chlorpyrifos could be causing fertility problems. This pesticide by-product is found in the blood of 90 per cent of US men, but in this study men with highest levels also had the lowest testosterone levels.

■ Scientists at Berkeley University in California conducted a study that showed that extremely low levels of pesticides kill frogs. Most pesticide safety research is carried out on one substance at a time but this study, published in the scientific journal *Environmental Health Perspectives*, used a low level mix of pesticides comparable to what frogs would be exposed to in the real world. It found that it killed 35 per cent of the frogs in the study. Humans, of course, are ingesting these same toxic pesticides in non-organic food and in their drinking water.



### SEEKING PROTECTION - AMERICA'S 'GALAPAGOS'

The ecological fate of the French Frigate Shoals, the 1,400-mile long string of Northwestern Hawaiian islands, looks more certain.

The US is developing rules prohibiting fishing and activities such as coral and lobster harvesting.

The status change would create the nation's largest no-take marine sanctuary.

## WHAT WE LEARNT LAST MONTH...

■ An ornithologist in Berlin has set up a dating agency for parrots that has so far brought 1,300 lonely birds together. Unlike other matches, these pairs will never split – parrots mate for life.

■ The Southern Italian town of Altamura, Apulia has succeeded in driving the 'golden arches' from its door. Residents refused to patronise the local McDonalds, preferring instead to support the 'slow food' sold at the local baker and in community restaurants. After five years of being ignored, the burger chain has finally admitted defeat.

■ School districts across the US are responding to government funding cutbacks by raising on average a half a million dollars a year each by selling ad space on school buses to, among others, fast food companies and banks.

■ Scientists have discovered the world's smallest fish in a tropical swamp in Sumatra. The female *Paedocypris progenetica* – a species new to science – grows no bigger than 7.9mm (0.31in) and the male measures up to 10.3mm.

■ The brains of male bats develop in inverse proportion to the size of their testicles – the bigger the balls, the smaller the brain, say scientists at Syracuse University, New York.

■ Cosmetic companies are experimenting with neurotoxic synthetic snake venom as a novel ingredient for a 'new generation' of topical muscle relaxants and anti-perspiration agents.

■ The moon's orbit is bringing it closer to earth, and placing it higher in the sky than it has been for around 18 years. The combination of these two rare circumstances will produce spectacular full moons for much of this year.

■ A woman from Arkadelphia, Arkansas resuscitated her brother's pet chicken with the kiss of life after it was found floating face down in the family's pond.



## THE TERMINATOR IS BACK

Indigenous peoples, farmers' organisations and civil society representatives are bracing themselves to defend a *de facto* United Nations' moratorium on 'Terminator', or seed sterilization, technology. The UN moratorium – which recommends against the field-testing and commercial sale of seed sterilisation technology – is under attack by the multinational seed and biotech industry. Delta & Pine Land (a multinational seed company) and the US Department of Agriculture recently won new patents on Terminator in Europe and Canada.

Terminator technology refers to plants that are genetically modified to produce sterile seeds at harvest. The technology was developed by GM giant Monsanto with the help of the US government. The vast majority of the world's farmers routinely save seed from their harvest for re-planting. If commercialised, Terminator would force farmers to return to the commercial market every year and mark the end of locally-adapted agriculture through seed selection.

'Terminator technology is an assault on the traditional knowledge, innovation and practices of indigenous and local communities,' said Debra Harry of the Indigenous Peoples' Council on Biocolonialism.

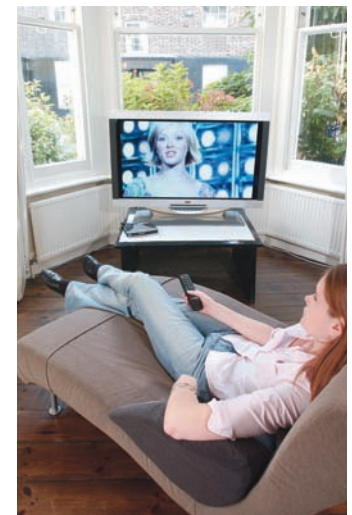
The UN is expected to make formal recommendations later in March. Lucy Sharratt, coordinator of the international Ban Terminator Campaign, is concerned that 'The promise of increased profits is simply too enticing for industry to give up on Terminator seeds. Terminator seeds will become a commercial reality unless governments take action to prevent it.'

■ Visit the Ban Terminator campaign at [www.banterminator.org](http://www.banterminator.org)

## DIGITAL TV URGED TO GO GREEN

The British government is urging all digital TV broadcasters, manufacturers and retailers to support a more environmentally friendly approach to their services by refusing to promote or sell set-top boxes that waste energy. Environment Minister Elliot Morley has called on the companies to sign up to the EU Code of Conduct on Energy Efficiency of Digital TV Services, which establishes a positive green standard for the industry. DEFRA estimates that the UK could be home to some 80 million digital set-top boxes by the end of the decade and according to Mr Morley, the boom in demand means that 'we could end up wasting enough electricity to power 850,000 homes a year.'

Currently, consumer electronic appliances such as TVs, computers and Hi-Fis waste more than £740m worth of energy every year if they are left on standby mode when not in use and emit more than four million tonnes of carbon dioxide into the atmosphere.



**A WELL KNOWN PRO-BIOTECH JOURNALIST, MICHAEL FUMENTO, HAS BEEN SACKED BY THE SCRIPPS HOWARD NEWS SERVICE IN THE US FOR ACCEPTING A \$60,000 'DONATION' FROM MONSANTO IN RETURN FOR REGULARLY RELEASING COLUMNS PRAISING THE COMPANY AS A SAVIOUR OF GLOBAL AGRICULTURE.**

“ He huffs and puffs about spreading democracies around the world while condoning and encouraging the shipment of whole American industries and jobs to the communist Chinese dictatorship, and other dictatorships on which he continues to lavish globalised policies... his boomeranging foreign policy may yet turn him into an unintended patron saint of elected Islamic theocracies.

Ralph Nader on George Bush



### **WATER FIGHT:**

#### **Bolivia vs Bechtel**

January 2006 brought an end to one of the greatest water battles in history. The people of Bolivia have successfully reclaimed ownership of their water from the Bechtel Corporation. In 1999, Bechtel made an arrangement with the Bolivian government to take ownership of the water supply and charge citizens for its use. Within weeks of the takeover, Bechtel raised water rates by 50 per cent and made it illegal to gather rainwater without a permit.

The ensuing citizen revolt forced Bechtel out of the country. Bechtel then sued Bolivia for \$50 million for 'profit losses'. After four years of legal disputes and public pressure the case was dropped. 'This is the first time a major corporation like Bechtel has had to back down from a major trade case as the result of global citizen pressure,' said Jim Shultz, executive director of The Democracy Center in Cochabamba, Bolivia.

The surrender coincides with the election of indigenous populist farm leader, Evo Morales, a long-time critic of Bechtel and other transnationals.



#### **MONARCHS GET MINDERS**

Some of the most heavily armed park rangers in the world, carrying AR-15 and Galil automatic rifles and pump-action shotguns and protected by body armour, patrol 124,000 acres west of Mexico City just to protect monarch butterflies. The rangers keep loggers out of the area because the monarch population (22 million this season) has declined 80 per cent from last year.



David Hanley

## NFU IS FAILING BRITISH FARMERS

Two thirds of British farmers polled think that the National Farmers Union (NFU) is failing to 'secure a better deal for farmers', according to a new opinion poll published today by Better NFU – a new breakaway group whose aim is to change the direction and leadership of the NFU. The poll, based on responses from 677 farmers from across the UK, also found that 72 per cent of farmers back a legally enforceable code of practice to prevent supermarkets abusing their monopoly power, and 76 per cent of farmers want the NFU to spearhead a campaign to persuade every school, hospital and prison to buy locally produced food. Both of these are issues that the NFU has failed to support. Commenting on the findings, David Handley, co-chairman of Better NFU who is also standing as the next president of the NFU, said: 'These findings are a devastating indictment of the current leadership of the NFU and expose just how poorly the NFU is representing farmers. The NFU has wasted countless opportunities to secure a better deal for the farming community in the past few years. This poll shows that farmers want the NFU to take a much tougher line with supermarkets and to use its budgets to enable farmers to sell direct to the consumer.'

# 2000

The number of whales that will be killed this year in the biggest whale slaughter in a generation thanks to the domination of the International Whaling Commission (IWC), by major whale hunting nations Japan, Norway and Iceland.

## WANT A SEX CHANGE? BUY SOME SUNCREAM!

Male hornyhead turbot and English sole, feeding near sewage outfalls on the Californian coast, are being feminised – and oxybenzone, a chemical found in sunscreens, is the likely culprit. Scientists at the University of California, Riverside, found that two-thirds of the male turbot and sole near a sewage outfall three miles off the surfers' paradise of Huntington Beach were growing ovary tissue in their testes.

Oxybenzone, which mimics oestrogen's chemical make-up, is washed off tanned bodies in the shower, passes unchanged through sewage works and settles on the seabed, where bottom-feeding fish eat it. The research is the first to find sex changes in fish in the open ocean, but similar problems are being found in waterways elsewhere. For instance, Swiss researchers have found that other suspected gender-bender chemicals from suncreams and oils are building up in fish in their rivers too. New Swiss data shows two other suspected gender-bender substances used in sunscreens and lip balms – octocrylene and 4-methylbenzylidene camphor – are also building up alarmingly in fish. The scientists are concerned that people exposed to these chemicals several times over, first by putting them on their skin, and then ingesting them in drinking water and the fish they eat, may suffer similar reproductive problems.



## EU SETS DIOXIN AND PCB LEVELS FOR FOOD AND FEED

The European Commission has set maximum levels for dioxins and PCBs in food as fears grow in Belgium, the Netherlands and Germany, after pig and poultry feed was found to contain dioxin contaminated ingredients.

Dioxins and PCBs have toxic properties that can provoke a series of health problems, including cancer, immune and nervous system disorders, liver damage and sterility.

The discovery of the dioxin-laced pork was first reported by the Netherlands in January, by which time contaminated meat had been selling in the shops for nearly two months. The contamination resulted in dioxin levels 25 times the maximum permitted concentrations in pork fat.

The new regulation comes into effect in November 2006. After that time, any food or feed in which the sum of dioxins and dioxin-like PCBs exceeds these maximum levels will not be allowed to be marketed in the EU.

# 32

BILLION

The profit recorded by Exxon – one of the world's biggest climate change criminals – in the last financial year.

THIS MONTH'S SPECIAL REPORT IN BRIEF...

# UNDER THE INFLUENCE

A new report, **Under the Influence**, compiled by Action Aid International, exposes the privileged access and excessive influence that multinational companies have over the policy-making process at the World Trade Organization (WTO), and the devastating effect this has on developing nations.

## THE BACKGROUND

The World Trade Organization (WTO) is an international agency that facilitates trade between member nations. Along with the International Monetary Fund (IMF) and the World Bank, the WTO helps shape and administer the rules that regulate global trade and investment.

As home to 80 per cent of the world's biggest multinational corporations, the EU and the US are the world's dominant trade powers. Both have a publicly stated commitment to promote their commercial interests by opening up markets in developing countries through the WTO.

To achieve this, huge lobbying industries have mushroomed in both Brussels and Washington DC, where the two trade superpowers develop their policies for WTO negotiations.

## US INFLUENCE AT THE WTO

The 17,000 lobbyists in Washington DC outnumber lawmakers in US Congress by about 30 to one. Lobbyists representing companies like Coca-Cola, McDonalds, Pfizer and Wal-Mart dominate the US Trade Policy Advisory Committees.

Corporations and lobby groups spent nearly \$13 billion influencing Congress and federal officials from 1998 to 2004 – equivalent to the combined economic output of Cambodia and Ethiopia in 2004.

The 742 official external advisors to the US trade department have access to confidential WTO negotiating documents and attend meetings with US trade negotiators. Of these, 93 per cent represent business lobby groups and corporations including Burger King, Halliburton and Monsanto.

## EU INFLUENCE AT THE WTO

Around 15,000 lobbyists are based in Brussels – roughly one for every member of staff at the European Commission (EC).

More than 70 per cent of Brussels lobbyists represent business interests.

The European Services Forum (ESF) represents services multinationals such as British Telecom, Lloyds, Suez and Vodafone. ESF has privileged access to senior policy-makers as well to the '133 Committee', a powerful but secretive body made up of EC officials and trade experts, which formulates important EU policies for WTO negotiations.

Corporate backers are funding a profusion of hard line pro-business think-tanks in the EU, including the Centre for a New Europe, the Edmund Burke Foundation and the International Policy Network. Pfizer, for example, gave \$470,000 to the Edmund Burke Foundation between 2001 and 2004 on condition that it would promote private healthcare policies.

## HOW THIS AFFECTS POORER NATIONS

Research shows that the incidence of poverty increases unambiguously in those economies that adopt the most open trade regimes. Tariff cuts brought about by trade liberalisation, for example, have reduced developing countries' income from import taxes by up to \$60 billion per year.

Trade liberalisation means cheap imports flood the developing countries' markets, leaving farmers unable to sell their crops and forcing local factories to close.

Small cuts in agricultural export subsidies are offered to developing nations in return for increased access to their goods and services markets. This leads to privatisation of basic necessities such as water, healthcare and education.

'Intellectual property' deals often leave developing countries without vital resources. In 2003 senior officials from Pfizer, the world's largest drug company, negotiated directly with the WTO's director general and officials from WTO member states to stop developing countries importing cheaper copies of patented drugs to deal with public health crises.

## REPORT CONCLUSION

Governments must take action to curb corporate influence in the WTO.

### The WTO secretariat and member countries must:

Take action to include poor people's groups in the trade policymaking process, as well as address the WTO's anti-democratic and non-transparent negotiating procedures.

### The EU must:

Introduce new laws to increase transparency and accountability in lobbying and put an end to cases of privileged access for lobbyists.

### The US must:

Ensure broader representation of public interest groups on its Trade Advisory Committees, and require lobbyists to file reports into a publicly available database.

### Corporations must:

Disclose their lobbying positions on key public policy issues, as well as membership and funding of trade associations, think-tanks and campaigns to influence public policy.

■ The full report can be downloaded at [www.actionaid.org.uk](http://www.actionaid.org.uk)



PHOTOGRAPH BY THE FAIRTRADE FOUNDATION



## SWIFTS ASCENDING

by Sérgio Brant Rocha

Sérgio regularly gazed down at this giddy sight as he flew over the Aripuanã river on his way to and from a project in the Brazilian Amazon. Here at the Dardanelos Falls, the river plunges into a churning canyon 130 metres deep. Thousands of great dusky swifts dart in and out of the thundering water, nesting and sleeping on the vertical rocky walls behind. To negotiate the falls, says Sérgio, “they move in columns, descending and ascending vertically when they change perches on the walls.” The aerial perspective created something of a trompe l’œil – the water itself seeming to froth with swifts.

This photograph was one of the winners of the Wildlife Photographer of the Year competition, organised by the Natural History Museum and *BBC Wildlife Magazine*.

# There is no stop button...

BY MADELEINE BUNTING

...in the race for human re-engineering. Science will soon give some of us the tools to make ourselves cleverer and stronger. What will it mean for our humanity?

“What place will privacy have when brain imaging can read our thoughts and transcranial magnetic stimulation can manipulate our thoughts?”

My daughter is 10. Fast forward 25 years, and she is having her first child – early by the standards of all her friends, but she’s keen on ‘natural’. Of course, she did pre-implementation genetic diagnosis, and she and her husband (yes, very old fashioned, they married) had some agonising days deciding on whether to modify a genetic predisposition to depression and whether to splice in a gene for enhanced intelligence. In the end, they felt they had no option but to give their baby the best possible start in life.

Five years later, my little granddaughter is starting school. Again her parents have talked over the pros and cons of cognitive enhancement. A pharmacogenetic package is now routinely offered on the NHS after the government decided that, given international competition in the global knowledge economy, there was no option but to ensure the nation’s schoolchildren had better powers of memory and concentration. I had my doubts, but I have to admit that my little granddaughter is proving a wonderfully clever creature – a constant source of amazement to me.

My doubts were in part assuaged by the fact that I had already started stronger doses of the same cognitive enhancement drugs. They’ve helped hugely with my forgetfulness (I’m just hitting my 70s). They are part of a cocktail of drugs I’m now taking to postpone many of the effects of ageing. I dithered a bit but in the end there was no option. I’m doing the childcare for all my five grandchildren and I need to be strong and fit for them. My age expectancy is now 110, so the plan is that I can help out a bit with the great grandchildren too.

What we’ve been unhappy about is that my daughter has been very tired trying to hold down her job and be a mum, and she’s come under a lot of pressure from her boss to get help. What they mean is that she should go on to Provigil. They point out that if she was taking it, she could miss several nights’ sleep without any problem. Her colleagues call her a bio-Luddite for refusing. She’s already the only one not to have taken her company’s early diagnosis – she said she didn’t want to know whether she was going to get Alzheimer’s disease in 30 years’ time.

The other thing that concerns us is that

many of the children in my grandchild’s school have had much better enhancement programmes. The cleverest went to China for the latest technology. I can see that my grandchild is never going to keep up. At the moment, she doesn’t mind that she’s bottom of her class, but she’ll be lucky to get to a good university. The one hope I’ve got is that they might introduce quotas for ‘naturals’ or ‘near-naturals’ like her. Anyway, to cheer her up I bought her the equivalent of what we called iPods in the old days – the chip inserted behind her ear gives her 24/7 access to stories and music. She downloaded a book I loved when I was her age, *Little House on the Prairie*. She thinks it’s magical.

## Frightening future?

Sound far-fetched? It’s anything but. This is the most conservative of a range of scenarios about the possibilities of ‘human enhancement’ that have prompted fierce debate in the US and are exercising many a scientist’s mind around the world. The pace of development in four distinct disciplines – neuroscience, and biotechnology such as genetics, computing and nanoscience – is such that many envisage dramatic breakthroughs in how we can modify ourselves, our physical and mental capabilities. We could live much longer and be much stronger and cleverer – even be much happier. A whole new meaning to ‘Be all you can be’.

*The Washington Post* journalist and author of *Radical Evolution*, Joel Garreau, argues that we are at a pivotal point in human development. Having directed our technological ingenuity on the world around us, human beings are now turning it on to their own bodies and minds. From here on in, we will have the tools to engineer our own evolution.

To the real enthusiasts – they call themselves transhumanists – humanity is on the point of being liberated from its biology. In their advocacy of our ‘technological rights’, they believe that human beings are on the brink of a huge leap in development, leaving behind the sick, quarrelsome, weak, fallible creatures we have been up to now. We will be, as their slogan goes, ‘better than well’.

This is the prospect that horrifies the so-called ‘bio-conservatives’ such as Francis



“...to cheer up my granddaughter I bought her the equivalent of what we called iPods in the old days - the chip inserted behind her ear gives her 24/7 access to stories and music”

Fukuyama, who argues that transhumanism is the most dangerous ideology of our time. There are plenty who share his concerns, pointing out that the implications for human rights, indeed for our understanding of what it is to be human, are huge. What place will equality have in this brave new world? What place will privacy have when brain imaging can read our thoughts and transcranial magnetic stimulation can manipulate our thoughts? What powers over our brains will the state demand in the war against terror?

It's time we got our heads around this debate on this side of the Atlantic so that we can influence what technologies are developed, rather than leaving it to the scientists and the pharmaceutical and military interests who sponsor their research. There's a growing sense of urgency to get the public debate up to speed with what's at stake.

Recently, a remarkable exercise in public consultation in Brussels, Meeting of Minds, drew people from across the EU together to discuss the subject. Last month, the think-tank Demos launched a pamphlet, *Better Humans*. Oxford University's Said Business School is hosting a big international conference, Tomorrow's People, in March – at which Garreau is a keynote speaker.

The point well made by *Better Humans* is how far advanced public acceptance is of many of the principles that underlie these

technologies. So we're not talking about radical new steps, only an acceleration of existing trends. For example, if you can have Viagra for an enhanced sexual life, why not a Viagra for the mind? Is there a meaningful difference? If we show such enthusiasm for 'improving' our noses and breasts with cosmetic surgery, why not also improve our brains? As computers continue to increase in power and shrink in size, why shouldn't we come to use them as prostheses, a kind of artificial limb for the brain? If we have successfully lengthened life expectancy with good sanitation and diet, why can't we lengthen it with new drugs? The drug Ritalin is already being traded in classrooms by US students to help improve their concentration.

There's no stop button available. Much of the research that could ultimately be used for human enhancement is urgently needed to counter such neuro-degenerative diseases as Alzheimer's. But it's all too possible to envisage how fast, in a competitive, unequal world, we could hurtle towards some horrible futures. The one I outlined above for my descendants was the most benign I could imagine. There's no point in sci-fi style panic. The best hope lies in the strength and quality of public debate and democratic institutions to regulate and direct the use of these powerful technologies.

■ Copyright Guardian Newspaper 2006

# Frankenstein Peas

BY JEFFREY M. SMITH

GM peas under development in Australia were evaluated by tests normally applied to medicine – not to GM food. When they discovered the peas created a dangerous immune response in mice, the 10-year pea project, costing over \$2 million, was abandoned. The key question is how many GM food crops currently on the market would have failed this level of testing?

In the mid 1990s, Australian scientists at the Commonwealth Scientific and Industrial Research Organization (CSIRO) started research into manufacturing a GM pea that would be resistant to the pea weevil – a small but voracious pest that was eating up to 30 per cent of pea yields. Given that the Australian pea harvest is estimated to be worth AUS\$100 million, defeating this pest was potentially worth millions.

What they hoped to achieve was a GM pea plant containing an anti-nutrient (alpha-amylase inhibitor) that interferes with the bugs' digestion, thereby starving them to death. The protein is produced from a gene normally found in kidney beans which, when fully cooked, is safe for humans.

The scientists at CSIRO spliced the gene into peas, figuring it would be safe there as well. Everything appeared to be on schedule for approval until the pea developer, TJ Higgins, asked scientists from the John Curtin School of Medical Research in Canberra to evaluate the peas to see if they might cause allergies.

They fed the mice GM peas, non-GM peas or kidney beans. After four weeks, the mice were subjected to a battery of tests. The researchers did not check for allergies *per se*, but used tests that can predict allergenicity.

They were surprised to discover that only the mice fed GM peas had an immune response to GM protein. In addition, they became more sensitive to other substances. For example, mice fed GM peas reacted to egg albumin, while those fed non-GM peas did not. Even GM peas that had been boiled for 20 minutes and were no longer effective at protecting against weevils still caused an immune response in mice. The findings suggested that both raw and cooked GM peas might cause allergic reactions in humans, as well as promote reactions to a wide range of other foods.

When the scientists confirmed that the GM peas created an immune response in mice, they were faced with a challenge. The gene in kidney beans produces a protein that is harmless. That same gene, when inserted into GM peas, produces a protein with the same amino acid sequence. But somehow, that 'same' protein in the GM peas was dangerous. Why?

This question intrigued lead pea researcher

Simon Hogan and his team. He said their 'scientific, inquisitive nature' led them to look for subtle differences in the protein's structure. Their investigation went beyond just identifying the amino acids, which are the building blocks. Judy Carman, who has analyzed GM applications to Australia and New Zealand, says, 'If you knock down a house and then study the pile of bricks, it won't describe the house. Similarly, the amino acids don't reveal the structure, shape and unique characteristics of the protein.'

Scientists do know that when sugar chains become attached to proteins, this process, known as glycosylation, can turn a harmless protein into a dangerous allergen. Using a sensitive test (called MALDI-TOF), Hogan's team confirmed that the GM pea protein and the non-GM kidney protein had slightly different glycosylation patterns. They were surprised to see that a protein that is naturally created in kidney beans had been altered in such a closely related species as peas. They believe that this subtle difference may be why the GM pea protein created an immune response.

## IMPLICATIONS FOR THE REST OF GM FOOD

■ **The world's strictest regulatory bodies only require that GM crops be evaluated for allergenicity by testing protein stability in test tubes and comparing amino acid sequences with known allergens. The peas could have passed these tests.**

The first method is based on the fact that allergenic proteins often – but not always – break down slowly in the stomach and intestines. (If they were destroyed quickly, they might not be around long enough to solicit an allergic reaction.) Scientists, therefore, put the GM protein into a test tube with acid and digestive enzymes to see how quickly it breaks down. Companies can rig these type of studies, however, in order to break down their GM protein more quickly. In one of Monsanto's GM corn tests, for example, they used about 1,250 times the amount of enzymes and a much stronger acid, compared to recommendations by the FAO-WHO.

Even if done properly, the test tube does not accurately mimic what happens inside animal and human digestive tracts. In real

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life, for example, a protein can bind with other substances in the gut and be more stable and long-lasting. When *Bt*-toxin – the pesticidal protein created in GM corn and cotton – was evaluated using test tube studies, results suggested that it would break down quickly in digestion. When independent researchers fed *Bt*-toxin to mice, however, the animals developed abnormal and excessive cell growth in the lower part of their small intestines. In another experiment, mice produced a significant immune response. Thus, the *Bt* obviously survives long enough to create a reaction. These findings should have forced regulators to abandon the test tube in favor of animal studies. Moreover, they point out serious problems with *Bt* crops that might impact human health. Unfortunately, regulators have largely ignored these studies and continue to rely on test tube experiments and unproven assumptions.

The second method used to evaluate allergenicity is to search databases to see if the amino acid sequence of the GM protein is similar to known allergens. This method also offers no guarantees – not all allergenic sequences have been identified. Furthermore, according to the FAO-WHO criteria, GM soya, corn, and papaya fail this test – they have short sequences that are identical to known allergens. The crops were nonetheless approved.

What happened when the GM peas were evaluated by these two methods? According to their developer TJ Higgins, the results were ‘borderline’. Those borderline results, however, are *better* than those of some GM crops already on the market. Thus, if scientists had not done the advanced animal testing and instead relied on the allergy studies that are normally used in safety assessments, the GM peas would most likely have been approved.

**■ Evaluations of GM crops are based on the obsolete assumption that proteins will act the same across species.**

The pea study revealed that when genes are passed between closely related species, subtle and unpredictable changes in the protein can make it dangerous – even deadly. Characteristics of proteins can vary between species and even between different cells in the same species. The genes put into approved GM foods, however, cross entire kingdoms. Bacterial genes are spliced into GM soybeans, corn, cotton and canola, and viral genes are inserted into papaya, zucchini and crook neck squash. How these crops will alter bacterial proteins

is anyone’s guess – unfortunately. According to David Schubert of The Salk Institute for Biological Studies, ‘A toxin that is harmless to humans when made in bacteria could be modified by plant cells in many ways, some of which might be harmful.’

Schubert says, depending on where a protein is produced, molecular chains ‘such as phosphate, sulfate, sugars, or lipids’ can be attached to the protein and alter its function. In a 2002 article challenging the safety of GM foods, he warned, ‘With our current state of knowledge... there is no way of predicting either the modifications or their biological effects.’ The altered sugar chains in the GM peas provide an example of a dangerous modification that was almost missed.

In addition to attaching molecules, a protein’s shape also determines its effect. According to cellular biologist Barry Commoner, ‘The newly made protein, a strung-out ribbon of a molecule, must be folded up into a precisely organized... structure.’ He points out that according to the old theory of genetics, the protein ‘always folded itself up in the right way once its amino acid sequence had been determined. In the 1980s, however, it was discovered that some...proteins are, on their own, likely to become misfolded – and therefore remain biochemically inactive – unless they come in contact with a special type of ‘chaperone’ protein that properly folds them.’

For millions of years the chaperone folders have evolved along with the proteins they fold. What happens when a foreign bacterial protein comes in contact with a plant’s chaperone folders? Will the protein be folded correctly? Prions, responsible for mad cow disease and the deadly Creutzfeld-Jacob disease in humans, are examples of misfolded proteins (unrelated to GM).

In GM plants, even the amino acid building blocks of the protein could be altered. Amino acids are built according to the genetic code, or sequence, in the gene. This sequence, however, can get mixed up when the gene is inserted into DNA. Genes spliced into soybeans and corn, for example, were mutated, fragmented or truncated, and several appeared to rearrange over time. The amino acids that they produce, therefore, may be quite different from those that were intended. But regulatory agencies do not require companies to check the gene and amino acid sequences to see if unpredicted changes have occurred. According to Bill Freese, a research analyst at Friends of the Earth, ‘At

present, the standard practice is to sequence just five to 25 amino acids', even if the protein has more than 600 in total. If the short sample matches what is expected, they *assume* that the rest are also fine. If they are wrong, however, a rearranged protein could be quite dangerous.

If a GM protein was mixed up, misfolded or had attached molecules, how would we know if it were dangerous? When evaluating medicines, scientists conduct long-term feeding trials on animals, followed by clinical trials on humans and then they monitor side-effects after the product is introduced. This is not done for GM foods. Instead, biotech companies often rely on an 'acute oral toxicity study', in which, according to Monsanto's website, a high dose of 'the additional protein is fed in its pure form to mice'. The mice are then observed over the next 14 days to see if there's a problem. (As its name implies, acute toxicity tests will not detect moderate or chronic problems that may manifest over time, only acute reactions to the additional protein.)

The additional protein referred to by Monsanto is the protein produced by their inserted gene. In Roundup Ready soybeans,

for example, the inserted gene produces a protein that allows the soybean plant to survive applications of the company's Roundup herbicide. For the toxicity test, one might assume that researchers grind up soybeans and then isolate and extract this protein. While this certainly *can* be done, it is not what Monsanto and other biotech companies typically do. Instead, they insert their gene into bacteria and let the GM bacteria produce the protein. It's cheaper and easier to extract the protein from the bacteria, than it is to do so from the plant. Thus, they feed bacteria-derived protein to mice and *assume* that the protein will have the same structure and effect as the protein from GM plants. But as the pea study illustrates, the assumption is rubbish. That same protein, if produced in a plant, could have added molecules. It could be misfolded or have a different amino acid sequence. None of these potentially deadly changes would be picked up in a test that uses protein from bacteria. It's another way in which industry studies avoid finding problems. Although several regulatory agencies ask companies to use only bacteria-derived protein if they can demonstrate that it



is equivalent to the GM plant protein, biotech companies consistently ignore this request. Now that the GM pea study demonstrates how proteins can be changed in subtle but dangerous ways – even between closely related species – it is essential that regulators end the use of surrogate proteins in safety assessments.

■ **The methods used in most safety assessments to identify changes in the protein are inadequate.** In order to evaluate the difference between the GM protein in the peas and its natural counterpart in the beans, the Australians used the sensitive MOLDI-TOF test, which is almost never used in GM safety assessments. According to Doug Gurian-Sherman, a senior scientist at the Centre for Food Safety and formerly at the US Environmental Protection Agency, those subtle differences in glycosylation patterns found in the pea study ‘would not be detected by the tests that are currently required by US regulatory agencies’. In fact, in the 1990s, when the GM peas were tested with an inferior ‘gel test’ method that is sometimes used in GM food assessments, Higgins didn’t see any difference between the GM and non-GM proteins. The peas had passed this test.

■ **Cooking GM food will not necessarily destroy allergens.** One argument used to defend the safety of the *Bt*-toxin is that cooked *Bt* no longer acts as a pesticide. Heat changes the shape – or denatures – the protein. Scientists have claimed that denatured GM proteins will also no longer cause allergies. The cooked GM pea was sufficiently denatured to no longer be effective as a pesticide. But industry assumptions notwithstanding, it was still able to create an immune response in the mice.

■ **Even the GM pea study is not adequate.** While the pea research reveals serious loopholes in GM safety studies, it should not be held as a model of an adequate assessment. There is a long list of other potential side-effects in GM crops that remain untested for. For example, during the process of making a GM crop, the plant’s natural genes can become scrambled, mutated, deleted or changed. These alterations may create additional toxins, allergens or anti-nutrients that are impossible to predict and difficult to detect. The GM pea study overlooked them entirely. The methodology failed to take into account the possibility that the peas’ natural genes were disrupted when

the kidney bean gene was inserted, causing a change in the plant’s composition. This could have sensitized the mice in some way, making them more susceptible to an immune reaction. Earlier unpublished tests on the GM peas did show major unexpected changes in composition, including a doubling of a known allergen (trypsin inhibitor) and a four-fold increase in an anti-nutrient (a lectin).

Similarly, acute toxicity studies also miss these types of side effects. Even if the biotech industry used the protein from plants and not from bacteria, they only test the reaction to single isolated GM protein. There could be scores of other dangerous proteins created or elevated in GM crops that are never tested for.

■ **Immune reactions to GM plants are common.** What is not unique about the pea study is that immune responses were associated with GM crops. This was true with experimental soybeans, experimental potatoes, and StarLink corn in various tests of *Bt*-toxin and with Monsanto’s MON 863 corn. According to Arpad Pusztai, ‘A consistent feature of all the studies done, published or unpublished, including MON 863, indicates major problems with changes in the immune status of animals fed on various GM crops/foods, the latest example of this coming from the GM pea research in Australia.’ In addition, unpublished research suggests that Filipinos may have adversely reacted to *Bt* corn pollen from nearby fields, and recent medical reports in India claim that farm workers handling *Bt* cotton developed moderate to severe allergic reactions.

Immune systems react when they interpret something as foreign, different and offensive. But all GM foods, by definition, have something foreign and different. The pea study confirms that even small differences – which industry and regulators had chosen to ignore – may create big, life threatening problems. According to Judy Carman, an epidemiologist and the director of the Institute of Health and Environmental Research in Australia, ‘If a GM food was introduced onto supermarket shelves and caused an immune reaction, it would be very difficult to find the culprit, particularly if it caused reactions to other, different foods, as this GM pea was found to do.’

So how did the GM industry defend a regulatory system that clings to outdated science and could have approved those dangerous peas if advanced test had not been conducted?

Tony Combes, Monsanto’s UK director of

corporate affairs, said, 'The CSIRO decision to halt research and destroy the GM pea that inflamed lung tissue in laboratory mice showed how the regulatory system was working exactly as intended.'

This carefully crafted PR spin appears logical only to those unfamiliar with GM safety assessments. In truth, very few people *are* familiar with exactly what goes on. Even many biotech researchers and crop developers make the assumption that companies will do what is necessary to protect the public. If they discover the truth, they are often shocked.

Higgins, the GM peas' crop developer, may be in for such a shock. He too claimed that his pea study 'shows that the regulatory system works.' His explanation reveals what he doesn't know. He said, 'I didn't feel that we were breaking particularly new ground...We were following basically the recommendations for a proper risk assessment and I feel it is typical of the kinds of assessments that have been done for other GM crops around the world.' Pea researcher Simon Hogan said the same thing. But neither scientist could name a single GM food on the market that has had the same level of testing. Experts who have studied GM safety assessments submitted around the world know that there *are* none.

Arpad Pusztai, for example, who had co-authored a paper with Higgins on GM peas in the 1990s, has studied nearly every industry submission to regulators. In fact, he recently published an analysis of all peer-reviewed safety assessments. He says that the GM pea study, does, in fact, break new ground. Professor G.E. Seralini, who has officially reviewed all the submissions to Europe as well as all the commentaries on the submissions, wrote, 'To my knowledge, no GM plant on the market has undergone such detailed experiments to assess allergenicity.'

Likewise, Doug Gurian-Sherman and Bill Freese, both experts on submissions to US authorities, acknowledge that industry immune studies are considerably weaker than the pea study. Judy Carman, who has analyzed GM applications to Australia and New Zealand, concurs. In fact, Marc Rothenberg, who is a co-author of the current pea study and was also on an expert panel assessing the allergenicity of a GM corn variety (StarLink), said of the pea research, 'It was very unique. It was much more extensive and rigorous than what was previously done.'

This study is just the latest in a series of such wake up calls. Each year, key assumptions

that were used as the basis for GM crop approvals are overturned. All expose the fact that GM food crops were rushed onto the market long before the science was ready.

There are currently seven such crops being produced for consumption: soya, corn, cottonseed, canola, Hawaiian papaya, zucchini, and crook neck squash. None have been evaluated like the GM peas. None have been tested through long-term feeding studies. Any one of them might be creating serious health problems in the population.

The claim that GM crops are adequately tested, well-regulated and safe is a dangerous façade. Governments must immediately ban GM crops and start funding rigorous, thorough and independent safety assessments of them.

■ Jeffrey M. Smith is the author of *Seeds of Deception*. He is working with a team of scientists to compile all known risks of GM foods, and his Institute for Responsible Technology is seeking funds for independent rigorous research on the GM foods already on the market.

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# ASBOs vs NUTRITION

Over 1,000 juvenile delinquents showed a 44 per cent drop in anti-social behaviour when put on a low sugar diet. So why is the government completely ignoring what we are feeding our children, and yet is happy to spend £2,500 on administering each ASBO? **Pat Thomas** investigates



In October 2003 the UK government launched the latest offensive in its war on crime, the 'Together Campaign', across England and Wales – sold to the public as a tough stand against crime in the local community. The campaign manifesto emphasised the 'wide ranging' powers that local agencies have to keep the peace: acceptable behaviour contracts (ABCs); anti-social behaviour orders (ASBOs); parenting orders; injunctions; vehicle removal; mediation; diversionary schemes; preventive work; and witness protection programmes.

Like all wars, the war on crime comes with an aggressive moralistic rhetoric that sets up an adversarial dynamic ultimately more effective at preventing insight than it is at preventing crime. Methods of enforcement such as the much publicised ASBOs are appealing weapons because they represent discernable action, at least in the short term. But consider what's happening over the longer term.

Home office figures show that more than 60 per cent of young male thugs and muggers are convicted of another offence within two years of ending their sentence. Three quarters of young male burglars and thieves also reoffend within two years. A massive 90 per cent of offenders on the drug treatment and testing order, a community sentence for offenders who misuse drugs, go on to commit more crimes.

The ASBO is hailed as an effective way of keeping petty offenders, particularly juveniles, from moving on to more serious offences. In some cases this may be true. But according to the National Association for the Care and Resettlement of Offenders (NACRO), the national crime reduction charity, there is little research available on their effectiveness and little proof that they actually work. Figures released in June 2005 show that 40 per cent of juveniles have breached an ASBO, and 46 per cent of these young people have ended up in custody for the breach.

While the government continues to plough its enforcement furrow, polls suggest that most of us would like to understand what's causing the aggressive behaviour and crime in the first place. For instance, a 2005 report commissioned by the social policy charity the Joseph Rowntree Foundation, on behalf of the Institute for Criminal Policy Research (ICPR), found that just 20 per cent thought it would be better to get tougher with offenders, while around 66 per cent believed that prevention was the best way to tackle rowdiness and vandalism.

### Radical findings

Enter Bernard Gesch, physiologist at the University

of Oxford and director of the behavioural research charity Natural Justice.

In 2002 Gesch and his colleagues produced a remarkable piece of research showing a direct link between nutritional status and criminal behaviour. In a British prison, 231 men between the ages of 18 and 21 were divided into two study groups. One was given nutritional supplements along with their meals, the other group placebos. Neither the prisoners, nor the guards, nor the researchers at the prison knew who had the real supplements and who had the fakes.

The researchers then monitored the number of times participants violated prison rules, and compared the results to data that had been collected in the months leading up to the nutrition study.

The supplements given in this study provided little more than the recommended daily requirement of vitamins, minerals and fatty acids; they were not the 'mega-doses' often used in nutritional studies. Yet the results were staggering. Prisoners given supplements for four consecutive months committed an average of 26 per cent fewer violations compared to the preceding period. For serious breaches of conduct, particularly the use of violence, the number of violations decreased 37 per cent. Those given placebos showed no marked change in behaviour.

This particular study differed from many in the social sciences in its thoroughness and scientific rigour. The carefully constructed experiment ruled out the possibility that ethnic, social, psychological or other variables could affect the outcome. As a result, Gesch and colleagues emerged with convincing scientific proof that poor nutrition plays a significant role in triggering aggressive behaviour.

### Voluminous research

Gesch was not the first in his field to produce these results. As far back as 1978 researchers reporting in the *Journal of Orthomolecular Psychiatry* compared the success of standard probation with nutritional education to rehabilitate 102 offenders in the community over 12 months. They found that the re-offending rates of the nutrition education group were almost a third of that of the probation group.

Over the last 30 years there has been a steady accumulation of similar studies linking poor

Prisoners given supplements for 4 consecutive months committed an average of 26 per cent fewer violations compared to the preceding period

diet to anti-social behaviour. But in particular Gesch's findings build on those of Dr. Stephen Schoenthaler, a professor of Criminal Justice at the California State University in Stanislaus, who has long argued that better food equates with better behaviour, as well as with increased IQ and school performance.

Schoenthaler and his colleagues have studied nutrition and behaviour at numerous juvenile and adult correctional facilities and in US public schools (UK state schools). His catalogue of studies over the last two decades is voluminous and has produced impressive results simply by making adjustments in food intake and/or adding nutritional supplements.

For instance, in a typical study, Schoenthaler supplemented the diets of 71 residents of a state juvenile treatment facility. During the treatment phase of the double-blind, placebo-controlled, crossover study, overall violence fell 66 per cent from 306 incidents to 104. Total AWOL and escape attempts fell 84 per cent from 79 to 13 incidents and destruction or theft of state property dropped 51 per cent from 49 to 24 incidents.

In another study involving two California Youth Authority prison camps, 402 inmates were divided into groups and given vitamin supplements or placebos for 15 weeks. Those given 100 per cent of the US recommended daily allowance (RDA) of vitamins and minerals showed a 38 per cent decline in serious rule violations – an almost identical finding to that of Gesch and his colleagues. In contrast, the group given placebos actually showed a small but statistically insignificant increase in violations.

Much of Schoenthaler's early work, though observational, is also interesting because of what it took out of the diet – junk foods and in particular high sugar snacks.

In a 1983 study of 3,000 imprisoned teenagers, snack foods were replaced with healthier options containing reduced refined and sugary foods. During the year in which diets were changed, violent and anti-social incidents decreased by almost half. There was also a 21 per cent reduction in anti-social behaviour, 100 per cent reduction in suicides, 25 per cent reduction in assaults and 75 per cent reduction in use of restraints.

In a smaller study of 68 juveniles receiving a nutritionally superior diet, the incidence of assault dropped 82 per cent; theft dropped 77 per cent;

general rule violations dropped 23 per cent; and fighting dropped 13 per cent within seven months of instigating a junk food free diet. A follow-up trial with 276 children gave one group healthy foods while the other stayed on their junk food diets. The rate of anti-social behaviour among the children on the healthy diet was half that of those eating a poor diet. On the basis of these results Schoenthaler went on to work with the Los Angeles Probation Department on a diet behaviour programme. Over 1,000 juvenile delinquents showed a 44 per cent drop in anti-social behaviour when put on a low sugar diet.

Gesch drew similar conclusions from a 1990 UK pilot project called the South Cumbria Alternative Sentencing Options (SCASO). In it serious juvenile offenders were subjected to a number of tests for: vitamin and mineral deficiencies; the presence of toxic metals; poor blood sugar control; and an individual dietary assessment. What he found was that habitual offenders had several biochemical problems in common, in particular glucose intolerance and zinc deficiency.

Remarkably, every single person in the study exhibited abnormal glucose tolerance (reactive hypoglycaemia), a problem triggered by consumption of sugar, sugary foods and stimulants (such as coffee, tea and colas), but also carbohydrate-rich foods (eg crisps or fruit) without protein alongside. Research has shown that an inability to metabolise blood glucose properly is a common problem among habitual offenders. When Gesch placed the volunteers on a programme of 'nutritional rehabilitation', their behaviour improved.

With all this accumulated evidence Gesch believes that, 'Having a bad diet is now a better predictor of future violence than past violent behaviour. In fact, predicting future criminal behaviour from a criminal past has statistically little better than a random chance of being correct. Likewise, a diagnosis of psychopathy, generally perceived as being a better predictor than a criminal past, it is still miles behind what you can predict just from looking at what a person eats.'

While diet is by no means the only influence on the way the mind functions and on behaviour he adds, 'We may have seriously underestimated its importance.'

In fact it is quite possible that given the strength of these effects, poor diets could be altering social norms of behaviour without our even being aware of it, since inadequate nutrition not only affects behaviour, it also affects perception and insight to the extent that a nutritionally deprived person may not have the mental faculties to differentiate between

Over 1,000 juvenile delinquents showed a 44 per cent drop in anti-social behaviour when put on a low sugar diet



right or wrong, or appropriate and inappropriate behaviour.

'The take home message may be that through our dietary complacency we may have destroyed our ability to think. And if it is true that we are what we eat, since we have made unprecedented changes to what we are now eating, shouldn't we be concerned as to what we are turning ourselves into?'

### Joining the dots

While the link between food and physical health is more widely accepted by professional and lay people alike, the relationship between nutrition and a healthy mind continues to be controversial.

In part this is because during their education, doctors and psychologists are given little training in nutrition. Likewise criminologists are rarely educated in biochemistry and nutritionists are offered no hands-on experience with lawbreakers or the mentally ill. Professionals in these disciplines rarely interact with each other and this

isolation means that evidence gleaned from studies into the link between nutrition and behaviour often ends up in a scientific no-man's-land with no single group knowing how to interpret it or put its findings into action. Nevertheless, Gesch maintains: 'It isn't too hard to join up the dots.'

Our reticence also stems from the belief that the brain has formidable defences. Encased in bone and surrounded by the blood brain barrier, which in theory prevents all but necessary glucose from reaching the brain, we have assumed that the brain was separate from the other organs of the body and impenetrable.

This blithe assumption has for many years stalled large-scale, in-depth studies into the link between nutrition and behaviour. But although the brain is better protected than other organs, it's been known for decades that toxins can and do regularly get through and that it does change in response to what the body is being fed. In particular, children who are brought up on diets where there are not adequate nutrients to support

this extraordinary organ can exhibit permanent changes in brain structure, which are played out in their day-to-day behaviour.

For instance, in 2004 a major study published in the *American Journal of Psychiatry* found that children who suffered certain nutritional deficiencies – specifically of zinc, iron, B vitamins and protein – early in life demonstrated a shocking 41 per cent increase in aggressive behaviour over

well fed children by the age of eight. By 17 years of age they were showing a 51 per cent increase in violent and anti-social behaviours.

Modern diets that are high in sugar, fat and synthetic additives and low in nutrients amount to what Gesch calls ‘high calorie malnutrition’, a recent trend in human evolution. ‘In the last 200 years we have made unprecedented changes to the human diet. The astonishing thing is that these

### FEEDING MINDS

The most recent figures show that mental ill-health is costing the UK almost £100 billion a year. A recent review by the Mental Health Foundation in conjunction with Sustain, the alliance for better food and farming, concluded that this figure could be slashed if individuals at risk were put on better diets. The report, *Changing Diets, Changing Minds* drew on data from more than 500 studies and concluded that food can have an immediate and lasting effect upon a person’s mental health and behaviour because of the way it affects the structure and function of the brain. It also noted that changes to the human diet in the last 50 years or so are an important factor behind the major rise of mental ill-health in the UK and other countries.

These changes include higher consumption of nutritionally inferior convenience foods, which are laden with salt, fat, sugar and additives. There are now 320,000 different packaged foods in the marketplace. The convenience factor means we grow less food ourselves and we prepare less fresh food ourselves.

Comparing today’s diets to those of 1942 Britain, for example, the researchers found a 34 per cent decline in our vegetable consumption, Britons eat 59 per cent less fish and half as much milk and eggs. In contrast, our consumption of refined cereals and sugar has risen dramatically; cereals now comprise up to 30 per cent of our total diets and we now consume 44kg of sugar per person per year. Alcohol consumption has increased 19 per cent in the last decade, and in the UK the average person drinks 186 litres of soft drinks a year.

At the same time breastfeeding rates have declined. Breastmilk provides substantial energy and nutrition for the brain and yet globally only 35 per cent of infants are breastfed exclusively.

But declines in the nutritional value of fresh foods – something that has hitherto not been factored into the diet/mental health equation – have also left their mark. Pointing the finger at industrialised farming, the report *Changing Diets, Changing Minds* notes that the drive to increase global agricultural output has resulted in a loss of genetic diversity in food crops, higher use of pesticides, depletion of the nutrient content of the soil, and loss of micro-nutrients as the foods are shipped halfway across the world. In short, even when we do eat fresh food, it is now substantially less nutritious than it once was.

The effects of these substantial changes in our diets on mental health are, according to the authors, already apparent. Four conditions in particular have shown strong links with the kinds of nutritional deficiencies common in modern diets:

**ADHD** ADHD is most common in childhood and adolescence. Recent studies have found that children diagnosed with ADHD may be suffering from essential fatty acid (EFA) deficiency. EFAs are found in abundance in oily fish and grass fed beef, and low levels of omega-3 fatty acid in particular can worsen symptoms. So can deficiencies in zinc and magnesium. There is some evidence that high sugar intake can also provoke behavioural problems in children with ADHD.

**Depression** Severe depression has increased dramatically in the past century due not only to more life stress and changing social networks, but also changes in nutrition. Research has established that rates of major depression, post-partum depression and seasonal affective disorder are consistently lower in fish eating nations. In contrast, high consumption of polyunsaturated fats – especially the omega 6 fats so abundant in junk foods – have been found to worsen major depression and bipolar disorder. Depression is also associated with deficiencies zinc and vitamins B (especially folate) and C.

**Schizophrenia** Schizophrenia is the only disease that is distributed roughly equally throughout every population in the world. There is no evidence that general nutritional deficiencies cause schizophrenia, but western industrialised diets high in fat and sugar can substantially aggravate the condition. Research suggests that low intakes of saturated fat or high intakes of EFAs from vegetables, fish and seafood translate into lower levels of schizophrenia, as does breastfeeding, which supplies essential fats and nutrients to the infant brain. More data shows that essential fatty acids, vitamins and folate supplements can mediate symptoms of schizophrenia.

**Alzheimer’s Disease** A generally healthy diet can have a substantial protective effect against different types of dementias including Alzheimer’s. While high intakes of saturated fat can lead to Alzheimer’s disease, high fish consumption (which boosts levels of essential fatty acids) leads to low levels of the disease among the elderly in countries like Japan. Elsewhere in the world high intakes of monounsaturated fatty acids, cereals and fish appear to decrease the risk of dementia. High dietary intakes of B vitamins, especially folate, and vitamins C and E also appear to reduce the risk of developing Alzheimer’s.

changes have occurred without any systematic evaluation of the possible impact on the human brain.'

The result, says Gesch, is 'a global, uncontrolled experiment on the human brain.'

Scientists are now seeing the effects of this 'uncontrolled experiment' in seemingly diverse conditions such as dementias, depression, schizophrenia, ADHD and learning difficulties (see sidebar). The results of these studies have attracted the interest of expert bodies such as the World Health Organization (WHO) which are concerned, if unable to understand, why human behaviour is changing so dramatically and why mental health problems are becoming more commonplace. WHO estimates, for example, that the incidence of children's mental illness will double by 2020. Among adults, it says that depression will surpass heart disease as the number one cause of avoidable early death by that time.

### Body and mind

The brain is a metabolic powerhouse. While it accounts for just two per cent of our body weight, it uses a massive 20 per cent of our energy.

To stay healthy the brain needs to work synchronously with other major organs, especially the heart. 'The heart is the nutrient pump for the brain,' says Gesch, and around 40 per cent of its energy output is geared towards feeding the brain. Blood flow carries the brain's supply of energy and nutrients, and without a steady flow of nutrients the brain's information processing capacity becomes restricted.

But the brain also has a very different composition from other organs. It's probably the most chemically sophisticated organ in the body and a steady supply of nutrients is crucial to produce the chemicals, for instance neurotransmitters like serotonin and dopamine, which help it function properly and are known to affect mood.

Manipulation of these brain chemicals is fundamental to many of the pharmaceutical solutions we employ to modify mental states and behavioural problems. Without an understanding of the body/mind/food connection, medicine and psychiatry have relied heavily on pharmaceutical solutions to behavioural problems. But often drug

A study found that children who suffered certain nutritional deficiencies early in life demonstrated a 41 percent increase in aggressive behaviour over well fed children by the age of eight

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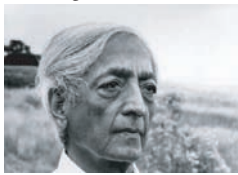
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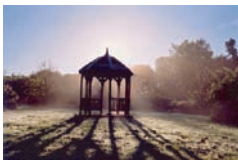
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solutions – which strive to alter the same brain chemicals produced by a healthy diet – just make things worse. Indeed no psychiatric drug is free from profound adverse effects, and none tackle the root of the problem or produce permanent changes in behaviour.

Drugs used to control both adult and juvenile behaviour can trigger paradoxical reactions that cause behaviour and impulse control to deteriorate. The scientific research documenting the connection between violence, suicide and the use of psychiatric drugs which 'work' by manipulating brain chemistry, is now overwhelming.

The anti-depressant Prozac, for example, can provoke anxiety and agitation, as well as insomnia and bizarre dreams, in a large percentage of patients. It can also cause hypoglycaemia with anxiety, chills, cold sweats, confusion, weakness and other symptoms of low blood sugar. Ritalin is another example. In the US alone, approximately four million children are currently taking this amphetamine-like drug widely prescribed to treat Attention Deficit Hyperactivity Disorder (ADHD). Long-term use is associated with a higher rate of psychotic episodes, violent behaviour and suicide – the types of behaviour the drug is meant to treat.

## Backwards Britain

In light of the alternatives, a dietary approach to behaviour seems both sensible and humane, and yet governments have been slow to act. The Netherlands is the only country where the results of Gesch's research are being put into practice. Dutch prison authorities are currently trailing nutritional supplements in 11 institutions as a means of improving prisoners' behaviour.

While British authorities have largely refused to embrace the nutritional model, there is hope. In 2004, Prisons Minister Paul Goggins revealed that the Home Office was considering research on offenders' diets, which would involve giving daily supplements of fatty acids, trace minerals and vitamins to see if they reduce anti-social behaviour among young offenders who are serving community sentences, or who have recently been released from jail. However, the move was made dependent on results from the Dutch trials and has yet to be implemented.

Given that problems in the UK prison system have become worse in the interval since Gesch's research was published, and that reoffending rates are so unacceptably high, it makes sense to ask the question: why are we waiting?

Gesch maintains some critics say that allowing offenders to 'blame' their diets for the choices they have made allows them to escape responsibility for their own actions. Such detractors, he says, cling

to the theory that how we behave is a function of free will – a central rationale of the criminal justice system that allows us to assign notions such as culpability and guilt. ‘But how exactly can you exercise free will without involving the brain? More to the point, how exactly can the brain function without its nutrient supply?’

Schoenthaler has stated publicly that: ‘People should be responsible for what they eat, just like they are held responsible for when they drink and drive.’ But if such people are incarcerated, and must choose daily from a contrived menu of available food items, then it is beholden on those creating the menu to ensure that every item on it is nutrient rich and supportive of the mind as well as the body. It is also incumbent on the powers that be to ensure prisoners are given a programme of nutritional rehabilitation that will stick with them once they are released. Clearly, the responsibility for what they eat rests on individual as well as institutional shoulders.

### A way forward

Proponents of the dietary approach aren’t arguing that diet is the only cause of anti-social or violent behaviour. But providing a healthy diet simply has no downsides. Based on available research it will work irrespective of social, legislative or racial boundaries because human metabolism is common to us all.

One of the problems with criminal justice, particularly with young offenders, is knowing when to intervene. If you intervene too early and drag youngsters into facilities for young offenders, it introduces what is known as ‘net widening’, where someone who may not be an offender quickly becomes one through association with criminal peers. But if you intervene too late you are also going to end up with an escalation of offending.

The complicated geometry of when to intervene with a youngster in trouble is a good illustration of the saneness of the dietary approach espoused by Gesch and others. After all, says Gesch, ‘Can you think of any reason at any stage where providing a youngster with a better diet is going to be prejudicial?’

The nutritional approach is also cost effective.

In May 2005 – prompted by outspoken and very public criticism on a TV series by chef Jamie Oliver – British Prime Minister Tony Blair announced his plans to make an additional £280 million available for improving the nutritional quality of school lunches. Natural Justice estimates that it would cost just £3.5 million to provide supplements to all the prisoners in the UK – a mere fraction of the current prison catering budget of

£100 million and the total prison budget of £2 billion a year.

Likewise, it costs on average £2,500 to administer an ASBO. If the order is breached and the person ends up in custody, it costs a minimum of £4,450 a month to keep them there – an expensive process set against a current re-offending rate for young people released from custody fluctuating around the 80 per cent mark.

Gesch argues that such sums could be better spent on cost effective schemes that have a proven track record of tackling and reducing anti-social behaviour. ‘Let’s just say – and this is just a simple hope – if this approach works the implications are fairly massive.

At the moment we are spending untold billions on dealing with the problems of mental illness and on building more prisons to contain behaviour problems. Communities are suffering. The people who are victims of mental problems and who are committing these crimes are suffering.

‘What if some of that suffering could be prevented? What if something as simple as nutrients could actually result in a situation where a significant proportion of people – and I’m not claiming all – are less likely to become offenders in the first place. That must mean there will be fewer victims, implying the potential for a more peaceful society. That must be a prize worth pursuing fully.’

■ Visit Natural Justice on the web at [www.physiol.ox.ac.uk/natural.justice](http://www.physiol.ox.ac.uk/natural.justice)

The report Changing Diets, Changing Minds can be downloaded at [www.sustainweb.org](http://www.sustainweb.org).

A mirror report Feeding Minds can be downloaded from [www.mentalhealth.org.uk](http://www.mentalhealth.org.uk).

Natural Justice estimates that it would cost just £3.5 million to provide supplements to all UK prisoners - a mere fraction of the prison catering budget

### NO MORE EXCUSES, NO MORE DELAYS

Let’s stop making feeble excuses about the lack of conclusive data, how much it would cost and how complicated it would be to implement nutritional programmes in UK prisons. It is time for doctors, scientists, psychologists, prison authorities and politicians acknowledge the proven link between diet and behaviour and to formulate a programme of nutritional rehabilitation for offenders that has been proven to cut re-offending rates.

Hunter gatherers of the twenty-first century. In the developing world around 50-80 per cent of all city waste is collected and dumped onto enormous garbage fields outside the city limits. Local economies have evolved around these garbage fields to such an extent that around two per cent of the population of developing countries currently live off collecting scrap.

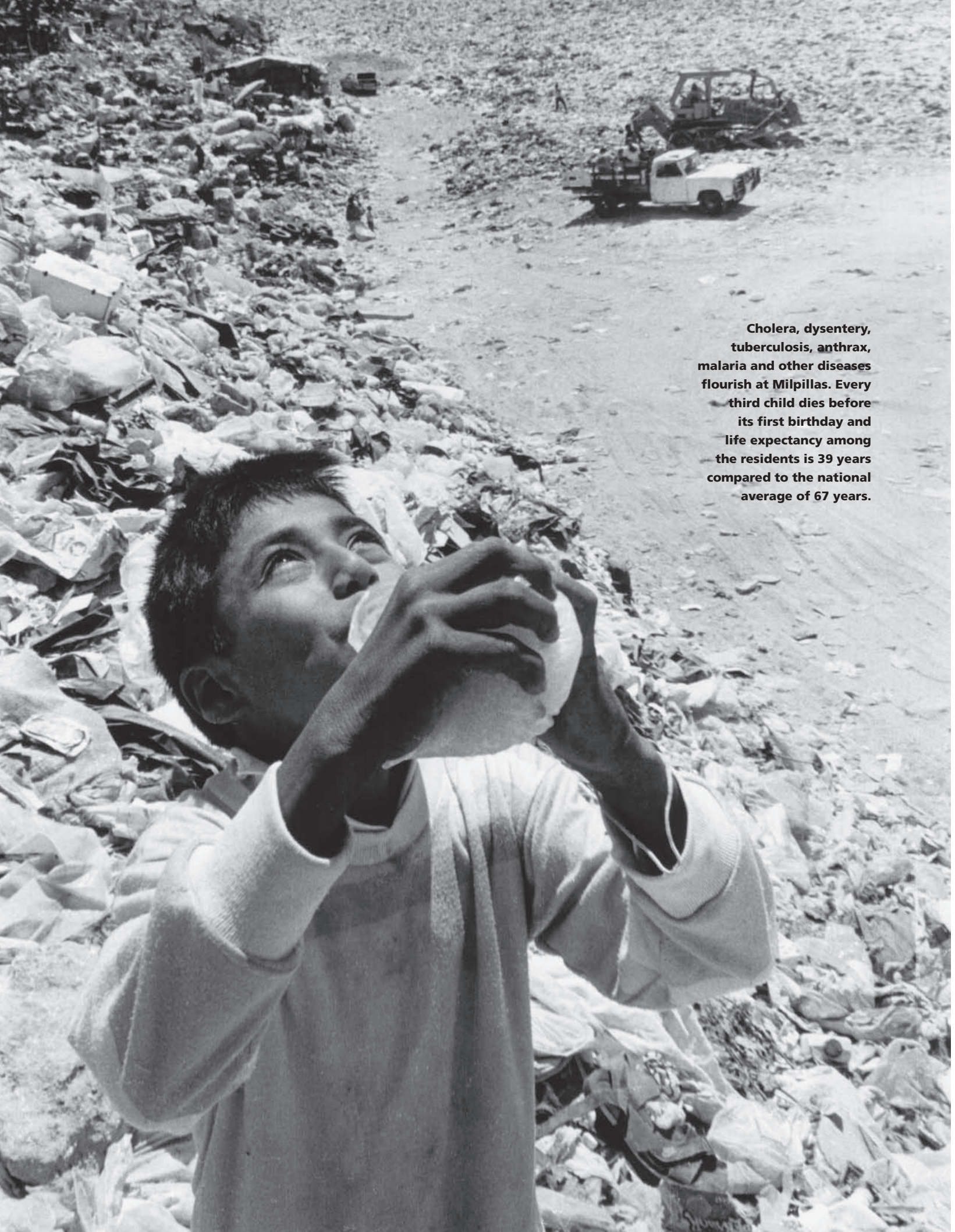


# LOS PEPENADORES

An extraordinary township of 'garbage gatherers' who make their home on the Milpillas garbage plant outside Cuernavaca in Mexico.

Photographs by **Johan Sundgren**





**Cholera, dysentery,  
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malaria and other diseases  
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third child dies before  
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average of 67 years.**

Faceless and forgotten, the garbage gatherers often belong to ethnic minorities that are not accepted in any other social arenas apart from the dumps.



## LOS PEPENADORES

**Bag after bag is collected and sorted. Clothes, shoes and appliances such as irons and kitchen devices as well as bottles and perfumes can all turn a profit. So can scrap metals. The gatherers get four pesos (22 pence) for aluminium, six pesos (33 pence) for copper, five pesos (27 pence) for bronze, and 15 centavos (less than one pence) for a kilo of tin.**



**A dead body rests on a frail bunk bed in the middle of the dump with a parasol to shade his head and a tattered cover for his body. Most pepenadores are born and die on the dump.**



## BEHIND THE LABEL

# KELLOGG'S NUTRI-GRAIN SOFT BAKE BARS

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### INGREDIENTS

Cereals ([34 per cent] wheat flour, whole oats, wheat bran), glucose-fructose syrup, apple (eight per cent), sugar, vegetable oil, humectant (glycerol), maltodextrin, honey, dextrose, stabilisers (sodium alginate, cellulose, xanthan gum, carrageenan, locust bean gum), calcium carbonate, modified starch, dried skimmed milk, salt, flavourings, cinnamon, raising agent (potassium hydrogen carbonate), malic acid, calcium phosphate, citric acid, colour (caramel E150c), emulsifiers (E472e, E471, soy lecithin), wheat gluten, starch, niacin, iron, vitamin B6, riboflavin (B2), thiamine (B1), folic acid, vitamin B12

Most of us have grown up with the mantra that breakfast is the most important meal of the day. Yet 56 per cent of us skips breakfast. The consequences can be dire for the body and the brain, especially in children. Recent research from Reading University found that kids who eat sugary snacks instead of proper breakfasts have the mental reaction times of 70-year-olds.

Instead of breakfast, an increasing number of us eat cereal bars, gulped down on public transport, in the car or at our desks. Cereal bar manufacturers have even coined a phrase for it: 'deskfast'.

Amazingly the ubiquitous cereal bar didn't even exist until 1997. Since then it has grown into a £217 million a year business in the UK and a \$2.2 billion a year business in the US.

Three manufacturers – Kellogg, Weetabix and Cereal Partners (a joint venture between Nestlé and General Mills) – take in 65 per cent of all cereal bar sales. But it was Kellogg that launched the cereal bar as a food category in 1991 with the Nutri-Grain bar. Today Nutri-Grain is the market leader, with a 38 per cent share of the total cereal bar market.

If you are habitual 'deskfaster' you may have convinced yourself that a cereal bar is better than nothing. Think again.

The box claims 'wholesome ingredients in every bar'. Yet this fruit filled cereal bar is only around eight per cent fruit and 34 per cent cereal. The rest is fillers – mostly sugar, fat and bulking agents – making this product closer to a confectionary than a breakfast item.

Recently the campaigning group the Food Commission tested 18 cereal bar products and found that all of them were high in fats, sugars, or both. For reference purposes the UK Food Standards Agency defines a high sugar product as containing 10g/100g of product and a high fat product as containing 20g/100g.

The Nutri-Grain cereal bar contains 31g/100g of sugar, and 13.5g/100g of fat.

A quick scan of the ingredients reveals not only a mind boggling array of different health depleting sugars, but also the ubiquitous ingredient 'vegetable oil'. This term can be used to indicate any refined oil (other than olive oil), but is usually polyunsaturated corn or sunflower oil, which adds omega 6 fatty acids to a modern diet already overburdened with them. An overbalance of omega 6 (also known as linolenic acid) in relation to other essential fats has been linked to the development of cancer, immune system damage, hormone imbalance, heart disease and stroke. In short, with every bite of fatty junk food like this we are being polyunsaturated to death.

It gets worse. Greenpeace's *Shoppers Guide to GM* survey, confirms that Kellogg does not use GM ingredients in its breakfast cereals; but its Pop-Tarts, Rice Krispies Squares and Nutri-Grain bars may contain GM soya or maize derivatives.

The Nutri-Grain bar also contains a handful of added vitamins and minerals – but it's worth asking whether such concessions to 'good health' are added simply so that the cereal bar can actually be marketed as food rather than Polyfilla.



INGREDIENTS	PURPOSE	ADVERSE EFFECTS
<b>Vegetable oil</b>	Fats act as binders and improve the 'mouth feel' of foods	The description is too vague to be helpful. Most vegetable oils in processed foods are based on corn or sunflower oil high in omega 6 fatty acids. Out of balance omega 6 consumption is linked to cancer, immune system damage, hormone imbalance, heart disease and stroke.
<b>Glucose-fructose syrup</b>	Sweetener, texturiser, emulsifier	Glucose syrup is generally known as corn syrup outside the US and Canada. Glucose syrup containing more than five per cent fructose can be labelled 'glucose-fructose syrup' or 'fructose-glucose syrup' depending on the proportions of glucose and fructose in the product. Theoretically this syrup could contain up to 50 per cent fructose, making it high fructose corn syrup – an appetite stimulant and major cause of obesity. Fructose also raises blood fat levels and leeches essential minerals such as copper, chromium and zinc from the body leading to deficiency diseases, immune system impairment and even insulin resistance.
<b>Sugar, Honey, Dextrose</b>	Sweeteners	All refined carbohydrates are metabolised quickly and raise blood sugar levels dramatically. The low that follows a sugar high is called reactive hypoglycaemia and is characterised by extreme fatigue and depression. Studies show that sugar intake dramatically reduces immune function for hours afterwards.
<b>Sodium alginate, Carrageenan</b>	Stabilisers	Alginates, derived from seaweed, have been shown to inhibit the absorption of nutrients in animals. Carrageenan has the potential to cause small ulcers in the large intestine similar to those found in ulcerative colitis.
<b>Modified starch</b>	Bulking agent	Usually derived from corn, sorghum, wheat, potatoes, tapioca or arrowroot. It has no nutritional value and is high in calories, devoid of vitamins, minerals, proteins, trace elements and enzymes and incompletely digested by most people, especially those with gut problems.
<b>Flavourings</b>	Synthetic flavours	Flavourings can be mixes of several synthetic chemicals. They are essentially the same chemicals as perfumes and can thus be considered neurotoxins, allergens and potential carcinogens.
<b>Ammonia caramel (E150c)</b>	Synthetic colour	Caramel produced by ammonia process has been associated with blood toxicity in rats. They may damage genes, slow growth, cause enlargement of the intestines and kidneys, destroy vitamin B and cause hyperactivity.
<b>Mono- and diacetyl tartaric acid esters of mono- and diglycerides of fatty acids (E472e), Mono- and diglycerides of fatty acids (E471), soy lecithin</b>	Emulsifiers	Fatty acid esters are commonly used in junk foods to keep them from going stale. They are often derived from GM soya bean oil. Similarly soy lecithin may be GM derived. The consumption of GM-derived foods and ingredients has not been proven safe.
<i>NOTE: Space restrictions prohibit full referencing, however Behind the Label draws on data from published studies and reports in medical, scientific and trade journals, government sponsored databases (e.g. the US National Library of Medicine) and relevant Material Safety Data Sheets (MSDS).</i>		

## ALTERNATIVES

Cereal bars are poor meal replacements; try getting up earlier and eating some real food. If, having had a decent breakfast, you still feel the need to snack on a cereal bar, look for those that conform to organic standards. Some won't be much lower in sugar or fat, but organic and alternative bars generally use fewer fillers and include a better mix of fats.

Geobar  
[www.traidcraft.co.uk](http://www.traidcraft.co.uk)  
 Doves Farm  
[www.dovesfarm.co.uk](http://www.dovesfarm.co.uk)  
 Village Bakery  
[www.village-bakery.com](http://www.village-bakery.com)  
 Seeds of Change  
[www.seedsofchange.co.uk](http://www.seedsofchange.co.uk)





# COLOMBIA'S KILLING FIELDS

THE FIRST BIO-WAR OF THE 21ST CENTURY



**W**e were sitting chatting outside our home when two small planes flew over very low. We went down to our fields to see what was happening. My husband said, "Look, they're dropping poison on our land." It went all over the food crops – the cassava, banana, beans, rice – and the pasture. We lost everything. And the poison went on us too. I had no coat on, so it went all over my arms. It was like cooking oil. Sticky, just like oil. I washed it off as soon as I could, but even so it made my skin itch. For several days we all felt ill. We had fevers and eye infections. My youngest child hasn't been well since.'

This is Graciela, a 36-year-old peasant woman living in the province of Putumayo in the south of Colombia. For five years now US planes have been spraying a powerful chemical defoliant on peasant holdings as part of Plan Colombia, the US-inspired – and US-funded – plan to eradicate coca, the raw material from which cocaine is extracted. Thousands of peasant families have been going to local hospitals to complain of eye infections, diarrhoea, vomiting and other illnesses. It is tragically reminiscent of the Vietnam War when US pilots doused land controlled by the Vietcong with a powerful defoliant, known as Agent Orange, to destroy 'cover for enemy forces'.

Many of the families we spoke to are anxious for the government to carry out a proper, on-the-ground investigation of the impact of the *fumigación* (fumigation), as they call the aerial spraying. But Colombia is waging a bloody internal conflict, with Putumayo one of the main battlefields of the war between the Colombian armed forces and the left-wing guerrillas, the FARC. Both sides – but particularly the savage rightwing paramilitaries who work closely with the armed forces – routinely violate basic human rights. The families are frightened that if they complain too loudly, the *paracos*, as they call them, will pick them off. Even doctors are fearful of protesting.

In the neighbouring country of Ecuador, just a few miles from the border post on the San Miguel river, Dr Adolfo Maldonado, a Spanish specialist in tropical diseases, works in a clinic in the small town of General Farfán. Colombians are flooding southwards, he said, to escape the spraying.

As a researcher on health and environmental issues with the Ecuadorean environmental group, Acción Ecológica, he decided to examine and interview 47 women living on both sides of the border. He chose women because they, unlike their husbands, do not habitually handle the agricultural chemicals used in the fields so it is easier to rule out other sources of contamination.

Twenty-two of the women (10 in Ecuador and 12 in Colombia) reported spraying on their land. The women living in Colombia had been affected directly. The women in Ecuador – all of whom lived within three kilometres of the border – had noted chemicals drifting over their land. The remaining 25 women, all Ecuadoreans, lived about 80 kilometres from the border and had not suffered from the spraying. They were the control group.

Maldonado took blood samples from all the women and gave them to Dr César Paz y Miño, at the Pontifical Catholic University of Ecuador (PUCE) in Quito, to carry out so-called 'comet tests' to see if the women's chromosomes had been damaged.

In today's world, it is normal for about four per cent of a person's cells to register some form of damage and the 25 Ecuadorean women in the control group were found to have cell damage close to this level (6.93 per cent). But the 22 women, both Colombian and Ecuadorean, who had been affected by the sprayings, were found to have suffered much greater genetic damage: over one third (36.45 per cent) of their cells had been harmed. The woman who had been most affected – a 23-year-old Colombian – had 85.3 per cent of her cells damaged, 21 times the normal level.

Dr Maldonado's findings raise some very disturbing questions. Why are these women suffering such high levels of genetic damage? Could it be the defoliant? What is the exact formula of the chemical being sprayed on their land?

### The toxic mix

Monsanto, the US multinational that has received \$25 million from Plan Colombia to provide the defoliant, keeps a very low profile in Colombia. So ready in many other countries to publicise its products, it refuses even to disclose the actual chemical formula of the cocktail it is spraying on the land. All the company will say is that its basic ingredient is Roundup, its highly successful herbicide.

Roundup (like all other pesticides and herbicides) has two kinds of ingredients – active and inert. The active ingredients are those designed to kill the targeted pest or plant, and the inert ingredients are added to the product either to make the active ingredients easier to apply or to increase their toxic powers. The active ingredient in Roundup is glyphosate, long assumed to be relatively harmless.

When the US Environmental Protection Agency (EPA) approved glyphosate for general use, it reproduced Monsanto's claim that Roundup was 'less toxic than common salt, aspirin, caffeine,

Dr Elsa Nivia calculates that spray planes deposit what amounts to a 26 per cent concentration of glyphosate, compared to the one per cent suggested



nicotine and even Vitamin A', a statement reproduced in a fact sheet on the aerial eradication programme published on the Colombian Embassy's website. (It is, however, interesting to note a fact not recorded on the website: in 1996 the New York State Attorney General won an injunction against Monsanto for falsely claiming that Roundup was 'as safe as table salt'.)

There are several reasons why Roundup, despite being widely regarded as relatively benign, could be having such serious effects in Colombia. First of all, Roundup is not applied in Colombia under 'present and expected conditions of use', which are the conditions in which scientific appraisals are carried out. Monsanto's own label warns against applying the herbicide 'in a way that will contact workers or other persons, either directly or through drift'.

The label also calls on farmers to remove livestock prior to spraying, to wait for two to eight weeks before harvesting crops, and to avoid herbicide contact with foliage, green stems,

desirable trees and plants 'because severe injury or destruction may result'. As a report published by the Institute for Science and Interdisciplinary Studies (ISIS) points out, 'These conditions are not met in Colombia, where airplanes apply herbicides over acres at a time with no prior warning to landowners. In the US, such failure to follow the label instructions would be a violation of federal law.'

Secondly, Roundup is used in much greater concentration and more frequently in Colombia than elsewhere in the world. Dr Elsa Nivia, the director of the Colombian branch of the Pesticide Action Network, believes that this greatly increases the harm caused.

Using information she obtained from officials participating in the eradication programme, she calculates that spray planes deposit what amounts to a 26 per cent concentration of glyphosate, compared to the one per cent that is recommended in the US for weed control in crops. And thirdly, special ingredients are added to Roundup to make



**A five year-old Colombian boy, Ever Hernando Salce, leans against a building in his hometown of Arauca, 500 kilometres south of Bogota, with blisters on his face caused by the herbicide sprayed on the region's coca plantations from crop-dusting airplanes working under Plan Colombia**

it more effective as a defoliant. Although the label for Roundup warns that 'this is an end-use product. Monsanto does not intend and has not registered it for reformulation', at least one other additive – known by the brand name Cosmo-Flux 411F – is routinely mixed into the spraying solution. Some observers believe that this additive alone makes the herbicide four times more toxic than it is on its own.

Working in difficult conditions in her laboratory in the town of Mocoa in Putumayo, Dr Nivia has carried out some of the most important research into the impact of the spraying. Gathering data from many different sources, she believes that the overall impact of the chemical cocktail being applied could be up to 104 times greater than that of Roundup in normal agricultural practice.

### Fighting back

Colombia is a violent, corrupt and lawless country, yet it also has an extremely vibrant civic society. Many courageous individuals, working inside the government and outside it, have risked their

lives to attack the government for its refusal to assess the impact of the aerial spraying. One of the country's leading human rights organisations, La Corporación Colectivo de Abogados José Alvear Restrepo (CCAJAR) has published numerous protests, including a booklet entitled 'Plan Colombia – No', in which it commented: 'There is plenty of money to purchase glyphosate, to maintain the planes used in the spraying, to pay the pilots, to build bases where they can live, and to carry out operations to detect the coca crops, but there are never any resources for evaluating the damage caused by glyphosate to the health of Colombians who have been sprayed.'

CCAJAR then observed with considerable bitterness that it was perhaps not surprising that the Colombian authorities were so ineffective in protecting the local population, for the spraying was carried out by US companies, the substance they were using was manufactured by a US company, and many of the pilots were US citizens who reported to the US embassy.

Some local judges have tried to curb the abuses. In a remarkable judgement on 13 June 2003, the supreme court of Cundinamarca, a province in the centre of Colombia, ordered the spraying of chemicals to be halted. In the summary of reasons for its decision, the court referred to the study being carried out by Dr Maldonado. But the federal government, headed by President Alvaro Uribe, appealed to the Council of State, a federal court with greater powers than the local Cundinamarca court, and won the right to ignore the ruling.

### So who's winning the war on drugs?

In the first few years Plan Colombia appeared to be working, at least on its own terms. Statistics for coca cultivation are notoriously unreliable but, according to the CIA, the area under coca cultivation in Colombia fell from a high point of 169,800 hectares in 2001 to 113,850 hectares in 2003.

However, in a determined effort to protect their livelihoods the peasant coca farmers have developed new strategies. They have moved deeper into the tropical forest to avoid detection, they have started cultivating coca in nature reserves, as they know the authorities will face a barrage of criticism from environmentalists if they start spraying there (see box), and they have planted larger areas with coca to compensate for the part of their crop they expect to lose from the spraying.

In this way peasant families are surviving the onslaught: even though in 2004 more land was sprayed than ever before (136,555 hectares), the area under coca cultivation that survived the fumigation actually increased by a small amount,

to 114,000 hectares. What this means, of course, is that Plan Colombia is a spectacular failure: not only is it decimating the environment and poisoning the local population, it is also leading to an increase in coca cultivation.

What's more, the only groups really to benefit (apart from Monsanto and the foreign contractors carrying out the spraying) from Plan Colombia, are multinational companies that are free to exploit Colombia's natural resources, particularly its oil, now that so many peasant families have been driven off the land.

And with so much attention focused on Colombia, peasant families in Bolivia and Peru have been quietly increasing their coca harvests. It's the so-called 'balloon effect': you squeeze cultivation in one area and it pops up in another. It all goes to show that, while demand for cocaine remains high on the streets of New York and London, peasant families will find a way, somehow or another, to supply the coca. The war on drugs will be won (or lost), not in South America or Afghanistan, but on the streets of New York and London.

### After the chemicals, the fungus

As if the glyphosate mix were not doing enough damage, there are now indications that Colombia is rethinking its earlier decision not to use biological weapons to eradicate coca and opium poppy crops (which are also cultivated in Colombia).

*Fusarium oxysporum* is a plant pathogen that causes withering, rot and death to a variety of plants. As the active ingredient is a fungus, the plant is technically known as a mycoherbicide (from myco, the Greek for mushroom). David C Sands, a plant pathologist at the University of Montana in the US, who has carried out research into *fusarium oxysporum*, calls it 'an Attila the Hun disease', pointing out that there are strains of *fusarium* for virtually every cultivated plant and many wild ones.

The tale of US involvement in this story is bizarre. In the early 1980s, the United States Department of Agriculture (USDA) took over a legal coca plantation in Peru, previously owned by Coca Cola, and started to use it to test herbicides. In 1987 a mysterious pathogen infected the control plot, killing most of the coca plants, and the USDA phoned Sands to ask for his help. Sands discovered that the plants had been attacked by a naturally occurring pathogen of the *fusarium oxysporum* family. To the US authorities it must have seemed like manna from heaven: a native biological weapon with which to devastate the coca fields. In 1998, the US Congress approved \$23 million in

Though in 2004 more land was sprayed than ever before, the area under coca cultivation surviving fumigation increased. What this means is that Plan Colombia is a huge failure

### THE CONTROVERSY OVER THE PARKS

One of the fiercest debates concerns national parks: should they be excluded from the spraying? These parks, which cover 10 million hectares, provide permanent protection to Colombia's biodiversity and are considered to be among the richest in the world. On 27 June 2003 in Bogotá, the Consejo Nacional de Estupefacientes (the National Narcotics Council) decided that spraying would be permitted. Just a few days later Marta Lucía Hernández, director of the Tayrona National Park on the Caribbean coast, was murdered by paramilitaries. It seemed that the whole park system was under siege.

The protests that followed were deafening. A former environment minister, Juan Mayr, said that spraying parks amounted to 'an assassination attempt on Colombia's collective heritage'. Carlos Castaño Uribe, who had headed the Unidad Nacional de Parques Naturales (the National Department for Nature Reserves) for 15 years, commented: 'The country has made an enormous effort to safeguard these protected areas because they are the gene bank of the nation. The planet's greatest store of bio-diversity cannot be treated in this way.' Daniel Samper Pizano, a noted Colombian writer, pointed out that Colombia boasted 1,754 species of bird, more than any other country, and it had the world's second largest stock of plants and amphibians and the third largest stock of reptiles. The government had to protect this extraordinary biodiversity, he argued.

This outcry had an impact: in March 2004 the Colombian environment minister said that the government would only resort to fumigation in national parks if manual eradication failed. The statement fell far short of the watertight ban that the environmentalists wanted, but it represented a real advance – but not for long. In June 2004 a plane belonging to the US contractors, DynCorp, began spraying an area of the Sierra Nevada de Santa Marta belonging to the Kogui indigenous people. With the help of a French non-governmental organisation, the Kogui had bought 2,000 hectares of land in 1997 and had then worked to recover the land's biodiversity. In May 2004 – just a fortnight before the spraying – they had finally had their land recognised as a nature reserve. The final irony is that this land contained no coca whatsoever. There were more protests, but this time the government ignored them. In May 2005 the Colombian government announced publicly that it planned to fumigate the nature reserves of Sierra Nevada de Santa Marta (the northern park declared a biosphere in 1986 by UNESCO), La Macarena in the centre-east and Catatumbo in the north west.

Few environmentalists would deny that there is a problem. Figures from the CIA showed that the area planted with coca in just six of the country's nature reserves increased by 6,550 hectares in 2004. To some extent this is the result of Plan Colombia itself, which is leading peasant families to flee the spraying and plant coca in more remote areas. But most environmentalists propose another solution: manual eradication. They say that this has already proved effective in some parks, and point out that spraying would represent a violation of both the international treaties on biodiversity that Colombia has signed and on the Colombian Constitution, which requires the authorities to reach prior agreement with the communities involved.

funding for the development of this fungus to an operational stage. Sands carried out the research in his university.

This was not the first time a *fusarium* had been developed to combat drugs. In 1999 the US federal government wanted to use another strain of *fusarium* to eradicate marihuana plantations in Florida, but the state department of the Environment Protection Agency (EPA) refused to give its authorisation. 'It is difficult, if not impossible, to control the dispersal of the *fusarium* species,' said the EPA director, explaining his decision. 'The fungus can mutate and damage a wide variety of crops. *Fusarium* species are more active in warm soils and can remain active in the soil for years.' But this did not mean that *fusarium* was automatically ruled out for Colombia. In a letter to President Clinton on 3 August 1999, Senate Majority Leader Trent Lott and House Speaker Dennis Hastert, both Republicans, called for 'the early deployment of mycoherbicides in guerrilla-controlled zones' in Colombia.

At the time there were several unconfirmed reports that experiments with *fusarium* had already been carried out. According to an article in the *New Herald* (a Miami newspaper) in July 2000, the US army had experimented with the fungus in an area five kilometres north of Lago Agrio in Ecuador, a claim backed by the mayor of Puerto Guzmán. According to Jeffrey St Clair, a prominent US journalist, the US ambassador to Colombia, Anne Patterson, had also testified some time earlier that she believed biological weapons had already been deployed in Colombia. She later retracted her statement, which she said had been made 'under duress' (though she did not specify what kind of duress).

Not surprisingly, the spectre of biological warfare set alarm bells ringing. Several commentators in Colombia and abroad pointed

out that the use of *fusarium* spores would almost certainly be a contravention of the UN Biological Weapons Convention. Ecuador and Peru immediately banned the use of mycoherbicides in their territory and Brazil

lodged a complaint with the United Nations. After a high-profile public campaign, coordinated by Colombian non-governmental organisations, the United Nations advised against the use of the fungus. In August 2000, President Clinton specifically ruled out that US aid to Colombia should be made conditional on the use of the

fungus. It appeared that good sense had won out and the controversy died down.

However, the lobby in favour of biological weapons did not accept defeat and it appears that behind-the-scenes investigations into biological weapons continued. In June 2005 Dan Burton, a Republican member of Congress, issued a statement in which he said: 'We spend millions of dollars every day on counter-narcotics efforts, including crop eradication and interdiction, especially in our joint efforts in Colombia, Afghanistan and elsewhere, yet the flow of illegal and lethal narcotics continues to be a major problem in our country. The advent of mycoherbicides and other counter-narcotic alternatives offers us the possibility to cut off the source of these drugs literally at their roots.' The congressman meant business: he and other like-minded colleagues managed to introduce into new drug legislation going through Congress a provision that required the drawing up of a 'plan of action to conduct controlled scientific testing of naturally existing mycoherbicide in a major drug producing nation' within 90 days of the enactment of the new law. Although it was not spelt out, it seems very likely that the nation to carry out the tests will be Colombia.

### Nature fights back

While the controversy over fumigation continues to rage, rumours circulate about the emergence of a new wonder kind of coca, known variously as *supercoca*, *la millonaria* and *boliviana negra*. This strain, it is said, grows much taller than conventional coca, produces leaves with a higher cocaine content, and, most important of all, is resistant to Roundup. Speculation is rife that a scientist from one of the biotechnology companies has developed a genetically modified strain of coca. If this is the case, then GM coca would be exactly like Monsanto's GM soya, known as Roundup Ready, in that it would have had a special gene introduced into it to make it resistant to glyphosate. The spraying of Roundup would kill all normal crops, but not this coca.

In November 2004 Joshua Davis, a US investigative journalist, travelled to La Hormiga, a town in Putumayo, to track down the *supercoca*. With little difficulty, he found farmers who were cultivating the strain, known in the region as *boliviana negra*. 'Now that we have *boliviana negra*, the herbicide is only affecting legal crops,' a farmer confirmed. 'So the fumigation is encouraging us to plant not our old crops such as yucca, bananas and maize, but the only thing that will survive – *boliviana negra*.' Fabio Paz, the mayor of La Hormiga, told Davis that farmers were switching

Speculation is rife that a scientist from one of the biotechnology companies has developed a genetically modified strain of coca



in droves to *boliviana negra*. 'You can give away other types of coca now,' he said, because the farmers don't want them. Davis took a sample of *boliviana negra* back to his hotel and carried out a simple laboratory test in his room to see if the coca contained the Roundup Ready gene. Rather to his disappointment, it did not.

However, this by no means suggests that the coca farmers are lying – or are misguided – in their insistence that *boliviana negra* is resistant to Roundup. The repeated application of Roundup herbicide to Roundup Ready soya in Argentina has encouraged the emergence of mutated 'super-weeds', which are resistant to the glyphosate. Such a chance mutation could have occurred in Bolivia or Colombia. Coca growers could have produced seeds from this mutant strain and then distributed them among themselves. If this is the case, as seems likely, the spraying of glyphosate will no longer poison coca and the US government will almost certainly put extra pressure on the Colombian authorities to spray *fusarium* as the only effective way of eradicating it. *Fusarium* would do more damage even than glyphosate and, worse still, it could become uncontrollable. Because it is a fungus, it could spread rapidly to other crops and to other regions. The idea of *fusarium* spreading widely in the Amazon basin is a truly frightening

prospect. The bio-war may be only just beginning.

■ Sue Branford and Hugh O'Shaughnessy

This is an edited extract from their book, *Chemical Warfare in Colombia – the Costs of Fumigation*, published by Latin America Bureau.

To order this book telephone 0207 278 2829 or email [mailorder@lab.org.uk](mailto:mailorder@lab.org.uk)

### WHAT YOU CAN DO

Please send a copy of this article, with a personal covering letter too:

President Alvaro Uribe Velez: [auribe@presidencia.gov.co](mailto:auribe@presidencia.gov.co)

Vice President Francisco Santos: [fsantos@presidencia.gov.co](mailto:fsantos@presidencia.gov.co)

Colombian Embassy in the UK: [mail@colombianembassy.co.uk](mailto:mail@colombianembassy.co.uk)

Ambassador William B. Wood, US embassy in Colombia:

[AmbassadorB@state.gov](mailto:AmbassadorB@state.gov)

And for more information, there are several organisations in Colombia and Ecuador that are campaigning against the aerial spraying. They include:

- 1) La Corporacion Colectivo de Abogados [www.colectivodeabogados.org](http://www.colectivodeabogados.org)
- 2) Rapalmira (Pesticides Action Network Colombia) [www.rap-al.org](http://www.rap-al.org)
- 3) Accion Ecologica Ecuador [www.accionecologica.org](http://www.accionecologica.org)

For those who don't read Spanish, you can keep in touch with what is happening through Colombia Journal Online [www.colombiajournal.org](http://www.colombiajournal.org)



# RIVER OF GRASS

A tale of Indians and airboats, giant alligators and one of the world's greatest ecosystems hanging in the balance. PHOTOGRAPH AND WORDS BY JAMES FRANKHAM

He waits on the dock, wearing jeans, an enormous buckle on his belt, an embroidered waistcoat and a necktie. Buffalo Tiger, one of the last chiefs on the East Coast of the United States, greets me with a nod. His face is speckled by years of exposure to the sun and his thinning silver hair flutters in the breeze.

Buffalo Tiger has led his people for half a century and has defied the US government to win back a small section of swampland in the heart of Florida's mighty Everglades National Park. I feel I should stoop in recognition of his status or offer that Disney gesture 'How' with my right hand.

Instead, I stand with him on the edge of a flimsy timber dock that looks out over miles of golden sawgrass and sinuous channels of dark water. 'I was born right over there,' he points vaguely in the distance, waving his arm gently to include the entire two million acres of National Park. What appears to be a massive inland delta is actually a slow moving river up to 100 kilometres across that runs from Lake Okeechobee in the east, devours the southern tip of Florida and diffuses into the Gulf of Mexico.

Conservationists worldwide have recognised south Florida, and specifically Everglades National Park, for its outstanding biological wealth. The Park is one of only three sites in the world to be designated a World Heritage Site, an International Biosphere Reserve, and a Ramsar Wetland of International Importance.

Tiger escorts me to a waiting airboat, stock-in-trade for navigating the waterways of the grassy interior. It

resembles a giant hairdryer sitting on an aluminium baking tray. A gaggle of youngsters from the Miccosukee Reservation are already well established in the bow, grinning as if they slept with coat hangers in their mouths.

He sits carefully on a plastic seat and nods to his young apprentice Johnny, who clammers up the scaffolding of the elevated pilot seat, starts the 400-horsepower Cadillac engine mounted behind his head and stuffs cotton wool into his ears. Johnny squeezes the throttle open, deftly manoeuvres the roaring contraption into the waterway, and then gives her the gun. The white-knuckled tykes in front of me fizz with delight and issue wide-eyed squeals as we accelerate. Clouds of spray swirl behind the giant propeller and sawgrass clatters against the flat hull. My ears ring and pieces of severed foliage litter my wobbling cheeks.

Buffalo Tiger's people once lived in north Florida, but their land was occupied when white farmers settled in the southern states. The Miccosukee were outnumbered and retreated into the Everglades swamp where they have lived in exile since the 1820s. They were not followed, never defeated and lived in isolation, without contact with white people or knowledge of the outside world.

## Changing the course of nature

In the early 1950s US Army Engineers began flood-control works, which altered the course of the massive river and drained vast tracts of swampland. Indian villages were bulldozed. The Miccosukee emerged from more than a century of hiding under the leadership of Buffalo Tiger, claiming that they had never been defeated, that the land was theirs and

'White man will blow himself off the face of the earth leaving the land free once more for the Buffalo Tiger Indians'.

the government should give it back. And so ensued a battle for the land that continued until the State of Florida finally granted Buffalo Tiger's tribe lease on 189,000 acres of conservation land in 1983.

The aluminium hull rumbles with pleasure as Johnny flies us deeper into the flooded heart. I feel more than a little conspicuous – one skinny white guy with a boatload of Indians who have spent a great portion of their lives campaigning for the return of land from the hands of people my colour. And a self-conscious part of me quietly wonders whether

Buffalo judges me as part of the conspiracy. Should I apologise?

Johnny's eyes squint a little. He sits up tall and kills the engine, the three-metre-high sawgrass squeaking against the alloy as we coast to a stop.

The mirror-like surface of the water is punctuated by a pair of flared nostrils, followed by two enormous gold-rimmed eyes and a series of bumps extending three metres to the tip of the tail that looks like a half-submerged steak knife. Air wheezes into the lungs and its body rises to the surface, revealing a powerful tail nearly 30 centimetres in diameter.

There are 1.2 million alligators in the swamps and waterways of Florida's Everglades, making it somewhat less popular for swimming than Miami's famous beaches only an hour to the east. But changes to the watercourse, high phosphorous levels from agricultural run-off, and pollution from urban development are reducing the alligator population. The 23,000 square kilometre watershed was once a single system of rivers, lakes and wetlands. Flood control and water supply structures have drastically reconfigured the once free-flowing water, reducing the water volume and disrupting the natural flooding and drying cycle. The Everglades have nearly

halved in extent, with the National Park preserving only a fifth of the native marshland.

'There have been many changes in my lifetime,' explains Buffalo Tiger, with the great aura of wizened chief. 'Once there were no white people here, no road, no pollution. And my people used to eat fish, turtles and ducks and grow sugar cane and bananas. But now nothing grows here.' His eyes scan the sawgrass over my shoulder and he continues, 'The public don't realise what is going on until people start dying from drinking the water.'

Scientists estimate that in 1870, more

than two million wading birds crowded the marshes and estuaries of south Florida. Within a hundred years that number had dropped to a few hundred thousand, just 10 per cent of the historical level.

The sixteenth century explorer Ponce de León claimed the Florida peninsula for Spain, in part because he was convinced that within

the grassy heartland of the Everglades was a mythical fountain of youth. I doubt he found it, and if he did, it didn't work. And now the great ecosystem may itself be facing an untimely death.

Micosukee Indians and alligators share the fate of the Everglades. And recently, it has been discovered, white people also depend directly upon the health of the ecosystem. This vast inland marsh is the water source for Miami's six million residents and south Florida's valuable farming sector. Computer models of the region's water flow predict that as population and industry continue to grow over the next 30 years, water shortages could occur every other year.

### Restoring the balance

This news has brought about a remarkable change of tune at the metropolitan water board. In what may be the world's most ambitious effort to restore an ecosystem, government agencies, business interests,

and environmentalists are combining forces – and some US\$7.8 billion – to reverse a century of draining and diking in the Everglades. Ironically, leading the charge is the US Army Corps of Engineers – the very same corps that built the dams and diverted flow paths in the first place. Over the next decade they will systematically dismantle 800 kilometres of canals and levees, numerous dams and aqueducts assembled by their corps just 40 years ago. It must be like eating a giant hat.

Yet the only thing more costly than fixing the problem is not fixing it. Economists believe that further declines in the ecological health of the Florida Bay region could bring losses of more than US\$250 million a year in lost tourist dollars and reduced commercial fish catches.

It is anticipated that after the restoration of historical water patterns, species at every level of the food chain will recover their original population and distribution. But just how fast that will happen is still very much in question. Bringing back two million wading birds and the 68 endangered species that are hanging in the balance is problematic at best. And curbing human population growth, expected to double in less than 50 years, could be more difficult still.

'Man cannot make this again,' Buffalo Tiger casts his sober judgement, pausing on each word so it sinks through my thick white skull. 'When you destroy the water you destroy your food and your life.' He's lived long enough to see the situation come full circle. White people took it. Spent millions wrecking it. And are now spending billions trying to restore it to what it was.

Indeed, the story of white man's last century in Florida might even be funny, if the consequences were not so serious.

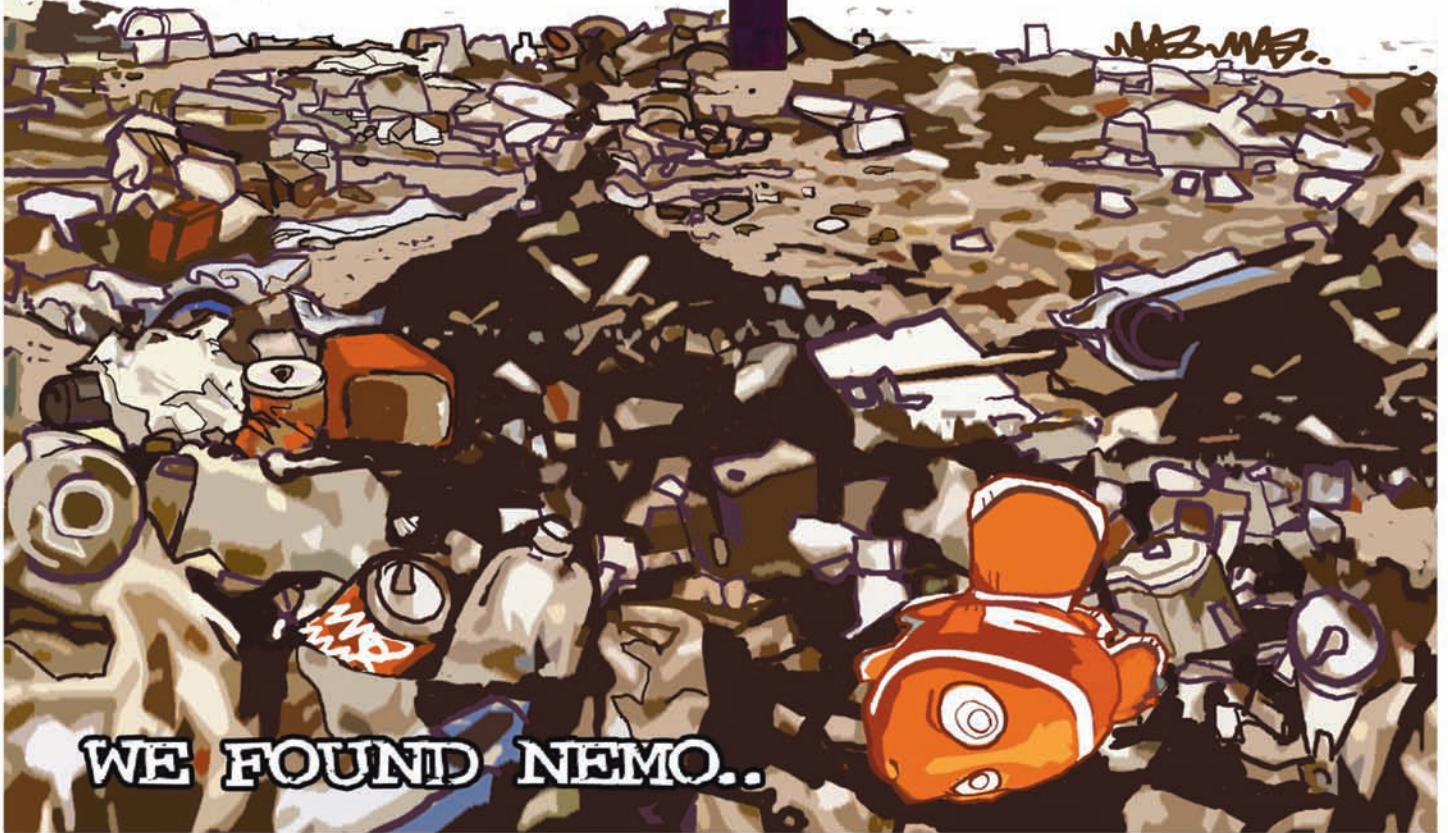
It now seems clear that the Micosukee have lost their homeland forever – lost to the tide of development and the gradual ebb of water from their sawgrass. And while they can be mildly cheered by the fact that none of their number has ever died of cancer, it's the old Indian prophecy that really tests their mettle: 'White man will blow himself off the face of the earth leaving the land free once more for the Indians.'

'Once there were no white people here, no road, no pollution. And my people used to eat fish, turtles and ducks and grow sugar cane and bananas. But now nothing grows here'



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# THE CLEANSING OF HACKNEY

An exemplary tale of yuppie flats, jellied eels, bent local councillors and a man called Tony. **Paul Kingsnorth** reports

**H**ow do I feel?' Tony Platia shrugs his shoulders in a very Sicilian way. 'How d'you think I feel? Look at what they done to my place. Thirty-one years of my life I put into this and they left me with nothing to show for it.' He touches my elbow and gestures at the street outside, unseen beyond the impromptu barricades that shore up what's left of Francesca's Café.

'This used to be a lovely community,' he says, intensely. 'When I come here it was old East End, real rag trade. It's all being killed, all the ordinary people pushed out. They're taking from the poor and giving to the rich. Look around you.' He touches my elbow again, shrugs his shoulders, and looks bleak.

'Breaks my heart,' he says.

Tony Platia is a sharply dressed, sharply spoken Sicilian. Thirty-one years ago he opened Francesca's Café in Broadway Market, Hackney. It was a traditional London Italian caff; cappuccinos, pasta and loyal customers who saw Francesca's as one of the beams shoring up the identity of their neighbourhood. But that identity is changing, and today Francesca's Café has become an unwilling and unexpected frontline in a new war: that of ordinary folk versus developers, community versus corporation.

## Locals' last stand

It's just gone seven on a freezing, dark January morning. But Francesca's no longer serves breakfasts or early morning coffee. Targeted by developers,

it is under threat of demolition, to be replaced by luxury flats and a new theatre. Unfortunately for the developers, the local community would prefer to keep Tony and his café. This morning, with rumours flying of bailiffs on their way to evict Tony, Francesca's is boarded up, shuttered and occupied by local people, making an unexpected last stand for their community. Inside, the café is a dark swirl of conversation, rumour, anger and cigarette smoke. In the centre of it all sits Tony Platia. Occasionally he looks around him as if wondering where he is, and how it all came to this.

Three decades ago much of Hackney was run-down, shabby, boarded-up, and often dangerous. Today the artists, media types and city workers who have been flooding into nearby Hoxton and Shoreditch have discovered Broadway Market. The streets are now increasingly lined with expensive baby buggies, silver BMWs and Italian scooters. Every Saturday Broadway Market is home to upmarket stalls, where you can buy loaves of artisanal bread for £2.75, or stock up on porcini mushrooms and alpaca scarves. Hackney is officially happening.

There are some who like this and some who don't. On one side, some people who have lived in Hackney for decades are concerned on a number of levels about how the neighbourhood is changing. There might be more money around, they say, but it doesn't go to them. Property prices are rising, and 'ordinary folk' can't afford to buy new places there anymore. Gentrification, they say, is killing Hackney's character. On the other side, there are those who point to the

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'...an unholy alliance of hawk-eyed property developers and a corrupt and venal local council has launched a land grab that is ripping the heart out of the neighbourhood and impoverishing local people.'



fact that shops that used to be boarded up are now flourishing, and that new people are coming into the neighbourhood, making it more mixed in character – and, they say, safer.

In theory, at least, they should be right. In theory, this influx of new people and new money ought to mean more trade for local businesses like Tony's. It ought to mean 'regeneration'. Everybody, so the theory goes, should be a winner.

But it hasn't worked out that way. Instead, an unholy alliance of hawk-eyed property developers and a corrupt and venal local council has launched a land grab that is ripping the heart out of the neighbourhood and impoverishing local people. And what is happening in Hackney is a foreshadowing of similar situations all over the country, as money, power and property values combine to destroy the lives of ordinary folk, and rip the heart from their communities and the character of their neighbourhoods.

Just ask Tony, whose story has come to symbolise everything that is going wrong in the East End. Thirty-one years ago, Tony started up his business in Broadway Market, in a property owned by the local council, to whom Tony paid rent and rates. His café was popular, and it made him a modest living. But unknown to him, it was becoming caught up in a financial scandal that would lead to his ruin.

### Debt defying strategy

Years of corruption and incompetence have left Hackney Council in debt – to be precise, a staggering £72 million worth of debt, as auditors discovered in 2001. Mandated by the government to sort it out, and quickly, one of the council's solutions was to sell off its commercial properties; properties like Tony's café – and dozens of other small, local businesses in Broadway Market. When Tony heard this he prepared to make an offer for Francesca's himself; the council, after all, had assured leaseholders that, if they could meet the guide price for the properties, they would have first refusal on them. But Tony had competition. A Kent-based millionaire property developer named Roger Wratten, who had recently snapped up the properties on either side of Tony's place, had his eye on Francesca's. An unidentified 'someone' informed him that Tony was trying to buy it, and from that point on, all Tony's attempts to do so were thwarted – paperwork was lost, phone calls went unreturned. For three years, Tony struggled for the simple right to buy his own business. But in February 2003, it was sold, at auction, to Roger Wratten.

Cock-up? Coincidence? Wratten and the council say so – but many locals say otherwise. They see a conspiracy of council and developers, aimed at clearing out the small, less-profitable local businesses, and replacing them with new, upmarket developments that

will bring in a lot more cash. Developments like the one that Roger Wratten wants to build on the site of Francesca's and the adjoining properties, for example – a combination of luxury flats and a new theatre, in which his theatre-director wife can stage Shakespeare plays.

There is certainly something convenient about the speed and apparent ease with which whole blocks of properties in Broadway Market and the surrounding area are being sold to wealthy developers, none of whom are from the local area – and many of whom bought the properties at knock-down prices, in many cases lower than the leaseholders were prepared to pay for them. A company registered at a PO box in Nassau bought a whole row of shops for less than their leaseholders would have paid. Another registered in Dubai did the same. A Russian property company now owns nine properties in Broadway Market; it bought them for £250,000, though they had an estimated value of almost £5 million. Roger Wratten's Kent-based business owns several more.

So what? What's wrong with investors buying up properties they can regenerate if it brings in money and smartens up the neighbourhood? What's wrong, it seems, is that the people of that neighbourhood are not being asked what they want. Nor, in many cases, are they getting anything out of it. And in some cases, like that of Tony's, they are not only failing to benefit but they are losing their livelihoods.

Start to look at this from a distance and it looks uncomfortably like the neighbourhood is being socially engineered: cleansed of undesirables and having the awkward and sometimes spiky-edged colour, character and reality squeezed out of it. Made comfortable for people in designer shirts who don't like getting their shoes dirty and who get suspicious if a cup of coffee costs less than three pounds. In financial terms, this certainly makes sense; property prices in east London are shooting up as the middle classes move in. Now, too, there is the added impetus of the 2012 Olympic Games, which are to take place less than a mile from Broadway Market, and which are already putting added pressure on property values.

On one level, then, this is an ordinary tale of gentrification, squeezing out the poor to make way for the rich. And yet there are two things that make it a more complex tale. One is that, though Broadway Market is certainly a lot more gentrified than it was just five years ago, it is still a mixed neighbourhood. Small cafés, newsagents, jellied eel shops and vegetable stalls jostle side by side with Tapas bars, upmarket clothes emporiums and designer hairdressers. And as for those demonised yuppies – it seems that some of them are actually on Tony's side. For the last few months, local people have organised a petition to save Tony's café, and many of the hip young dudes who swan around the artisanal market on a Saturday have

signed it. They, too, it seems, like the idea of a mixed neighbourhood. They, too, think that Tony's is worth saving.

The second heartening thing about this story is just how many people feel that way. When news filtered through to the local community about Tony's rough treatment – and that of others on the street – a few brave souls decided to do something about it. They organised a campaign and a petition to allow Tony to stay. They talked to the council and the developers, they alerted the media, and they worked hard to ensure justice for the small traders of Broadway Market.

### Fighting back

Justice didn't arrive, despite their best efforts. In July last year, bailiffs arrived as Tony was opening up his café, evicted him and began demolishing his life's work before his eyes. But the developers had been slapdash, and the campaigners managed to halt the demolition halfway through on health and safety grounds. Then they moved back in, occupied the café and, against everyone's expectations, including possibly their own, they rebuilt it, brick by brick. Today, Francesca's still stands – battered, bruised and with an eviction order hovering over it, but still at the heart of the community.

Inside, Arthur Shuter, one of the leaders of the local campaign to save Broadway Market, sits drinking tea and smoking cigarettes, safe against the freezing chill outside.

'I can understand the council's position,' he says. 'If they give in on Tony's, they will lose millions, the developer who bought it will be furious and it will set a precedent. The council like to say things are out of their hands. The developer claims he's putting something back into the local community. But we've shown him what community really is.'

Arthur is interrupted by Elijah, a great bear of a man with a voice like Frank Bruno. 'He doesn't care about the community!' he says, scornfully, of the developer. 'He's a corporate guy. People would come to Tony with their problems, and he'd always have a solution, y'know? He was like a community leader. He helped me through the hardest time of my life. This is nothing to do with community – it's all about money. They didn't reckon on us standing up to them, that's all. We don't like bullies.'

'And they are bullies,' says Arthur. 'Oh, most certainly. The developers think they can turf people out of their homes and their businesses. The council talks about "regeneration" and "best value". They use all the right words. But they've been caught out here, and they're in a real fix.' He stubs his cigarette out in an overflowing ashtray.

'We won't go away,' he says. 'They don't like that.'

At the time of writing, Francesca's Café still stands.

By the time of publication, it may not. But if and when Tony and Arthur and Elijah and the rest are evicted for a final time, it will not be the end of things in Broadway Market. There are other properties to defend; other battles to fight.

Next on the list, for example, is number 71, the Nutritious Food Galley, a fantastically diverse and popular vegetable shop run by a quiet, dignified Rastafarian man called Spirit. Spirit moved into the premises when it was abandoned and spent time and money renovating it himself. When he heard the council were selling it, he went to the auctioneers and presented them with a deposit cheque for £10,000 – 10 per cent of the asking price. He had been told that if he did so, the property would be his.

So he was shocked when he went along to the planned property auction, just out of curiosity, and heard his own property sold off, for £85,000 – £15,000 less than he had been prepared to pay – to a property developer based in Nassau. The auctioneer and the council explained to Spirit that a 'mistake' had been made, but there was nothing he could do. The new owner of his shop immediately raised his rent by 1,200 per cent. Soon they plan to evict him. Spirit says he is going nowhere; apart from anything else, he has nowhere left to go. It seems certain that if the bailiffs come, they will have many, many people to deal with.

For this is an increasingly angry community. It senses that it is being ripped off. People who have lived here for decades – sometimes in the same houses in which they were born – no longer feel they belong. Their children can't afford to live here anymore. And, above all, along with the usual tension and worry that comes with change, hangs the feeling that the Council – the people who are supposed to be on their side – are selling them off like so many pineapples or cups of cappuccino, to the highest bidder.

What is happening in Hackney is not just a local issue. All over the country gentrification and corporatisation, sparked by inflating property prices, are bringing forth the same kind of cultural cleansing, destroying the lives of ordinary people who can't match the new money, and see their communities and birthplaces taken from under them.

Hackney, perhaps, is a touchstone – or a touchpaper. Whatever happens to Tony, Spirit and the rest of this community, one thing does seem certain: Broadway Market will not be the last place whose people, instead of going gently, decide to stand their ground.

■ [www.paulkingsnorth.net](http://www.paulkingsnorth.net)





Spirit Grant (right) and Tony Platia (left) outside Shoreditch county court on January 27 2006. They are awaiting Spirit's hearing to see if he too will be evicted from his premises.

## RECOMMENDED BOOKS

### **A Good Life: John Seymour, his self-sufficiency legacy**

Paul Peacock

Farming Books, 2005, £10

If anyone followed Ghandi's immortal words 'Be the change you want to be', it was John Seymour. Author of the seminal *Complete book of Self Sufficiency*, published in 1976, people from around the world flocked to work with Seymour on his farm and listen to him rant and rave about the destructive dominance of supermarkets on agriculture, and hear his passionate arguments against the rise of genetic modification. In the first book to be published on John Seymour since his death in 2004, Paul Peacock beautifully captures this inspiring man, his innate practical wisdom and his many passions.

**Reviewed by Ben Snowden**

### **Hunters, Herders, and Hamburgers: The past and future of human-animal relationships**

Richard W. Bulliet

Columbia University Press, 2005, £18

Animals were once worshiped, their strength envied and their spirits cherished. Yet today we seem to treat them as little more than raw materials for various animal-product industries. In an irreverent and entertaining way, Bulliet explores how the human-animal relationship has changed over time and challenges where this will lead. You may never look at a pet, or a burger, in quite the same way again.

**Reviewed by Mark Thompson**

### **Dilemmas of Domination: The unmaking of the American empire**

Walden Bello

Zed Books 2005, £12.99

After its misadventure in Iraq, 'the Achilles heel of American imperium', globalisation expert Walden Bello argues that the American empire is doomed – overextended forces, enormous military costs and budget deficits are weakening the economy. By bombing civilians, using hostile coercion and failing to champion liberal democracy, the Bush administration faces a crisis of political legitimacy, while America is facing the collapse of its empire.

**Reviewed by Laura Sevier**

### **Guardians of Power: The myth of the liberal media**

David Edwards and David Cromwell  
Pluto Press, 2006, £14.99

The two Davids, increasingly well known critics of the modern press, have written what should be a standard text in all journalism schools. Asking vital questions of our media – such as 'Can a corporate media system

be expected to tell the truth about a world dominated by corporations?' – they include numerous examples of how the media, in all shapes and sizes, has horribly distorted the news. Orwellian warning phrases such as 'truth-reversal' and 'unreality' aside, *Guardians of Power* shows the surprising arrogance, unaccountability and servility to power of even our most respected media and leaves you wondering 'who is guarding the guards?'.

**Reviewed by Ben Snowden**

### **Fields That Dream: A journey to the roots of our food**

Jenny Kurzweil

Fulcrum, 2005, \$14.95

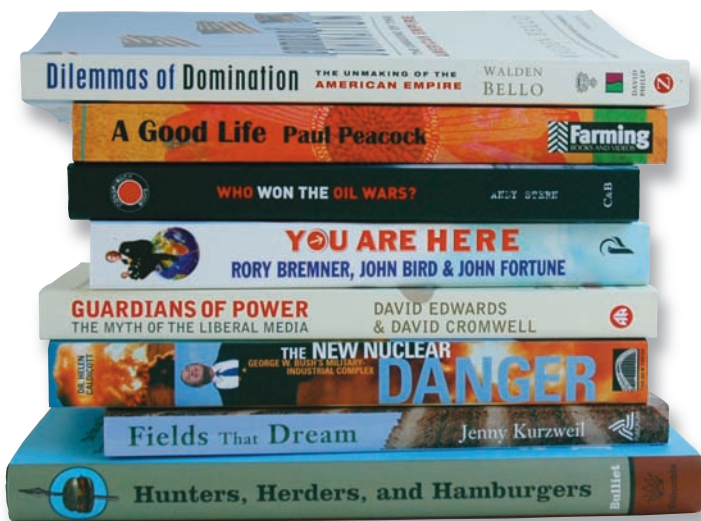
Kurzweil tells stories of American small-scale farmers working to sustain a vanishing way of life. In doing so, she puts the 'green revolution' in context, showing that although the objective may have been humanitarian, it has still not addressed world hunger and poverty as it promised, and that the main beneficiaries are not local communities but large, remote corporations. Meanwhile, back in the burgeoning farmers' markets, real communities are coming to life between the cracks in the genetically modified monocultural slabs of agricultural pavement. No rose tinted glasses required.

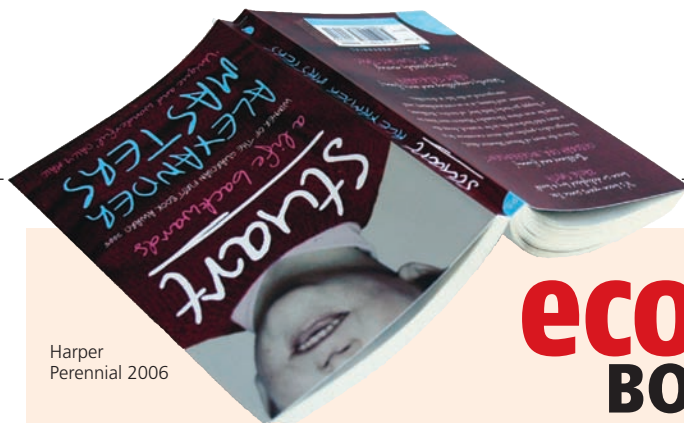
**Reviewed by Mary Arthur**

### **You Are Here**

Bremner, Bird and Fortune  
Phoenix, 2005, £7.99

Did you know that the Americans have spent over \$19 trillion on defence since WW2 (that's \$26 million a day





Harper  
Perennial 2006

since the birth of Christ)? *You Are Here* paints as accurate a picture as possible of where we are now and how we got here, as seen through the eyes of 'a bunch of dangerous, fearsome, broad-minded moderates', about a world and government that are truly beyond parody. Topics range from international politics to the flagging UK health service, public cuts and the rise of big business and most importantly what this means to the average citizen.

**Reviewed by Ben Snowden**

### Who Won The Oil Wars? Why governments wage war for oil rights

Andy Stern

Conspiracy Books 2005, £8.99

Since the birth of the modern oil industry in the middle of the nineteenth century, the pursuit of oil has brought out three characteristics in mankind: greed, corruption and belligerence. So says Andy Stern, as he explains the role oil has played in conflicts around the globe over the last century, highlighting the actions governments and multinational companies have taken to secure their oil supplies – and by extension their economic and military power. As the consumption of oil continues to rise, oil production will inevitably start to decline. Stern warns that without dramatic cuts in energy consumption or conversions to alternative energy sources, the second half of the Oil Age 'will be even bloodier and more violent than the first'.

**Reviewed by Laura Sevier**

### STUART: A life backwards

By Alexander Masters

“People sometimes ask me if I am ever frightened of Stuart. Never, not for a second, not in the smallest way. Why not? I don't know. Perhaps it's because his anger has a purpose. It is focused against diffuse but interminable enemies for understandable reasons – everything associated with care homes and paedophiles and prison and the police... None of the people I know, who, like me, have become friends with him during the campaign are frightened by him. Even his addiction counsellor isn't scared and he's thrown a chair at her.”

If you have ever walked past a group of down-and-outs, sleeping rough on park benches and cracking open cans of beer with one another in chilly, impromptu, open-air parties, you have probably wondered who they are, what took them there, and what their stories are. Alexander Masters opens a door into this world in his humane, moving, and frequently comic biography of Stuart Shorter – one of the 'chaotic homeless' known as 'Knife Man Dan'. They became friends during the 1999 campaign to release the Cambridge Two – charity workers sent to prison because some of the homeless people they sheltered were dealing drugs. Masters does not romanticise Shorter. His unpredictable behaviour saw him

## ecologist BOOK CLUB

Joanna Blythman, inspirational, hard hitting food journalist and bestselling author of *Shopped – The Shocking Power of British Supermarkets*, recommends the March Book Club book.

banned from hostels and living for a period on the lowest subterranean level of a car park in Cambridge's city centre. He spent years in jail for a string of more and less serious crimes, including threatening the life of his own child. But Masters unpeels Shorter's life to uncover the roots of his 'rageous' outbursts; the blight of muscular dystrophy, the bullying at school, and sexual abuse at home and in care. What emerges is not a depressing tale, more an involving, rounded depiction of a resilient, perceptive character – at his best a loyal friend, street philosopher and articulate campaigner against injustice – told by the author with great fondness and deep respect. An eye-opener.

### IT'S EASY TO JOIN THE ECOLOGIST BOOK CLUB...

**STEP 1:** Buy the Book of the Month at our special Book Club price of £6.00 (incl P&P), (RRP £8.59 incl p&p). Telephone 01795 414 963 (Mon-Fri 9:30am-5:30pm) quoting ref: BOOK206. Offer good while stocks last. **STEP 2:** Take time to read and think about the Book of the Month (we are allowing about 40 days for each month's book to be up on the main website discussion forums before archiving it). **STEP 3:** Visit [www.theecologist.org/bookclub](http://www.theecologist.org/bookclub) and tell us how the book made you feel. Were you moved by it? Do you agree with Joanna Blythman's sentiments and observations? What more would you have liked to have known? **STEP 4:** Keep your eyes peeled for your March Book Club comment in the May 2006 issue of the magazine – you might have won the 'comment of the month' and a £20 book token.

■ February's Book of the Month: *Coming Home to Eat*, by Gary Paul Nabhan, is currently on line and under discussion. Visit [www.theecologist.org/bookclub](http://www.theecologist.org/bookclub) for the review and ordering details.

## ECOLOGIST FILM QUIZ WINNER

### MORE THAN WAKING UP, WE NEED TO USE FILMS AS COMMUNITY ACTIVIST TOOLS

BY BOB BANNER

As I was walking the streets of Seattle during the WTO ministerial event in November 1999, I saw a lot of posters taped to buildings advertising a film screening of *Zapatista*.

After an hour-long wait to get into the basement of a dark and smelly bar, we finally managed to get inside. The film came alive on the white sheet taped on a wall.

Not only did the film wake me up to the problems of the indigenous people, but it showed brilliantly how the Zapatistas were creating a provocative blend of performance art plus political action to make people aware of NAFTA. That day I also woke up to the revolutionary capabilities of the video projector showing politically astute and progressive radical films to communities throughout the country. I immediately purchased a number of videos and asked the filmmakers about screening the film in my hometown.

A few months later we had a packed crowd to see the film *Zapatista* and the filmmakers were there to answer questions from the audience.

Next we showed *Culture Jam*. It blew me away too. Not only did I learn about the incredible outrageous antics of Reverend Billy, but saw the Billboard Liberation Front actually doctor those huge billboards in Silicon Valley in the middle of the night. We have shown that film numerous times to encourage people to learn about culture jamming, ad busting and what inspiration can happen knowing about what these brave people are doing.

When I saw *The End of Suburbia* I was shocked to my core. To know that our lives, our civilisation, our behaviour, our lifestyles have been predicated on cheap limited oil has been a major wake-up call. We bought boxes of the DVD and sold every single one of them. We screened the film in four different cities to

audiences who always left in shock – a good kind of disturbance, a waking up.

One thing I have learned is that it is definitely not enough to screen a film and then have the audience walk away in a stupor. We need to talk, to share, to cry, to scream, to do whatever it takes to embody the message of the film. And what better way to do it than with a group of people who have just seen the film. Also, from time to time when appropriate, we have had the filmmakers come to the screenings or have had some expert on a particular subject speak after the film or answer questions as best as they can. It makes the connections and the dialogue all that more pertinent and powerful.

So far out of the 25 films listed in your Dec/Jan 2006 edition, we have screened 17. In particular, *Life and Debt* blew me out of the water. It is the most powerful film about globalisation, especially in its contrast of Jamaica as a resort place and Jamaica as a country to be raped by various global trade organizations.

*Affluenza* is another major film that can be shown time and again. But a much better film is the sequel *Escape From Affluenza*, especially for those who already know what the problems are and want to do something about it.

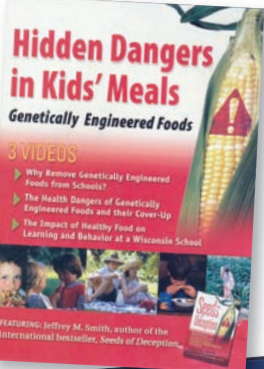
Thank you *Ecologist* for putting these films together and for publishing the blurbs. We have 80 per cent of your initial 25 films, plus 300 more in our Film Library that we loan out to people in the US. The films are not only online, but are shelved at a cool café where people can rent them and wake up to some powerful realities out there.

It is not enough simply to be ‘privately’ woken up by any of these films. What we have done is to SHOW the films, and negotiate with the filmmakers or the distributors to screen the films publicly. And to talk about them right after the screening... to go to a favourite café and keep the discussion going, meet up with other people of similar projects and strengthen the progressive element in small cities.

If we win the contest, we will add all the films to our film library/store so we can keep doing what we are doing.

**Bob Banner**  
**Publisher of HopeDance, USA.**  
**[www.hopedance.org](http://www.hopedance.org)**

I've learned it is not enough to screen a film and then have the audience walk away in a stupor



INSIDE:  
19 PAGE  
GREEN SHOPPING  
GUIDE

**CHIC ETHICAL FASHION...**  
made to wear at work

**COSMETIC  
PRESERVATIVES**

Which should  
be in your  
favourite brand  
and which  
shouldn't

**A HINT OF  
GRASS?**

*Ecologist Organic  
& Biodynamic  
wine club's  
secret ingredient  
revealed*

Low energy  
lightbulbs...

**YAWN**

**MEET AL CRISCI,**  
High Down Prison catering  
manager, and *Ecologist*  
food hero of the month

green pa  
green pages



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# FOOD HERO: *Al Crisci*

'Some prisoners are in tears when they get their NVQ certificate; a 6-foot beefy man, 45 years old, and all he wants to do is show his mum. That's what you can't explain to people about the importance of this job.'

**Mike Stones** meets Al Crisci, High Down Prison catering manager

**H**i, I'm Al Crisci and I'm running 40 minutes late.' Tousled black hair, black shirt, black and silver tie, obligatory chain bearing a multitude of keys, Crisci has the air of a man on a mission.

Not least the immediate challenge of preparing top quality meals for the 750 inmates at High Down Prison, Sutton, Surrey. But these will be no ordinary meals. Not for these prisoners a diet packed with processed food. You won't find Turkey Twizzlers or processed chicken at this B-category men's prison. Instead inmates can look forward to a choice of six fresh, hot dishes every day. It's a

dedication that landed Crisci with the much coveted Best Dinner Man award in the prestigious BBC Radio Food and Farming Awards last year.

When I visited, the evening meal selection included onion bhaji with savoury rice, tuna fish with rice, sweet and sour diced chicken, goat curry, poached cod or red pea beef soup with dumplings. All lovingly crafted from fresh ingredients, some grown in the prison's own gardens and cooked in its kitchens by the prisoners themselves.

But with so many mouths to feed, why not rely on the convenience of processed food? Why all that effort? I got my answer behind four sets of high

security doors in a teaching room off the prison kitchens – but not all at once. Alberto Crisci, age 43, is a man who has learned to use time wisely. For him, it's a scare commodity to be spent as sparingly as Scandinavians use curry power. So, while grappling with a temperamental printer in a battle to print off the day's menus, Crisci unpacked the ingredients of his food philosophy.

'I prefer to use fresh food where possible for three reasons – it tastes great, it's cheaper than processed food and learning to prepare it offers prisoners the chance of a job when they leave. Just a minute.'

There's a long pause while Crisci tries to persuade the printer to overcome its aversion to printing labels for lunchtime egg mayo baguettes. 'Right,' he continues, temporarily satisfied. 'Fresh ingredients add so much flavour and it's healthier than processed food.'

Crisci is keenly aware of his responsibility to the inmates. 'There are 750 prisoners here whose health depends on me. It could improve or deteriorate depending on what I give them.' The link between food and behaviour is still little understood, he believes. 'Better food does change behaviour and it won't be long before government accepts that. It's not just children whose behaviour is affected by diet.'

Offering six meal choices ensures that all medical and religious dietary requirements are covered. But it's also clear that Crisci relishes introducing inmates to food they don't normally encounter. Depending on price and availability, prisoners are as likely to find octopus on their plates as omelette.

Fresh food can also be low cost food, he believes. In season, the seven polytunnels on the prison farm and gardens generate a wealth of cheap, zero food-mile organic fruit and vegetables.

Output includes peppers, courgettes, lettuce, radishes, chillies, tomatoes and aubergines – all at minimal cost.

The fresh vegetables grown on site by the prisoners and prepared by the prisoners allow Crisci to cut catering costs to an astoundingly frugal £1.68 per prisoner per day.

But it is the third and final reason that is the most important segment in the virtuous circle that is Crisci's food credo.

Preparing fresh vegetables affords about 20 prisoners a year the chance to qualify for NVQs in catering. With that qualification comes the possibility of a job and a second chance in society.

'Prisoners with qualifications stand a far better chance of getting a job and are less likely to re-offend. We

could buy processed onion bhajis rather than make them, but then all they would learn is how to take them out of the packet and put them in the oven,' says Crisci, gazing at the day's menu lately retrieved from the recalcitrant printer.

Learning to prepare food offers the opportunity to build self esteem and to realise what, for some, may be their first real achievement. It could take anything from eight months to 20 months, but once completed the sense of accomplishment is obvious.

'Some are in tears when they get their NVQ certificate; a 6-foot beefy man, 45 years old and all he wants to do is show his mum. That's what you can't explain to people about the importance of this job.'

Committed to helping prisoners rehabilitate themselves through food, Crisci is determined to carve out job opportunities for his students. A key part of this strategy are the VIP Gourmet

Lunches, held four times a year for between 10 and 12 people. Prisoners prepare sumptuous dishes selected by the guests in advance, and served in the training room – minus the offending printer. This is show food that would make any London West End maitre d' beam with pride. Recent offerings include caramelised goats' cheese with endives, chicory and peaches served with honey vinaigrette followed by breast of duck with red onion roulade with mango and green pepper sauce, rounded off with warm chocolate pudding with sugared strawberries.

'We want to get people in the catering industry to see the training being given here and hopefully get them to give prisoners a job when they leave.'

Thanks to Crisci's tuition, more than 70 prisoners have passed their NVQ exams and at least six prisoners have found work in catering.

That's phase one, but phase two in the campaign to win prisoners jobs is even more ambitious. Crisci's master plan is to open a 100-cover restaurant on site, open eventually to the paying public. Thanks to a grant from the prison services, a £4,000 hand-built Molteni stove is already being built on the continent. The restaurant, to be called Klink, will showcase food prepared by the prisoners to the very highest restaurant standards. And it will give some the opportunity to learn front of house skills by working as waiters.

Paying staff guests will be welcomed

“Thank you for everything. Without you guys my stay would not have been half as pleasant. I've really enjoyed my time in the kitchen being able to complete my NVQ. It's just a shame I had to leave.”

Carl, former inmate

## DAILY CATERING

### BUDGET:

**£1.68 PER PERSON**

**30p** **Breakfast:** Cereal, milk, two slices of toast, bread, jam or marmalade

**50p** **Lunch:** Baguette – egg mayo, roast beef, sundried tomato or a sausage roll, piece of fruit and a packet soup

**88p** **Dinner:** Choice of six hot dishes. For example: Onion bhaji with savoury rice or tuna fish with rice or sweet and sour diced chicken or goat curry or poached cod or red pea, beef soup with dumplings

for breakfast and lunch sometime in the summer. Eventually the public will be invited to book evening meals. 'There's been tremendous interest already,' says Crisci. 'If we were taking bookings we would have been fully booked every day.'

Processed food does have a place – but a very small one. Neither does the prison serve fizzy drinks – just juice. 'There's nothing wrong with a small amount of processed food – inmates can buy tomato and brown sauce sachets in the canteen – but it doesn't need to be the norm. And I hate to think what processed food my son eats at school. These days you need to be a scientist to understand what's in it.'

His passion for fresh food and aversion to the processed variety was born in childhood. 'My mum comes from southern Italy and as a child we had only fresh food. Processed food was too expensive – we didn't even have a freezer.'

So, after his taste of success, could Crisci be lured to work in a swanky London restaurant? 'No chance,' is the swift and decisive verdict. The challenges of working with prisoners and the satisfaction of seeing some achieve redemption through food are just too great, he says.

Crisci begins to fidget and I sense it's not solely impatience with his maverick printer. So I ask him to sum up his mission to improve prison food and to teach prisoners how to prepare it. Crisci thinks for a moment, then answers slowly but with conviction.

'Just because someone has made a mistake in his life doesn't mean that he can't change and become a useful member of society. The key to what we do is to change people's perspective and to get



them jobs.'

■ Mike Stones is deputy editor of *Farmers Weekly*

See also this month's cover story 'ASBOs vs Nutrition', pg.24

“It [Crisci's kitchen] was the most impressive of those visited for the sheer quality of the food – as good as you'd get in a restaurant, for a daily budget of £1.68 per person.”

Dr Margaret Rayman of the BBC judging panel which awarded Crisci the Best Dinner Man of the Year Award

### CRISCI'S CREDO

- Anyone can eat healthy, fresh food and learn to cook in very little time
- Maximising fresh food in prisoners' diets promotes health, improves behaviour and tastes better than processed food
- Incorporating fresh veg grown by inmates into dishes prepared by inmates allows catering costs to be slashed to just £1.68 per person per day
- Preparing prison food allows 20 or more inmates each year to gain NVQ qualifications, which will help them find work once released



**Left: Graham Burden, M&S Cotton Technologist with a representative of Agrocot, M&S supplier of Fairtrade Cotton**

**Below: Stuart Rose, Head of M&S**



# ECO-FASHION NEWS

M&S: Breaking the silence on clothes manufacturing

Marks & Spencer (M&S) is the first major high street retailer in Britain to commit itself to sell clothing made purely from Fairtrade cotton.

From this month, M&S is stocking its own range of Fairtrade cotton T-shirts and socks for men and women. It has also banned the use of 56 textile chemicals harmful to human health and the environment in all its clothing lines, and vowed to make regular checks on all the factories that dye its clothing, ensuring none of these harmful chemicals are used.

Responding in part to customer surveys showing that three-quarters of us want to know more about what goes into the clothes we buy, the Fairtrade range will initially run in 40 of M&S's 400 plus stores. Although Fairtrade cotton still represents only a small proportion of M&S's total textile buying, the initiative is backed by a committed marketing campaign 'Look Behind the Label', which gives customers – normally kept in the dark about the origins of clothing – essential information about the efforts the chain store is making to ensure that at least

some of its garments are produced in a responsible way.

We wait with baited breath for the rest of the clothing market to follow suit, and for Marks & Spencer to take its campaign to the next stage and use only organic cotton. For the time being, we congratulate M&S for its bold new stance.



## PICK OF THE MONTH

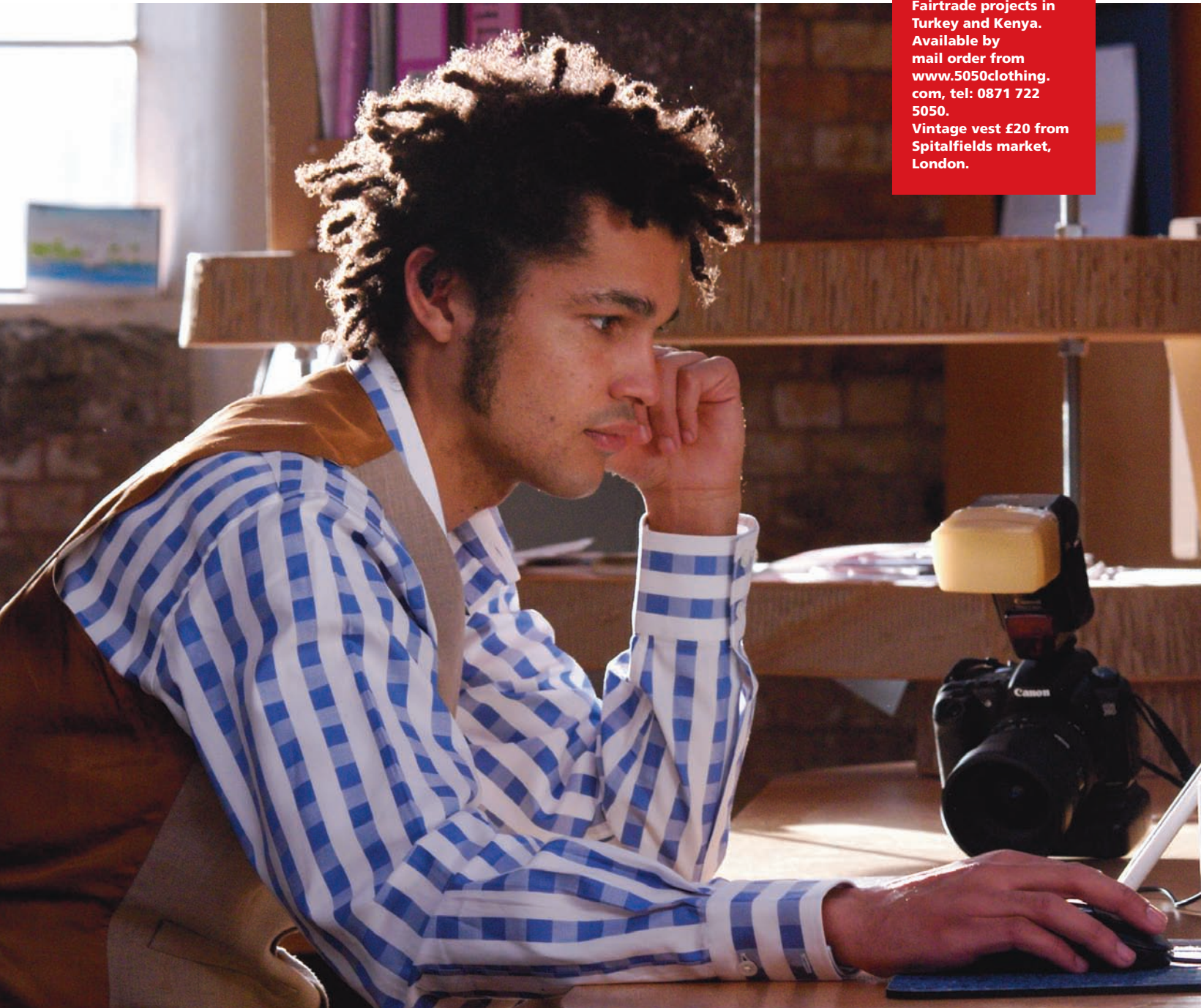
**Handbag £89.99 by Rebe.** Each Rebe bag is unique, made from a mix of recycled fabrics. Available by mail order from [www.myrebe.com](http://www.myrebe.com)



# OFFICE WEAR

Chic, ethical fashion made to wear at work

Shirt £49, Corduroy trousers £37.50. Both by 50/50. Made in Fairtrade projects in Turkey and Kenya. Available by mail order from [www.5050clothing.com](http://www.5050clothing.com), tel: 0871 722 5050. Vintage vest £20 from Spitalfields market, London.



PRODUCTION: ELIZABETH LASKAR. HAIR: LAUREL STAPLE USING AVEDA. MAKE-UP: JUST BLUSH USING DR HAUSCHKA. STYLISTS: ELIZABETH LASKAR AND PAMELA DANIELS. PHOTOGRAPHS: MARCELLO CAPOTOSTI. MODELS: JULIA O'BRIEN (EDEN MODEL MANAGEMENT), ALLAN RANKIN. LOCATION: THE HUB IN THE CANDID ARTS TRUST, LONDON



Leather wrist cuff £18 by Oluremi, handmade using leather scraps and embroidered cotton. Available by mail order from [www.junkystyling.co.uk](http://www.junkystyling.co.uk), tel: 020 7247 1883.

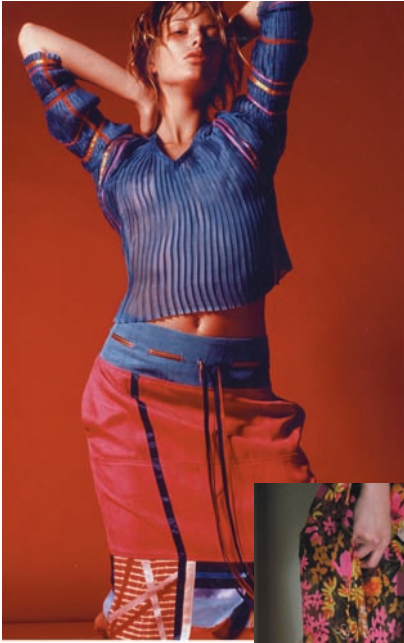
Suit made from recycled fabrics, £270 by Junky Styling. Available by mail order from [www.junkystyling.co.uk](http://www.junkystyling.co.uk), tel: 020 7247 1883.

Organza blouse £45 by People Tree. Locally sourced – 50% silk, 50% cotton – hand woven in Bangladesh. Available by mail order from [www.peopletree.co.uk](http://www.peopletree.co.uk), tel: 0845 450 4595.

Fairtrade necklace £68.99 by Nature. Available by mail order from Equa, [www.equaclothing.com](http://www.equaclothing.com), tel: 020 7359 0955.

Coin chain earrings £15 by People Tree. Hand made in Kenya. Available by mail order from [www.peopletree.co.uk](http://www.peopletree.co.uk), tel: 0845 450 4595.

Stockings model's own. Helena red shoes £139 by Beyond Skin. Vegan, made-to-order, hand made in the UK, in a variety of colours and fabrics. Available by mail order from [www.beyondskin.co.uk](http://www.beyondskin.co.uk), tel: 01494 871 655.



**Exhibition designers: Clothes Without Chemicals by Gracie Burnett, Beyond Skin (shoes), CIEL (coats)**



**THE CRAFTS COUNCIL GALLERY**

44a Pentonville Road, Islington, London N1 9BY [www.craftscouncil.org.uk](http://www.craftscouncil.org.uk)

The exhibition includes courses, lectures and activities for adults and children. For details call 020 7806 2534.

# ECO-STYLE EXHIBITION

'Well-Fashioned' runs from 23 March to 4 June at London's Crafts Council Gallery

For the first time in the UK, 21 cutting-edge ethical designers are coming together under one roof in the very first exhibition of environmentally friendly fashion. The designers cover a wide range of specialisations, such as: organic materials; lesser-known fabrics such as hemp, bamboo, wild silk and ingeo (corn fibre); and biodegradable and recycled synthetics. Other designers are focusing on the process of manufacturing clothes – natural and azo-free dyes, Fairtrade, and preserving traditional techniques of clothes making from around the world. Designer clothing will be on sale throughout the month of April.

**EXHIBITION TOUR DATES:**

- The City Gallery, Leicester** (15 July to 26 August 2006)
- The Design Centre, Barnsley** (7 September to 20 October 2006)
- City Museum & Records Office, Portsmouth** (4 November 2006 to 7 January 2007)
- Bilston Craft Gallery, Wolverhampton** (20 January to 3 March 2007)



**Alison Willoughby (skirts), Inghua Ting (bags)**



# PEPPERING YOUR PLOT

Time to order your white carrots and purple tomatoes. **Paul Kingsnorth** explains how

**H**ow many of you have heard of the National Seed List? I certainly hadn't until I got my allotment a few years ago. When I did hear of it, I couldn't quite believe my ears.

Corporate control of the food chain has led to a decline in the variety of fruit and veg grown in Britain. Of the estimated 6,000 native varieties of apple, for example, you might find a few dozen in the shops. The Victorians grew 120 different varieties of tall peas – these days you'll only come across a couple in the supermarket. Less well known is how the authorities have colluded in this decline.

Upon joining the EEC in 1973, the UK was required to create a National Seed List. Selling any type of seed not featured on the list was – and is – a criminal offence. It costs money, time and effort to get a seed on the list, so if you're not a commercial grower, it's just not worth the hassle. Hundreds of old, traditional and quirky varieties have either fallen off the list or have never been listed at all.

I mention this because it's a good time of year to start ordering your seeds: the growing season really gets underway in April and May. For the beginner, choosing what to grow can be a daunting process, and the easiest option is to pop down to the garden centre and buy packets of anything you fancy. But you might have a more interesting year if you look a bit further afield at some of the rarer varieties.

But didn't I just say they were illegal? Well, yes – but there are ways around this. One of them has been put into practice by the brilliant Heritage Seed Library (HSL), part of the Henry Doubleday Research Association (HDRA), one of the country's oldest advocates of organic gardening. The HSL maintains a collection of 700

seeds you won't find in the shops. Instead of selling them directly – which would be illegal – they work on a membership basis. You pay an annual fee to join (£16) and every year, from January until June, you can choose six packets of seeds.

This is a great way to pepper your plot with some fascinating stuff. Not only do old and rare varieties often look different in colour, shape and texture from the sort of veg we're used to, but they taste different too. I've come across white carrots that taste subtly of coconut and purple tomatoes with a hint of citrus. Using the HSL is also a great way to support the work of the HDRA in safeguarding rare varieties. HDRA also has its own Organic Gardening Catalogue, selling more mainstream seeds.

So what's worth growing? For beginners and experts alike the answer remains the same: whatever you like eating. Nevertheless, it's good to start off with crops that are reasonably easy to grow. You might fancy asparagus, for example, but you'll have to cultivate the bed for two years before you get a crop.



If you want something on the table this summer, there are easier ways to go.

To end this month, I'll list a few of my favourite staples.

**Potato:** the easiest thing to grow. Choose three varieties – one early, one maincrop and one late – and you'll have fresh potatoes from May till October. My favourite: Pink Fir Apple, an old Victorian variety that looks weird but tastes exquisite.

**Sweetcorn:** Need a lot of watering, and you'll have to put a net over the seeds when you plant them so the birds don't get there first, but it will be worth it. My favourite: Sweet Nugget.

**Carrot:** Success here will depend on the type of soil, but they're easy to sow. The HSL has ancient carrots of many colours, from pure white to deep crimson.

**Courgette and Squash:** Need a lot of space and water, but they're easy to grow and will provide plentiful, tasty food. Try Gold Bush courgettes for a deep yellow crop, and butternut squash for fantastic winter soups and stews.

**Tomato:** Need a bit of care, but success will be rewarding. There are dozens of Heritage varieties: try an Orange Banana, a Snow White Cherry or an Ivory Egg!

**French Bean:** A dwarf variety will take up less space (you won't need beanpoles). Purple Queen tastes exquisite.

Contact me:

**paul@paulkingsnorth.net**

## LINKS AND RESOURCES

HDRA/ Heritage Seed Library:  
**[www.gardenorganic.org.uk](http://www.gardenorganic.org.uk)**  
Organic Gardening Catalogue:  
**[www.organiccatalog.com](http://www.organiccatalog.com)**

**Allotments UK:** How to get started, where to find allotments in your area, links and tips from other ploholders:  
**[www.allotments-uk.com](http://www.allotments-uk.com)**  
**National Society of Allotment and Leisure Gardeners:** All you ever needed to know about allotmenting:  
**[www.nsalg.org.uk](http://www.nsalg.org.uk)**

**Plot Holes:** Amusing blog about the perils of allotmenting, with plenty of links to other like-minded sites:  
**[www.plotholes.blogspot.com](http://www.plotholes.blogspot.com)**



# READ THE LABEL PRESERVATIVES

You don't have to choose between looking good and being healthy. In our regular look at cosmetic ingredients, **Pat Thomas** gives you the information you need to identify safer cosmetic and bodycare products.

Preservatives, by their very nature, are designed to kill things. Specifically they work by killing cells and preventing them from multiplying and are intended to prevent the growth of bacteria and fungi in commercial cosmetic products – mainly *Candida albicans*, *Pseudomonas aeruginosa*, *Escherichia coli*, *Aspergillus niger* and *Staphylococcus aureus* – which could potentially cause serious infections on the skin and in the body.

Bacteria and fungi can get into cosmetics and bodycare products in several ways.

Formulators commonly point the finger of blame at consumers for introducing microbes into a product with use – for instance from dipping unwashed hands into tubs, leaving tops off, diluting with water, storing in a moist warm bathroom and buying large, wide-mouth containers that the entire family can and does use. However, a significant amount of contamination actually occurs during manufacture – a problem that should be, but is rarely, addressed at the factory floor level rather than by simply adding more chemicals to the finished product.

No preservative will prevent contaminants from getting into your product – their purpose is simply to keep their growth in the product to a minimum.

Widespread concern about the use of cosmetic preservatives stems from the fact that human skin is comprised of living cells and so preservatives, even if they are used in small quantities, present a risk to the integrity of the skin and, should they be absorbed into the bloodstream, to the rest of the body. For this reason most cosmetic preservatives generally have restrictions on their use – usually limiting them to a small percentage of the total formula.

For cosmetic formulators identifying and using effective preservatives is complicated because, in order to be considered effective, a preservative has to fulfil several criteria. It must be:

- Effective across a wide range of microbes
- Long lasting – ie it continues to keep the product free from contaminants for the life of the product
- Rapid acting at the first sign of contamination
- Non-sensitising
- Non-toxic and non-irritating
- Compatible with the other ingredients in the mix
- Stable – not break down

during storage, stays active in a wide pH range

- Inactive, except as an anti-microbial – ie not interact with other ingredients
- Soluble – mix well with whatever base (water or oil) it is in
- Acceptable in odour and colour
- Cost effective

With natural preservatives, the shelf life of the product may be shorter... but the trade off is better skin health .



PHOTOGRAPH BY CORBIS

No single preservative, synthetic or natural, fulfils all these criteria, which is one reason why manufacturers often use mixtures of several different preservatives in a single product. Another reason is solubility; some preservatives are water-soluble and some are oil soluble – in a water-oil emulsion such as a hand lotion formulators need to use both types.

All the most commonly used preservatives can cause dermatitis and other skin reactions; some carry larger risks. For instance, the most commonly used preservatives in cosmetics belong to a family known as parabens. In the lab these substances act like estrogens. Traces of parabens have also been found in breast tumour samples, suggesting that they may have an estrogenic effect in the body as well.

Other commonly used cosmetic preservatives include Kathon CG (a mixture of methylisochlorothiazolinone and methylchlorothiazolinone – a neurotoxin and potential carcinogen) and the preservative DMDM hydantoin and quaternium 15 (formaldehyde formers, thus potential carcinogens). Mercury-based preservatives such as thimerosal are sometimes used in eye makeup and eye makeup remover. They are neurotoxic and can damage the eyes with long-term exposure.

Preservatives that end in EDTA (e.g. disodium EDTA) can irritate skin and mucous membranes and they are bad for the environment. EDTA preservatives don't readily biodegrade and bind with heavy metals in the water supply, causing them to reenter the food chain.

While the idea of a preservative-free cosmetic sounds good, it may be a misnomer. All commercial

products require some degree of preservation and while products based on botanicals, for instance, may claim to be preservative-free, this is often because the active plant ingredients also function as preservatives.

Because there are few profits to be made from truly natural preservatives, many companies are formulating patented blends of 'natural' preservatives, which they market as natural preservative 'systems'. Some are more natural than others and it's always worth checking what's in the 'system' before accepting that it is natural.

With natural preservatives such as essential oils, herbal and fruit extracts, sugars and even grains, the shelf life of the product may be shorter and the overall package may need to be smaller. However, the trade off is better skin health in the short-term and better overall health over the longer term.

**■ REDUCE YOUR EXPOSURE**

to potentially toxic preservatives by buying plant-based products in smaller containers. Products that are hermetically sealed or provide a metered-dose (ie pumps and squeeze tops), allow fewer contaminants in during storage and use so require fewer preservatives. Likewise collapsible tubes discourage contamination, which is why they are so widely used in pharmaceuticals. Tubes made from aluminium have a preservative effect and they are recyclable.



**ACTION ACTION ACTION ACTION ACT**

**1** Go into your bathroom and look at the labels of your favourite products. Do any of them contain the following preservatives?



**Benzoic acid**  
**BHT (butylated hydroxytoluene)**  
**Butylparaben**  
**C12-15 alkyl benzoate**  
**Diazolidinyl urea**  
**Disodium EDTA**  
**DMDM hydantoin**  
**EDTA**  
**Ethylparaben**  
**Formaldehyde**

**Isobutylparaben**  
**Methylchloroisothiazolinone**  
**Methylisothiazolinone**  
**Methylparaben**  
**Phenoxyethanol**  
**Propylparaben**  
**Quaternium 15**  
**Salicylic acid**  
**Sodium benzoate**  
**Sorbic acid**  
**Tetrasodium EDTA**

**2** If so, photocopy these pages, highlight the worrying preservatives you have found on the label and write to the manufacturer's customer services department asking them why, given that the following natural, non-toxic and equally effective preservatives exist, they are using these ingredients in their product.

**Aloe vera**  
**Citrus seed extract**  
**Clove**  
**Cranberry extract**  
**Cypress**  
**Eucalyptus**  
**Lavender**  
**Manuka**  
**Neem**  
**Propolis**

**Rose**  
**Rosemary**  
**Sage**  
**Sandalwood**  
**Tea tree**  
**Thyme**  
**Willow bark**  
**Witch hazel**  
**Yerba mansa**  
**Yucca**

**Ask the manufacturer to send a copy of their reply to the Ecologist, or failing that, pass the reply you do get on to us, as we will be monitoring all feedback for future investigations and campaigns.**

## ECO POWER CAMPAIGN

**AIM** To meet the UK's energy needs from local, clean, renewable sources

In the UK we need to move from our dependence on non-renewable, air polluting, climate changing, centrally generated, hugely inefficient and increasingly expensive sources of energy – gas (40%), coal (30%), nuclear (20%), oil (5%) – to non-polluting, small-scale energy sources generated as close to users as possible, eg wind, hydro, tidal, solar, biofuels, ground source heat etc.

**HOW?** Supplying the current (and expected increased) energy demand in the UK, while keeping prices for energy low is IMPOSSIBLE. We either confront this and start to adapt or we stick our heads in the sand and moan about the inexorable rise in our energy bills. Each one of us, starting at home and then moving out into our local communities and workplaces, needs to:

- 1 SWITCH our energy SUPPLY to ECOTRICITY**
- 2 REDUCE our energy DEMAND**
- 3 LOCALISE our energy SUPPLY... individually, and in our communities.**

We can't wait for politicians to act, and can't rely on an energy market that profits from rising energy prices and increasing demand. This is why the *Ecologist* and Ecotricity have teamed up to ease your transition from expensive centrally supplied energy to clean, locally supplied energy at home (and at work). Our combined research and practical expertise will ensure that the options we recommend for reducing demand and generating your own supply will work without costing you a fortune.

# STEP 2: CHANGE YOUR LIGHTBULBS

Carbon Coach Dave Hampton completely ignores Matilda Lee's thermostat and heads stright for her lightbulbs.



**A**t 3pm on the dot, the doorbell rang. Luckily, I was prepared. Having turned the thermostat down a notch, checked that none of my appliances were on 'standby', insulated my boiler with some old bath towels and put the kettle to boil with just enough water for two, I was confident that my very first 'home energy audit' would bring no surprises. Dave Hampton, aka the Carbon Coach, was coming to visit.

I'd barely offered him a cup of tea before the jolly hulk of a man bounded down the hallway. He fished a lightbulb out of his satchel and proceeded to insert it into my living room lamp. 'Ever seen an energy-efficient lightbulb?' he asked. Well yes, I thought, they're those ghastly long tubes that always stick out from lampshades – and I wasn't going to have one anywhere near my living room.

He appeared to be reading my mind. 'They're no longer big and ugly,' he said. 'They come in hundreds of different designs, sizes, shapes, tones and colours. Enough to

please even the most finicky homeowner.' I had to admit the one he'd brought looked exactly like a conventional lightbulb, and the light it gave was great. OK, I was wrong to write off energy-efficient lightbulbs for purely aesthetic reasons, but I still didn't see the point of the exercise – I mean how much difference does a single lightbulb make?

I went to fetch the tea. From the heavy breathing coming from the living room I was worried poor Dave had gone into cardiac arrest. I rushed back to find an enormous purple balloon in the middle of the room. What on earth did it have to do with reducing household energy?

Dave, slightly red in the face, continued. 'Think of this as a 100 grams of CO<sub>2</sub>. The standard lightbulb you were using in this one lamp fills six of these with CO<sub>2</sub> every year. Whereas the energy-efficient lightbulb I've just stuck in emits 80 per cent less CO<sub>2</sub> – so you'd only be using one and a half of these a year.' Now that was eye-opening. Was I really responsible for emitting six balloons full of CO<sub>2</sub> a year to power one measly conventional lightbulb?

OK, so by now I was feeling guilty. Not only is this one energy-saving lightbulb not ugly, but it's glowing away reducing my CO<sub>2</sub> emissions by up to four big balloons worth a year. There must be a catch. I had to assuage my guilt. Money – that's it, they're too expensive. Sensing a way out, I challenged Dave. 'I buy lightbulbs for £0.60 a piece. Are you expecting me to fork out a tenner for a

	CONVENTIONAL LIGHTBULB	ENERGY-SAVING LIGHTBULB
<b>USAGE</b>	10 hours a day X 350 days = <b>350kWh a year</b>	10 hours a day X 350 days = <b>70 kWh a year</b>
<b>COST IN ELECTRICITY OVER ONE YEAR (8.8p per kWh)</b>	= <b>£30.80</b> + 3 lightbulbs at £0.60 apiece	= <b>£6.16</b> + lightbulb's initial cost of £2.65
<b>TOTAL</b>	<b>£32.60</b>	<b>£8.81</b>

**By switching one lightbulb in my home, I've saved £23.79 in electricity costs!**

## WHAT TO LOOK FOR IN YOUR ENERGY EFFICIENT LIGHTBULBS

As they use 80 per cent less energy than standard bulbs, you can buy a much lower wattage for your energy-saving lightbulbs to create the same lighting. When buying energy-saving lightbulbs, a low wattage doesn't mean they give off less light. How they compare:

Standard lightbulb	Energy-saving lightbulb
40-60W	12W
75W	16W
100W	20W

lightbulb just because it's energy-efficient?'

His smile broadened. 'In most hardware stores, they're about £5, but you can buy them online for half that. Your normal lightbulb will last about 1,000 hours, but an energy-efficient one will last for between 6,000 and 10,000 hours.' I admitted I wasn't the sharpest pebble on the beach when it came to cost calculations, so he offered to take me through it step by step. My living room lamp is switched on 10 hours a day for roughly 350 days a year. With a pencil and a scrap of paper he made a few quick calculations and then beamed: 'By changing this one lightbulb, you'll save yourself over £23 in electricity costs in one year. Over the life of this lightbulb, you'll get almost a £50 return for an investment of £2.50 – not bad!' Damn, no excuses left.

And having barely thanked him for the best lesson in energy savings I'd ever had, he bounded out of my living room and through the front door, purple balloon in hand.

■ Register to receive Dave Hampton's free email newsletter full of practical tips on reducing your household energy demand. Sign up at [www.carboncoach.com](http://www.carboncoach.com)

**ECOLOGIST READERS** can purchase nine different models of energy-saving lightbulbs from best-selling brands Philips, Osram and GE at up to 66 per cent off the regular retail price.

Go to [www.lightbulbs-direct.com](http://www.lightbulbs-direct.com) and click on the 'Subsidised Energy Savers' icon



## ECO POWER CAMPAIGN STEP 1: SWITCH TO ECOTRICITY

No matter where you live you can switch your electricity supply to Ecotricity.

### WHY ECOTRICITY?

■ Since it was founded in 1995, Ecotricity has built 17.5MW of new wind energy, and currently supplies enough electricity to power 12,000 homes.

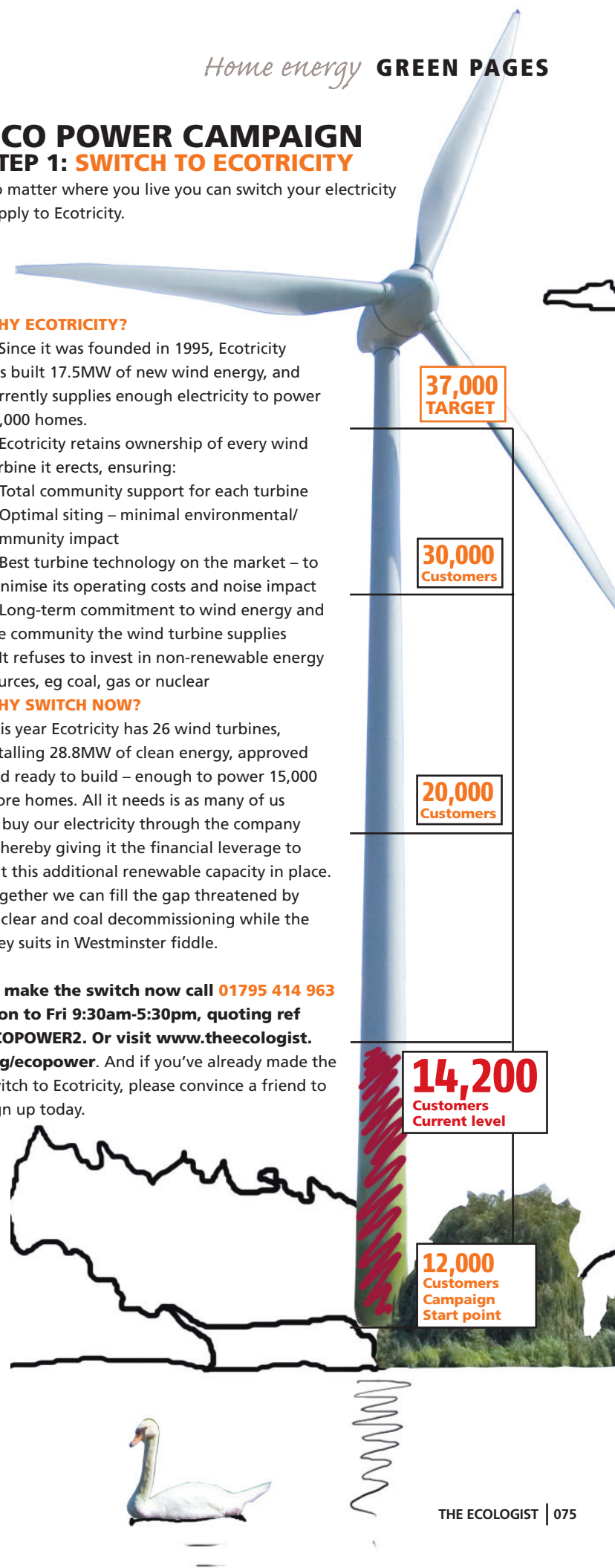
■ Ecotricity retains ownership of every wind turbine it erects, ensuring:

- Total community support for each turbine
  - Optimal siting – minimal environmental/community impact
  - Best turbine technology on the market – to minimise its operating costs and noise impact
  - Long-term commitment to wind energy and the community the wind turbine supplies
- It refuses to invest in non-renewable energy sources, eg coal, gas or nuclear

### WHY SWITCH NOW?

This year Ecotricity has 26 wind turbines, totalling 28.8MW of clean energy, approved and ready to build – enough to power 15,000 more homes. All it needs is as many of us to buy our electricity through the company – thereby giving it the financial leverage to put this additional renewable capacity in place. Together we can fill the gap threatened by nuclear and coal decommissioning while the grey suits in Westminster fiddle.

To make the switch now call **01795 414 963** Mon to Fri 9:30am-5:30pm, quoting ref **ECOPOWER2**. Or visit [www.theecologist.org/ecopower](http://www.theecologist.org/ecopower). And if you've already made the switch to Ecotricity, please convince a friend to sign up today.





## THIS MONTH'S VINEYARD:

# DOMAINE DE BRAU

Monty Waldin discovers why deep rooting vines produce concentrated, tasty and consistent wines

**Y**ou might think lots of wine-related qualifications – doctorates in grape growing and degrees in winemaking – are needed to make a modern wine estate successful. Not so, if you consider the owners of award-winning Domaine de Brau, Gabriel Tari and his wife Wenny, trained in law and archaeology respectively.

Having her nose permanently in the ground has, Wenny says 'given me an appreciation of what is hidden from view' and she's not talking about her husband Gabriel, who she found on an archeological dig at Herculaneum in southern Italy.

'I sense the importance of what is happening underground in the vines' root systems,' says Wenny. Domaine de Brau has 40 hectares (100 acres) of vines, most of which have been planted by the Taris since 1982, when Gabriel took over the domaine his family first

acquired in the 1960s.

'For a start, we chose suitable rootstocks for our soils, for healthy root systems. As we are on limestone the chalky nature of the soil is a danger as the leaves can turn yellow as the chalk stops the vines from feeding off the iron in the soil. If that happens you get weak vines, which then become more prone to disease, and you get unripe-tasting wines. Second, we wanted to farm organically as we believed that if you look after the soil, both the topsoil you see and the subsoil that is hidden from view, you will have intrinsically healthier vines. In other words, the vines will automatically be better able to resist pests and diseases. Luckily our vineyard is sited in the Cabardès sub-region.' This is part of the French Midi, or Mediterranean, in the foothills of the Pyrenees, near the walled city of Carcassonne. 'We get winds both from the Atlantic to the west, and from the Mediterranean to the south helping minimise vine diseases – mildew and rot spores find it much harder to survive on vine leaves and grapes in windy conditions.'

So how does what is going on above ground influence what is happening beneath?

'Well,' says Wenny, 'it's all very well having lots of wind performing automatic disease-control for you above ground, but as the wine grower you must help by ensuring there's a good balance between the number of bunches and the number of leaves. Too many bunches and too few leaves means unripe grapes as the leaves convert sun energy via photosynthesis into sugar in the grapes for the alcohol. Too many leaves and too few bunches means the vine is out of balance, and you negate the influence of the wind – if the leaves are so thick that the grapes are buried inside them the wind will have no effect. Humidity will remain in the hedge part of the vine where the grapes grow, encouraging fungal disease spores. It's like when you forget to dry the water left between your toes after you have a bath and the skin gets a fungal infection like athlete's foot. In organics we must prevent disease – our motto is prevention rather than cure. We always dry

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## Case 1 (12 bottles) MID WINTER WARMERS **£59.79\*** (incl VAT and delivery), normally £81.98

Domaine JOILETTE 3 bottles (see [www.theecologist.org/wineclub](http://www.theecologist.org/wineclub) for last month's article on Domaine Joilette and tasting notes)

[1] Cuvée André Mercier, Côtes du Roussillon 2001 [2] Cuvée Romain Mercier 2003 [3] Muscat de Rivesaltes 2004

Domaine DE BRAU 9 bottles (see overleaf for tasting notes) [4] Cite de Carcassonne 'Meditation' [5] De L'Aude (x2) [6] Chardonnay Roussanne [7] Cabernet Franc/Cabernet Sauvignon [8] D'Oc Cuvée Gabriel (x2)

[9] Chardonnay Finement Boise [10] Cabardes Cuvée Exquise



PHOTOGRAPHS BY ADRIAN TAYLOR

### TERMS & CONDITIONS

\*Customers outside mainland UK may incur a further surcharge. Available in the UK only. Please allow seven working days for delivery. Purchasers must be 18 years or over. Offer open to Ecologist subscribers. One case per subscriber while stocks last. No customer substitutions. Wines supplied and delivered by Vintage Roots, Bridge Farm, Reading Road, Arborfield Berkshire, RG2 9HT.

between our toes – or maintain a balance between leaves and grapes. Sometimes this means we have to send in workers to remove excess water shoots – leaves that take space and light from the grapes without contributing any sugar – by hand in mid-July.’

But there is another technique used at Domaine de Brau to keep the vine in balance. This involves the topsoil, or the ground level, as Wenny explains.

‘For the last few years we have grassed the fallow area between the vine rows. Grasses have very fine rootlets, as you can see when you scuff a piece of turf out of your back garden. These fine rootlets have many functions. First, they allow oxygen into the soil. Without oxygen your vine roots cannot breathe, so the vine can’t feed, becomes weak and is a target for pests and disease. Also, the grass and the roots allow rainwater to be more easily absorbed into the soil. The grass slows the rain down as it collides with the ground, meaning you get less erosion too. The fine rootlets allow the water to filter gently into the soil, along with the oxygen. We get plenty of sun too, and with the grass covering the topsoil our vineyard is less likely to get dusty. Dust encourages red spider mites, which love eating the soft green vine shoots of the Cabernet Sauvignon. Minimising dust reduces the mites and stops dry topsoil blowing away in the winds. Finally, by creating a bit of competition in the topsoil, the grass rootlets send a message to the vine roots to dig deeper in search of food. Deep rooting vines produce the most concentrated, tasty and consistent wines.’

You shouldn’t need a degree in wine appreciation to taste the difference.



**DOMAINE DE BRAU TASTING NOTES**

**Domaine de Brau has been certified organic since 1989 by Ecocert France. The following are all vegetarian and vegan suitable.**

**1) Vin de Pays de l’Aude ‘Chardonnay (Finement Boisé)’**

The French term ‘Finement Boisé’ translates as ‘finely oaked’. In other words, unlike Australian or Californian Chardonnays that get blasted by fermentation or ageing in new oak barrels, this one is only part-fermented in oak, with the rest in stainless steel. The oak fermented part of this full-bodied dry white wine brings a light golden colour and butter and marmalade texture to the wine, while the unoaked part has a more citrus fruit character. Suitable for vegans.

**2) Vin de Pays de l’Aude ‘Blanc de Brau Chardonnay/Roussanne’**

You can see that there was a good balance between the number of bunches and the amount of leaves the vines had in the grapes that made this wine. It is made from two thirds Chardonnay, a grape that can get sunburnt if there are too few leaves, and Roussanne, a grape that has a thick skin so benefits from slightly fewer leaves in the vine canopy as it needs some direct sunlight. Shows crisp, tropical flavours from the Roussanne with a lime citrus twist from the Chardonnay.

**3) Vin de Pays d’Oc Rouge ‘Cuvée Gabriel Merlot’**

Ah, Merlot. The Bordeaux grape that is to red wine what Chardonnay is to white: moreish, easy to drink, soft

in mouth and, in this case, soft on the pocket. Like Chardonnay, Merlot ripens early and so can get sunburnt unless the vines are balanced: the roots are doing their job of finding food and water, and the leaves are doing their job of allowing just the right amount of ripeness to be created in the grapes, while preventing vitalk acids from scorching in the sun, leaving too flabby a wine.

**4) Cabardès Rouge AC, Château de Brau**

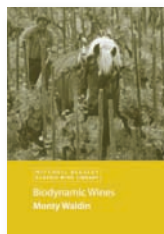
This dry red is made from a mix of red grapes coming from the Bordeaux region to the north of Domaine de Brau – these grapes are the plummy Merlot and the blackcurrant-rich Cabernet Sauvignon – and others from the Mediterranean like the ethereal Syrah and the punchy Grenache Noir. This red has good weight in the mouth, meaning that it is satisfying rather than overpowering, and shows the benefits of keeping the vineyard grassed: the vines are balanced, and the grapes are balanced too.

**5) Cabardès Rouge AC Château de Brau ‘Cuvée Exquise’**

This ‘Cuvée Exquise’ is an oak barrel aged version of the red wine directly above. The oak gives it a more minty, intense structure than the basic Cabardès Rouge. The oak helps soften the dry character of the wine tannins found in some grapes like Cabernet Sauvignon. What happens is that the soft tannins in the wood swap places with the dry tannins in the wine, so you get softer wine. Just don’t try drinking the barrels....

**6) Mediation**

Full-throated red made from Syrah (what the Aussies call ‘Shiraz’) and Egiodola. Both these grapes can deliver robust tannins, so ageing the wine in oak barrels for a around one year softens the texture of wine up making it ready for drinking upon purchase.



*Biodynamic Wines* by Monty Waldin is published by Mitchell Beazley. To order at the special price of £20.00 including post and packing (RRP £25.00) please call 01903 828503 and quote the code PUB320.

**Contact Details**

Château de Brau, 11620 Villemoustaussou (Aude)  
Tel 04.68.72.31.92 Email chateaubrau@wanadoo.fr

# GREEN SHOPPING GUIDE

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# GREEN SHOPPING GUIDE

## GREEN SHOPPING GUIDE INDEX

*Dear Green shopper*

### OUR VISION

Vibrant, self-sustaining communities, full of locally owned and supplied independent shops and businesses providing all of a community's diverse needs.

### TODAY'S REALITY

Chain stores and supermarkets are choking the life out of communities. Money, which once circulated within communities, now lines the pockets of distant head offices and shareholders. Where once there were towns and villages with unique identities, there are now identikit, one-size-fits-all high streets.

### WHAT CAN WE DO?

We all need to turn the tide of blandness and buy from our local independent shops. For those of us bereft of genuine local shops, use this guide to shop ethically via the web and bring us one step closer to the vibrant real communities we long for.

### WHY THESE ONES?

These organisations have been carefully chosen to include inspiring and independent producers and retailers who are committed to offering products and services that:

- are non toxic to you and the environment
- ensure highest standards of animal welfare
- support local communities
- offer a fair wage and decent working conditions to all parts of the supply chain
- use minimal packaging
- minimise transport miles.

### FEEDBACK

Please tell us ([gsg@theecologist.org](mailto:gsg@theecologist.org)), and them, what you think. If you're unhappy, don't move on silently. We need all the support we can get!

## ADVERTISING RATES

### DISPLAY ADVERTISING

OUTSIDE BACK COVER	£1,750
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INSIDE BACK COVER	£1,500
DOUBLE PAGE SPREAD	£2,200

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QUARTER PAGE	£375
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PER WORD	£2
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# BABY & CHILD

The amount of baby gear we purchase in the name of 'good' parenting-nappies, wipes, bottles, car seats, pushchairs, clothes, shoes, toys and other nursery items - is staggering. Given the ongoing expense of raising a child and the heavy competition that exists between different manufacturers for parents' custom, it's little wonder that many of the most common baby and child accessories have been made in sweatshops using chemicals that harm both our children's health and the environment.

## THIS IS NOT ACCEPTABLE

We challenge the **BABY & CHILD** industry to make products with:

- No potential carcinogens, neurotoxins and reproductive toxins
- No artificial additives, colourings or perfumes
- No petrochemicals
- No synthetic fibres
- Minimise packaging
- Use organic ingredients
- Stop marketing to children under 16 years old

What we can do as consumers

- Read and understand the label
- Buy fewer products
- Buy reusable products, eg cloth nappies
- Make our own, eg food
- Challenge stockists to sell safer products
- Support the small, independent and ethical producers and retailers in these listings.

"As a new mum with a 5 month old baby, I've found your 'green pages' an indispensable guide. Having an extensive list of all the ethical suppliers of baby food, clothes and nappies all available on line has saved me. In the craziest time of my life, the green shopping guide is the one thing I can count on!"

**GENERAL STOCKISTS:** companies whose products include bedding, books, breastfeeding equipment, clothing, food, nappies (both cloth and eco disposable), nursery furniture, pregnancy accessories, slings, toiletries and toys and games.

Baby-O	www.baby-o.co.uk
Beaming Baby	www.beamingbaby.com
Born	www.borndirect.com
Cuddlebabes	www.cuddlebabes.co.uk
Eco Babes	www.eco-babes.co.uk
Ecobaby Basics	www.ecobabybasics.com
Ecobaby	www.ecobaby.com
Ecotopia	www.ecotopia.co.uk
Globalkids	www.globalkids.co.uk
Green Baby	www.greenbaby.co.uk
Greenfibres	www.greenfibres.co.uk
Hejhog	www.hejhog.co.uk
Little Earthlings	www.littleearthlings.com
Little Green Earthlets	www.earthlets.co.uk
MulaDula	www.muladula.co.uk
Natural Collection	www.naturalcollection.com
Nature's Fibres	www.naturesfibres.co.uk
See Saw	www.seesawnappies.co.uk
Smile Child	www.smilechild.co.uk
So Organic	www.soorganic.com
Twinkle Twinkle	www.twinkleontheweb.co.uk
<b>CLOTHING</b>	
Baby Organics	www.babyorganics.co.uk
Bishopston Trading Company	www.bishopstontrading.co.uk

Clothworks	www.clothworks.co.uk
Cut4Cloth	www.cut4cloth.co.uk
Gossypium	www.gossypium.co.uk
Greenscene	www.greenscene.wahmall.co.uk
Greensleeves	www.greensleevesclothing.com
Huggababy	www.huggababy.co.uk
Lollipop	www.teamlollipop.co.uk
Natural Child	www.naturalchild.com
Organics for Kids	www.organicsforkids.com
People Tree	www.ptree.co.uk
Schmidt Natural Clothing	www.naturalclothing.co.uk
Tatty Bumpkin	www.tattybumpkin.com
Woolly Caterpillar	www.woollycaterpillar.com

### FOOD

Babylicious	www.babylicious.co.uk
Baby Organix	www.babyorganix.co.uk
BabyNat Organico	www.organico.co.uk
Bio Bambini	www.eco-babes.co.uk
Feed Me, Feed My Baby	www.feedmefeedmybaby.co.uk
Hipp	www.hipp.co.uk
Ulula	www.ulula.co.uk
Kallo	www.kallofoods.com
Mums 4	www.mums4.com
Nanny's Goat Milk Infant Nutrition	www.goodnessdirect.co.uk
Truuly	
Scrumptious	www.bathorganicbabyfood.co.uk
<b>GIFTS</b>	
Tiny Sprout	www.tinysprout.co.uk

### NAPPIES

<b>Cloth</b>	
Clothworks	www.clothworks.co.uk
Cotton Bottoms	www.cottonbottoms.co.uk
Ethos	www.ethosbaby.com
Natural Child	www.naturalchild.co.uk
Natural Nappies	www.naturalnappies.co.uk
Naturally Nappies	www.naturallynappies.co.uk
Rag Bags	www.ragbags.co.uk
Sam I am	www.nappies.net
Snazzypants	www.snazzypants.co.uk
The Nappy Lady	www.thenappylady.co.uk
The Nice Nappy Company	www.nicenappy.co.uk
Yummies	www.yummiesnappies.co.uk

### Eco Disposable

Moltex Oko	www.spiritofnature.co.uk
Natural Baby Company	www.naturalbabycompany.com
Naturebotts	www.naturebotts.co.uk
The Bottom Line	www.thebottomlinenappies.co.uk
The Nappy Lady Tushies	www.thenappylady.co.uk www.tushies.co.uk

### Laundry Services

Dinky Diapers	www.dinkydiapers.co.uk
Nappy Ever After	www.nappyeverafter.co.uk
Nappy Tales	www.nappytales.freeserve.co.uk
Natural Nappies	www.naturalnappies.co.uk
Nifty Nappies	www.niftynappies.co.uk
Number1 for nappies	www.numberonefornappies.co.uk

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 www.birthandbaby.co.uk

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 www.nappyeverafter.co.uk

- The Nappy Box [www.thenappybox.co.uk](http://www.thenappybox.co.uk)  
 The Scottish Nappy Company [www.scottishnappy.co.uk](http://www.scottishnappy.co.uk)  
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 Aromakids [www.aromakids.com](http://www.aromakids.com)  
 Burt's Bees [www.myburtsbees.co.uk](http://www.myburtsbees.co.uk)  
 Earth Friendly Baby [www.earth-friendly-baby.co.uk](http://www.earth-friendly-baby.co.uk)  
 Earth Mama Angel Baby [www.earthmamaangelbaby.com](http://www.earthmamaangelbaby.com)  
 Earth Mother [www.houseofshen.co.uk](http://www.houseofshen.co.uk)  
 Earthbound [www.earthbound.co.uk](http://www.earthbound.co.uk)  
 Green People [www.greenpeople.co.uk](http://www.greenpeople.co.uk)  
 Lice Treatments [www.naturalcollection.com](http://www.naturalcollection.com)  
 Mother Earth [www.motherearth.co.uk](http://www.motherearth.co.uk)  
 Simply Gentle [www.simplygentle.com](http://www.simplygentle.com)  
 Spiezia [www.spieziaorganics.com](http://www.spieziaorganics.com)  
 Tautropfen [www.greenfibres.com](http://www.greenfibres.com)  
 Tisserand [www.tisserand.com](http://www.tisserand.com)  
 Urtekram [www.urtekram.dk](http://www.urtekram.dk)  
 Weleda [www.weleda.co.uk](http://www.weleda.co.uk)  
**TOYS AND GAMES**  
 Arujo [www.arujo.co.uk](http://www.arujo.co.uk)  
 British Toymakers Guild [www.toymakersguild.co.uk](http://www.toymakersguild.co.uk)  
 Dawson & Son Wooden Toys [www.dawson-and-son.com](http://www.dawson-and-son.com)  
 Escor Toys [www.escortoys.com](http://www.escortoys.com)  
 Gaia Distribution [www.gaiadistribution.com](http://www.gaiadistribution.com)  
 Green Board Game Company [www.greenboardgames.com](http://www.greenboardgames.com)  
 Holz Toys [www.holz-toys.co.uk](http://www.holz-toys.co.uk)  
 In2play [www.in2play.co.uk](http://www.in2play.co.uk)  
 Lanka Kade [www.lankakade.co.uk](http://www.lankakade.co.uk)  
 Myriad [www.myriadonline.co.uk](http://www.myriadonline.co.uk)  
 Toys for Children [www.woodentoysforchildren.co.uk](http://www.woodentoysforchildren.co.uk)  
 Toyworm [www.toyworm.co.uk](http://www.toyworm.co.uk)  
 Tulip Toys [www.tulip toys.co.uk](http://www.tulip toys.co.uk)

# NO EXCUSE! CLOTH NAPPY CAMPAIGN

Why use disposables when cloth nappies are easy to use, easy to clean and best for your baby?



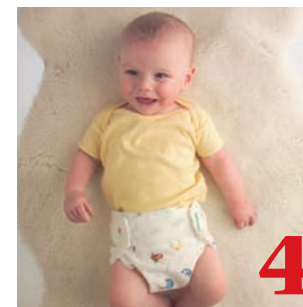
Lay open baby-shaped cotton nappy



Place flushable liner on top for easy removal of poo



Close using adjustable poppers



Add waterproof wrap

...**SOFT** Even after washing. **SECURE** Cinched legs prevent leaking. **BREATHABLE** Keeps bottoms cool & dry...

## NO EXCUSE! CLOTH NAPPY TRIAL PACK

Just **£24** (30% off the RRP)

Simply call **01795 414963**

Mon to Fri 9.30am to 5.30pm quoting:

**Cloth Nappy Trial Pack**

Your trial pack includes:

- 3 leading brands of cloth nappies: Motherease, Tots Bots and Popolino
- 1 pack of flushable and bio-degradable liners
- 1 waterproof outer wrap



**8 MILLION DISPOSABLE NAPPIES GO TO LANDFILL EVERY DAY**

We sell a **WIDE** range of Organic Cotton Nappies, Wool wraps and Lanolin wool cure, plus liners, boosters, re-useable wipes including gentle essential oil soaps.

**Available online 24/7 or you can call us on 01522 778926 if you prefer to speak to a human!**

Look at our potty training section to see how we take the pain out and make it fun.

# MISSION THE MISSION THE

If you use modern cosmetics and bodycare products, then you are exposing yourself to harmful chemicals. On average we each use 9 different products, with over 120 unique ingredients, daily; 90 per cent of these have never been fully evaluated for safety. Your skin can't protect you from these. Individually and in combination most can quickly and easily penetrate the skin and be absorbed into your body where they are linked to a range of problems including cancer, birth defects and central nervous system damage.

## THIS IS NOT ACCEPTABLE

**We challenge the COSMETICS industry to make products with:**

- No potential carcinogens, neurotoxins and reproductive toxins
- No petrochemicals
- No synthetic perfumes
- No synthetic colours
- Ingredients with full safety data
- Ingredient label on the product
- Internationally standardised ingredient names
- Packaging that minimises the need for preservatives
- Organic ingredients

**What we can do as consumers**

- Read and learn to understand the label
- Buy fewer products
- Use less of what we do buy
- Dilute
- Ignore label hype (eg 'scientifically proven', 'visible results in seven days')
- Make our own
- Report adverse effects to manufacturers
- Challenge stockists to sell safer products



# BODYCARE & COSMETICS

*'At mybeingwell every single one of our beauty products is 100 per cent free from artificial preservatives, colours, fragrances and petrochemicals. After all, beauty is more than skin deep.'*

VERITY CUNLIFFE, FOUNDER

## ECOLOGIST READER OFFER

**A Wonderful New Product and Free Gift with Every Order.**

### Advanced Facial Massage Oil

A unique blend of Organic Rosehip Oil, Pumpkin Seed Oil, Pomegranate Oil & Vitamin E. These natural anti-oxidant, vitamin rich, moisturising and healing oils will leave skin smooth and supple, minimising the appearance of lines and improving skin tone and texture. - **25ml glass dropper bottle £9.50**

**SPECIAL OFFER** a free gift of Beauty Naturals' 30ml tube of Revitalising Cream, which is a high performance day and night cream free of parabens and primary petro-chemicals, worth £9.00, with every order.

To order this great offer **freephone 0800-980 6662 (quoting Ecologist)**  
For further details of Beauty Naturals extensive range please ring for a free brochure or visit

[www.beautynaturals.com](http://www.beautynaturals.com)



**Beauty Naturals Advanced Facial Massage Oil is a blend of natural, anti-oxidant, vitamin rich oils, free from artificial colour, fragrance, primary petrochemicals and parabens.**



### Rosehip oil:

- Rich in essential fatty acids.
- Contains natural Tretinoin, a derivative of Retinol (vitamin A) which replenishes dry and damaged skin and helps rebuild skin tissue.
- Promotes elasticity and firmness naturally.
- Scientific studies confirm it is highly effective in treatment of premature aging, producing a dramatic effect on fine lines and wrinkles in just a short period of use.
- May help reduce pigmentation and raised scar tissue, even on non-recent scars.
- Light, non-greasy, quickly absorbed into the skin.

### Pumpkin seed oil:

- Contains vitamins B1, B2, B6, C, D, E and K and many minerals including calcium and magnesium.
- Rich in vegetable protein.

### Pomegranate oil:

- Antioxidant, anti-viral, anti-fungal, anti-bacterial
- Contains vitamin C, iron and potassium

### Vitamin E oil:

- Antioxidant, protects cells from free-radical damage
- Reduces itchiness
- Promotes healing

### Beauty Naturals Revitalising Cream

A high performance day cream or a light, night time moisturiser

- Contains a concentrated combination of rich emollients to strengthen skin, restore vitality and re-balance.
- Active botanicals diminish the appearance of lines, protect against free radical damage and maintain moisture balance.
- Active botanicals: peach kernel oil (softening), borage (firming), rosehip oil (anti-aging), white tea extract (anti-oxidant), vitamins E & A (anti-aging), linolenic acid (refining), ylang ylang (normalising).
- Contains UVA / UVB sun protection

**GENERAL STOCKISTS:**

Including cosmetics, dental care, deodorants, men's products, perfumes, skin, bath and body care and sun protection.

Akamuti [www.akamuti.co.uk](http://www.akamuti.co.uk)  
 Anne Elise Natural Skin Care [www.anneliseskincare.co.uk](http://www.anneliseskincare.co.uk)  
 Aubrey Organics [www.aubrey-organics.com](http://www.aubrey-organics.com)  
 Auravita [www.auravita.com](http://www.auravita.com)  
 Avalon Organics [www.avalonorganics.com](http://www.avalonorganics.com)  
 Avea [www.avea.co.uk](http://www.avea.co.uk)  
 Barefoot Botanicals [www.barefoot-botanicals.com](http://www.barefoot-botanicals.com)  
 Beauty Naturals [www.beautynaturals.com](http://www.beautynaturals.com)  
 Body Organic [www.bodyorganic.co.uk](http://www.bodyorganic.co.uk)  
 Cioccolatina [www.cioccolatina.co.uk](http://www.cioccolatina.co.uk)  
 Comfort and Joy [www.comfortandjoy.co.uk](http://www.comfortandjoy.co.uk)  
 Dr. Hauschka Natural Skin Care [www.drhauschka.co.uk](http://www.drhauschka.co.uk)  
 Duchy Originals [www.duchyoriginals.com](http://www.duchyoriginals.com)  
 Earthbound Organics [www.earthbound.co.uk](http://www.earthbound.co.uk)  
 Eliminator [www.anewlife.co.uk](http://www.anewlife.co.uk)  
 Essential Care [www.essential-care.co.uk](http://www.essential-care.co.uk)  
 Essentially Yours [www.essentially-yours.co.uk](http://www.essentially-yours.co.uk)  
 Faith in Nature [www.faithinnature.com](http://www.faithinnature.com)  
 Goodness Direct [www.goodnessdirect.co.uk](http://www.goodnessdirect.co.uk)  
 Green Fibres [www.greenfibres.co.uk](http://www.greenfibres.co.uk)  
 Green People [www.greenpeople.co.uk](http://www.greenpeople.co.uk)  
 Hemp Garden [www.hempgarden.co.uk](http://www.hempgarden.co.uk)  
 Honesty Cosmetics [www.honestycosmetics.co.uk](http://www.honestycosmetics.co.uk)  
 Honeybee Gardens [www.honeybeegardens.com](http://www.honeybeegardens.com)  
 John Masters Organics [www.johnmasters.com](http://www.johnmasters.com)  
 Lavera [www.lavera.co.uk](http://www.lavera.co.uk)  
 Living Nature [www.livingnature.com](http://www.livingnature.com)  
 Logona [www.logona.co.uk](http://www.logona.co.uk)  
 Mariposa Alternative Bodycare [www.mariposa-alternative-bodycare.co.uk](http://www.mariposa-alternative-bodycare.co.uk)  
 Mother Earth [www.motherearth.co.uk](http://www.motherearth.co.uk)  
 My Being Well [www.mybeingwell.com](http://www.mybeingwell.com)  
 Naturisimo [www.naturisimo.com](http://www.naturisimo.com)  
 Neal's Yard [www.nealsyardremedies.com](http://www.nealsyardremedies.com)  
 Nirvana Natural [www.nirvananatural.com](http://www.nirvananatural.com)  
 Organic Blue [www.organicblue.com](http://www.organicblue.com)  
 Organic Botanicals [www.organicbotanicals.com](http://www.organicbotanicals.com)  
 Organica J [www.organica-j.co.uk](http://www.organica-j.co.uk)  
 Potions and Possibilities [www.potions.co.uk](http://www.potions.co.uk)  
 Primavera Aromatherapy [www.primavera.co.uk](http://www.primavera.co.uk)  
 Pure Nuff Stuff [www.purenuffstuff.co.uk](http://www.purenuffstuff.co.uk)  
 Pure Skin Care [www.pureskincare.co.uk](http://www.pureskincare.co.uk)  
 REN [www.renskincare.com](http://www.renskincare.com)  
 So Organic [www.soorganic.com](http://www.soorganic.com)  
 Spiezia Organics Ltd [www.spieziaorganics.com](http://www.spieziaorganics.com)  
 Suvarna Pure and Natural Cosmetics [www.suvarna.co.uk](http://www.suvarna.co.uk)  
 The Organic Pharmacy [www.theorganicpharmacy.com](http://www.theorganicpharmacy.com)  
 There Must be a Better Way [www.thereustbeabetterway.co.uk](http://www.thereustbeabetterway.co.uk)  
 Think Natural [www.thinknatural.com](http://www.thinknatural.com)  
 Tom's of Maine [www.tomsomaine.com](http://www.tomsomaine.com)  
 Urtekram [www.urtekram.dk](http://www.urtekram.dk)  
 Weleda [www.weleda.co.uk](http://www.weleda.co.uk)

21st Century Health [www.21stcenturyhealth.co.uk](http://www.21stcenturyhealth.co.uk)  
**ACNE REMEDIES**  
 Comvita Skin Clear [www.comvita.com](http://www.comvita.com)  
 Essential Care [www.naturalnursery.co.uk](http://www.naturalnursery.co.uk)  
 Pukka Herbs Skin Formula [www.pukkaherbs.com](http://www.pukkaherbs.com)  
**DEODORANT**  
 PitRok Ltd. [www.pitrok.co.uk](http://www.pitrok.co.uk)  
**HEALTH AND HOMEOPATHY SPECIALISTS**  
 Helios Homeopathic Pharmacy [www.helios.co.uk](http://www.helios.co.uk)  
 Optima [www.optimahealthcare.co.uk](http://www.optimahealthcare.co.uk)  
 Pure Potions [www.purepotions.com](http://www.purepotions.com)  
 Rio Health Direct [www.riohealth.co.uk](http://www.riohealth.co.uk)  
 Simply Nature [www.simplynature.co.uk](http://www.simplynature.co.uk)  
 The Organic Health Shop [www.baughdell.co.uk](http://www.baughdell.co.uk)  
**MAKE YOUR OWN SKIN CARE AND COSMETICS**  
 Aromatic [www.aromatic.co.uk](http://www.aromatic.co.uk)  
 Bay House Aromatics [www.bay-house.co.uk](http://www.bay-house.co.uk)  
 Cosmetics at Home [www.cosmeticsathome.co.uk](http://www.cosmeticsathome.co.uk)  
 New Directions [www.newdirectionsuk.com](http://www.newdirectionsuk.com)  
 The Soap Tub [www.meltsandpoursupplies.com](http://www.meltsandpoursupplies.com)  
**PERFUME**  
 Aromasciences [www.aromasciences.com](http://www.aromasciences.com)  
 Ascent [www.hayspace.co.uk](http://www.hayspace.co.uk)  
 Dolma [www.veganvillage.co.uk/dolma](http://www.veganvillage.co.uk/dolma)  
 Nature's Gift [www.naturesgift.com](http://www.naturesgift.com)  
 Profumo [www.profumo.it](http://www.profumo.it)  
**SANITARY PRODUCTS**  
 Cloth San Pro [www.ragbags.co.uk](http://www.ragbags.co.uk)  
 Natracare [www.natracare.com](http://www.natracare.com)  
 Menses [www.menses.co.uk](http://www.menses.co.uk)  
 The Mooncup [www.mooncup.co.uk](http://www.mooncup.co.uk)  
 Pads by Vicki [www.ecolady.co.uk](http://www.ecolady.co.uk)  
**SOAPS**  
 Caurnie Soaperie [www.caurnie.com](http://www.caurnie.com)  
 Dendera [www.dendera.net](http://www.dendera.net)  
 Simply Soaps [www.simplysoaps.com](http://www.simplysoaps.com)  
 The Soap Kitchen [www.thesoapkitchen.co.uk](http://www.thesoapkitchen.co.uk)  
**SUN PROTECTION**  
 Ecolani [www.ecolani.com](http://www.ecolani.com)  
 Yaoh [www.yaoh.co.uk](http://www.yaoh.co.uk)  
**TOOTHPASTE & MOUTHWASH**  
 Kingfisher Toothpaste [www.kingfishertoothpaste.com](http://www.kingfishertoothpaste.com)  
 Sarakan [www.sarakan.com](http://www.sarakan.com)



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- Clairol Nice 'n Easy Hair Dye
- Radox Herbal Bath with Juniper
- Oil of Olay
- Gillette shaving gel
- Johnson's Baby Softwash
- Colgate toothpaste
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'Ever more precisely marketed products, and the power of the fashion industry, create a fetishistic concern to have this consumer good rather than that one, even though there is often no significant practical or aesthetic difference,' psychologist Oliver James wrote in the *Ecologist* in 2004. Behind the £48 billion a year we in the UK spend on clothing and jewellery, there is a cheap and expendable workforce, excessive pesticide use and carcinogenic dyes.

#### THIS IS NOT ACCEPTABLE

We challenge the CLOTHING & JEWELLERY industry to:

- manufacture and sell long lasting, durable products
- employ sweatshop-free labour
- use organic and natural fibres
- use natural dyes

What we can do as consumers

- Buy fewer clothes
- Look for quality
- Buy second-hand
- Don't be fashionable sheep
- Make our own
- Hold manufacturers and retailers to account
- Support small, independent, ethical producers and retailers in these listings.

On West African farms such as this one near Bobo, Burkina Faso, organic cotton is providing a sustainable livelihood for small farmers after excessive subsidies in the US and the EU killed the cotton trade. PHOTOGRAPH BY KATE ESHELBY



#### GENERAL STOCKISTS: MEN AND WOMEN'S CLOTHING, ACCESSORIES, AND FOOTWEAR

Ethical Wares	<a href="http://www.ethicalwares.com">www.ethicalwares.com</a>
Funky-Ware	<a href="http://www.funky-ware.com">www.funky-ware.com</a>
Get Ethical	<a href="http://www.getethical.com">www.getethical.com</a>
Green apple	<a href="http://www.the-green-apple.co.uk">www.the-green-apple.co.uk</a>
Green Fibres	<a href="http://www.greenfibres.co.uk">www.greenfibres.co.uk</a>
Hebridean	
Woolhouse	<a href="http://www.hebrideanwoolhouse.com">www.hebrideanwoolhouse.com</a>
Hemp Union	<a href="http://www.hemp-union.karoo.net">www.hemp-union.karoo.net</a>
Howies	<a href="http://www.howies.co.uk">www.howies.co.uk</a>
Inbi Hemp	<a href="http://www.inbi-hemp.co.uk">www.inbi-hemp.co.uk</a>
Natural Collection	<a href="http://www.naturalcollection.com">www.naturalcollection.com</a>
One World is	
Enough	<a href="http://www.one-world-is-enough.net">www.one-world-is-enough.net</a>
Organic Attire Co	<a href="http://www.organicattire.co.uk">www.organicattire.co.uk</a>
People Tree	<a href="http://www.ptree.co.uk">www.ptree.co.uk</a>
Schmidt Natural	
Clothing	<a href="http://www.naturalclothing.co.uk">www.naturalclothing.co.uk</a>
Siesta Crafts	<a href="http://www.siestacrafts.co.uk">www.siestacrafts.co.uk</a>
Spirit of Nature	<a href="http://www.spiritofnature.co.uk">www.spiritofnature.co.uk</a>
The Hemp Store	<a href="http://www.thehempstore.co.uk">www.thehempstore.co.uk</a>

#### MEN AND WOMEN'S REFASHIONED CLOTHING

Junky Styling	<a href="http://www.junkystyling.co.uk">www.junkystyling.co.uk</a>
Red Mutha	<a href="http://www.redmutha.com">www.redmutha.com</a>

#### WOMEN'S ONLY CLOTHING

Alison Willoughby	<a href="http://www.alisonwilloughby.com">www.alisonwilloughby.com</a>
Ben Shine	<a href="http://www.benjaminshine.com">www.benjaminshine.com</a>
Bishopston Trad.	
Comp	<a href="http://www.bishopstontrading.co.uk">www.bishopstontrading.co.uk</a>
Ciel Ltd.	<a href="http://www.thenaturalstore.co.uk">www.thenaturalstore.co.uk</a>
Clothworks	<a href="http://www.clothworks.co.uk">www.clothworks.co.uk</a>

Enamore	<a href="http://www.enamore.co.uk">www.enamore.co.uk</a>
From Somewhere	<a href="http://www.fromsomewhere.co.uk">www.fromsomewhere.co.uk</a>
Juste	<a href="http://www.juste.co.uk">www.juste.co.uk</a>
Kate Goldsworthy	<a href="http://www.kategoldsworthy.co.uk">www.kategoldsworthy.co.uk</a>
Keep and Share	<a href="http://www.keepandshare.co.uk">www.keepandshare.co.uk</a>
Natural Dye	
Company	<a href="http://www.naturaldyecompany.com">www.naturaldyecompany.com</a>
Natural Store	<a href="http://www.thenaturalstore.co.uk">www.thenaturalstore.co.uk</a>
Nature's Mistress	<a href="http://www.naturesmistress.co.uk">www.naturesmistress.co.uk</a>
Nomads Clothing	<a href="http://www.nomadsclothing.com">www.nomadsclothing.com</a>
Osvomode	<a href="http://www.osvomode.com">www.osvomode.com</a>
Romp	<a href="http://www.romp.uk.com">www.romp.uk.com</a>
Sari	<a href="http://www.saricouture.com">www.saricouture.com</a>
Unicorn Design	<a href="http://www.unicorndesign.net">www.unicorndesign.net</a>

#### BAGS

Smart Tart	<a href="http://www.smarttart.co.uk">www.smarttart.co.uk</a>
Refab	<a href="http://www.refab.co.uk">www.refab.co.uk</a>
Suitcase	<a href="http://www.suitcase-london.com">www.suitcase-london.com</a>

#### DENIM

Kuyichi	<a href="http://www.kuyichi.com">www.kuyichi.com</a>
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#### FABRICS

##### Cotton

Aurora Silk	<a href="http://www.aurorasilk.com">www.aurorasilk.com</a>
Green Fibres	<a href="http://www.greenfibres.co.uk">www.greenfibres.co.uk</a>
Peru Naturex	<a href="http://www.perunaturex.com">www.perunaturex.com</a>

##### Wool

Organic pure wool	<a href="http://www.organicpurewool.co.uk">www.organicpurewool.co.uk</a>
Organic Wool	
Company	<a href="http://www.organicwool.co.uk">www.organicwool.co.uk</a>
Isle of Mull	
Weavers	<a href="http://www.isleofmullweavers.co.uk">www.isleofmullweavers.co.uk</a>

#### JEWELLERY

Jungleberry	<a href="http://www.jungleberry.co.uk">www.jungleberry.co.uk</a>
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#### LINERGIE

Greenknickers	<a href="http://www.greenknickers.org">www.greenknickers.org</a>
Buttress and	
Snatch	<a href="http://www.buttressandsnatch.co.uk">www.buttressandsnatch.co.uk</a>

#### SHOES

Beyond skin	<a href="http://www.beyondskin.co.uk">www.beyondskin.co.uk</a>
Birkenstock	<a href="http://www.birkenstock.com">www.birkenstock.com</a>
Black Spot Sneakers	
	<a href="http://www.blackspotbournemouth.tripod.com">www.blackspotbournemouth.tripod.com</a>
Fair Deal Trading	<a href="http://www.fairdealtrading.co.uk">www.fairdealtrading.co.uk</a>
Freerangers	<a href="http://www.freerangers.co.uk">www.freerangers.co.uk</a>
Green Shoes	<a href="http://www.greenshoes.co.uk">www.greenshoes.co.uk</a>
Terraplana	<a href="http://www.terraplana.com">www.terraplana.com</a>
The Natural Shoe	
Store	<a href="http://www.thenaturalshoestore.com">www.thenaturalshoestore.com</a>
Vegetarian	<a href="http://www.vegetarian-shoes.co.uk">www.vegetarian-shoes.co.uk</a>

#### SPORTSWEAR

Epona	<a href="http://www.eponasport.com">www.eponasport.com</a>
Gossypium	<a href="http://www.gossypium.co.uk">www.gossypium.co.uk</a>
Zoozoo2	<a href="http://www.zoozoo2.com">www.zoozoo2.com</a>

#### T-SHIRTS


American Apparel	<a href="http://www.americanapparel.co.uk">www.americanapparel.co.uk</a>
Equop	<a href="http://www.equop.com">www.equop.com</a>
Funky Gandhi	<a href="http://www.funkygandhi.com">www.funkygandhi.com</a>
Glow4Life	<a href="http://www.glo4life.com">www.glo4life.com</a>
Hug	<a href="http://www.hug.co.uk">www.hug.co.uk</a>
Mongrel Clothing	<a href="http://www.mongrelclothing.co.uk">www.mongrelclothing.co.uk</a>
Pakucho	<a href="http://www.pakucho.co.uk">www.pakucho.co.uk</a>
Soliloquy Clothing	<a href="http://www.soliloquyclothing.com">www.soliloquyclothing.com</a>
THTC	<a href="http://www.thtc.co.uk">www.thtc.co.uk</a>
Tonic T-Shirts	<a href="http://www.tonictshirts.com">www.tonictshirts.com</a>
ACCESSORIES	
Ford Barton	<a href="http://www.fordbarton.co.uk">www.fordbarton.co.uk</a>



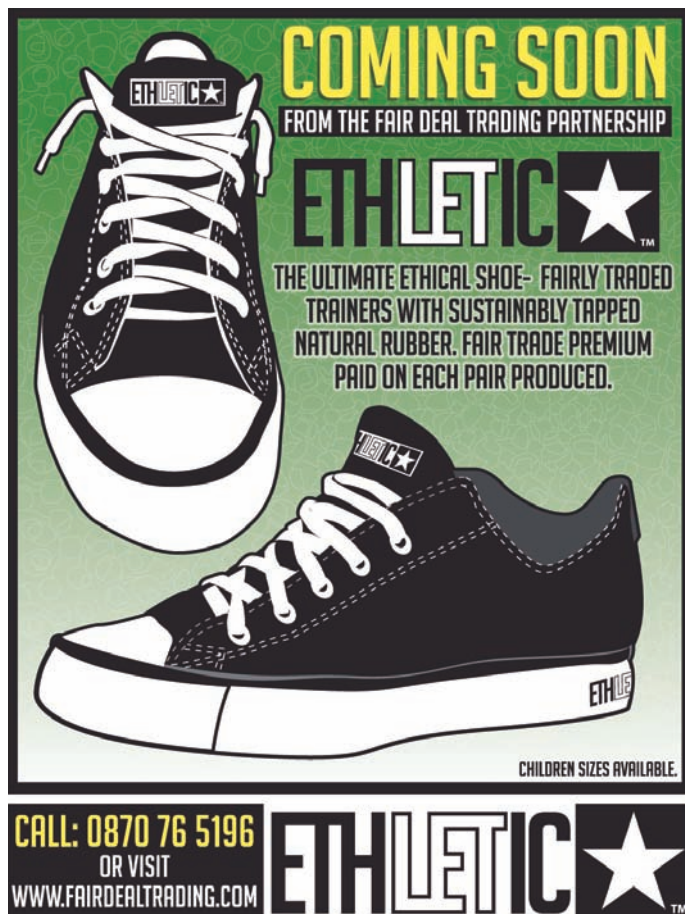
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See the Ecologist's Clothing and Jewellery section on page 67 for ethically made office wear



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**ECOLOGIST READER OFFER IN ASSOCIATION WITH GOSSYPIMUM**

**15% discount off all orders placed by Ecologist readers before the 31st of May.**

Orders have to be placed through our website.

To benefit from this discount it is necessary to use the following code 'ecologist'.

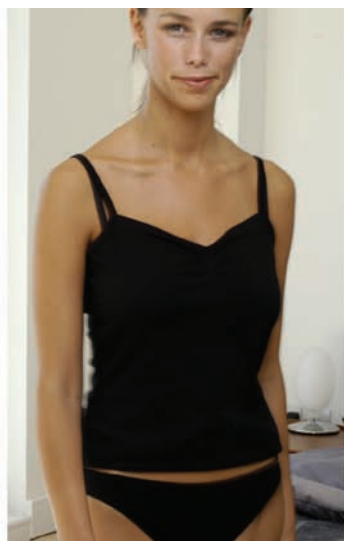
At Gossypium we believe that we have to go further than just

making good quality clothes.

We believe it is our responsibility to ensure that our products are made respecting both People and the Environment.

We are proud to be fully transparent about the origin of our products.

**www.gossypium.co.uk**



We live in a country where: every week one farmer kills himself; £1 in every seven is spent in Tesco; apples are flown in from New Zealand, yet two-thirds of our apple orchards have been destroyed; one-sixth of what we pay for food in the UK goes on packaging; pesticides are a £500 million market; and local, independent food shops – including butchers, bakers, greengrocers and fishmongers – go out of business every week.

#### THIS IS NOT ACCEPTABLE

We challenge the FOOD & DRINK industry to:

- Grow organic
- Stop factory farming
- Cut packaging
- Pay fair wages
- Minimise food miles
- Remove all carcinogens and toxins such as: synthetic colours; additives; aromas and flavourings; artificial preservatives; flavour enhancers and hydrogenated fats

What we can do as consumers

- Never shop in supermarkets
- Buy local fresh food
- Cook more
- Grow our own food
- Support small, independent and ethical producers and retailers in these listings.

*'The beneficial effect of hanging meat, in terms of both flavour and texture when it is cooked, is beyond question. Well-hung meat is, quite simply, tastier and more tender than unhung or under-hung meat.'*

THE RIVER COTTAGE MEAT BOOK, HUGH FEARNLEY-WHITTINGSTALL



### ECOLOGIST READER OFFER

We are offering a medium Monthly Meat Box to each of the first five readers who can send us an email [mmb@wellhungmeat.com](mailto:mmb@wellhungmeat.com) with the answer to our question:

**How long does the Well Hung Meat Company hang their beef for?**

You can find the answer to this question by visiting [www.wellhungmeat.com/monthlyboxes.php](http://www.wellhungmeat.com/monthlyboxes.php)

The Monthly Meat Box provides you with delicious organic meat in an easy and convenient way. If you wish to order a box, just follow the instructions on the website and we'll contact you with a delivery date.



'Hanging' meat is the process of aging or maturing the meat by hanging the carcass, or part of it, from a meat hook. When meat is hung:

- Natural enzymes begin to act on the fibres of the muscle meat, making them softer and more elastic, so that the meat becomes more relaxed and tender.
- Flavour intensifies.
- Moisture is lost, which is beneficial for cooking. Paradoxically, 'dry' meat is 'moister' than 'wet' meat. Under-hung meat carries too much water, which expands as the temperature rises during cooking, stretching the fibres of the meat and leaching out between them, so the meat actually ends up drier after cooking.

### 3 REASONS TO BUY FROM WELLHUNGMEAT.COM

- 1. Quality:** Lamb is hung for seven days, beef for 21 days, ensuring a rich flavour. Meat is continually tasted to ensure high standards are maintained. All meat is organic, meaning it contains higher levels of minerals and anti-oxidants and is free from chemical additives.
- 2. Animal welfare:** Cattle graze on lush pasture stretching three miles along the South Devon coast. All animals are slaughtered either at the farm or at small, local abattoirs. Animals are slaughtered with the highest stockmanship, as quickly and painlessly as possible.
- 3. Convenience:** Well Hung Meat is carefully vacuum packed and delivered direct to your door!

### FIND YOUR LOCAL BOX SCHEME



Sign up to a local box scheme today. We've listed all the box scheme suppliers in the UK that provide local and/or organic produce at [www.theecologist.org/boxscheme](http://www.theecologist.org/boxscheme)



The Well Hung Meat Company's cows graze on miles of grassy pasture



**FOOD BOX SCHEMES**

- Soil Association's Why Organic [www.whyorganic.org](http://www.whyorganic.org)
- COMMUNITY SUPPORTED AGRICULTURE**
- Cultivating Communities [www.cuco.org.uk](http://www.cuco.org.uk)
- FARMERS MARKETS**
- National Association of Farmers Markets [www.farmersmarkets.net](http://www.farmersmarkets.net)
- MAIL ORDER**
- GENERAL STOCKISTS:** companies whose products include baked goods, dairy, fish, fruit & vegetables and meat
- Ceres Natural Foods Ltd [www.ceresfoods.com](http://www.ceresfoods.com)
- Eostre [www.eostreorganics.co.uk](http://www.eostreorganics.co.uk)
- Essential Trading [www.essential-trading.coop](http://www.essential-trading.coop)
- Food For Living [www.foodforliving.co.uk](http://www.foodforliving.co.uk)
- Godminster [www.godminster.com](http://www.godminster.com)
- Goodness Direct [www.goodnessdirect.co.uk](http://www.goodnessdirect.co.uk)
- Graig Farm [www.graigfarm.co.uk](http://www.graigfarm.co.uk)
- Herbs, Gardens & Health [www.herbsgardenshealth.com](http://www.herbsgardenshealth.com)
- Hunters of Helmsley [www.huntersofhelmsley.com](http://www.huntersofhelmsley.com)
- Natural World [www.healthfoodshop.co.uk](http://www.healthfoodshop.co.uk)
- Naturally Good Food Ltd [www.goodfooddelivery.co.uk](http://www.goodfooddelivery.co.uk)
- One (Organic, Natural & Ethical) Food Ltd [www.onefood.co.uk](http://www.onefood.co.uk)
- Organic Delivery Company [www.organicdelivery.co.uk](http://www.organicdelivery.co.uk)
- Organic Farmers Market [www.theorganicfarmersmarket.co.uk](http://www.theorganicfarmersmarket.co.uk)
- Organic Health (Cambridge) [www.organichealth.biz](http://www.organichealth.biz)
- Provender Delicatessen [www.provender.net](http://www.provender.net)
- Real Farm Foods [www.realfarmfoods.com](http://www.realfarmfoods.com)
- Real Food Direct [www.realfooddirect.co.uk](http://www.realfooddirect.co.uk)
- Rosemary's Health Foods [www.rosemaryshealthfoods.co.uk](http://www.rosemaryshealthfoods.co.uk)
- Somerset Organics [www.somersetorganics.co.uk](http://www.somersetorganics.co.uk)
- Swaddles Organic [www.swaddles.co.uk](http://www.swaddles.co.uk)
- The Fresh Food Co [www.freshfood.co.uk](http://www.freshfood.co.uk)
- West Country Organics [www.westcountryorganics.co.uk](http://www.westcountryorganics.co.uk)

- Wild Oats Wholefoods [www.woats.co.uk](http://www.woats.co.uk)
- Zonkers Organics [www.zonker.co.uk](http://www.zonker.co.uk)
- DAIRY – GENERAL**
- Caws Cenarth [www.cawscenarth.co.uk](http://www.cawscenarth.co.uk)
- Daisy and Co [www.daisyandco.co.uk](http://www.daisyandco.co.uk)
- Daylesford Organic [www.daylesfordorganic.com](http://www.daylesfordorganic.com)
- Loch Arthur Creamery [www.locharthur.org.uk](http://www.locharthur.org.uk)
- Middle Campscott Farm [www.middlecampscott.co.uk](http://www.middlecampscott.co.uk)
- Rachel's Organic Dairy [www.rachelsorganic.co.uk](http://www.rachelsorganic.co.uk)
- Wensleydale Dairy Products Ltd [www.wensleydale.co.uk](http://www.wensleydale.co.uk)
- Yeo Valley [www.yeovalleyorganic.co.uk](http://www.yeovalleyorganic.co.uk)
- MILK/ICE CREAM**
- Classic Organic – flavoured milk [www.classic-organic.co.uk](http://www.classic-organic.co.uk)
- Cream of Galloway [www.creamogalloway.co.uk](http://www.creamogalloway.co.uk)
- Manor Farm Organic Milk Ltd [www.manor-farm-organic.co.uk](http://www.manor-farm-organic.co.uk)
- September Organic Dairy [www.september-organic.co.uk](http://www.september-organic.co.uk)
- CHEESE**
- Alhamwood Cheese [www.buffalo-cheese.co.uk](http://www.buffalo-cheese.co.uk)
- Bath Soft Cheese [www.parkfarm.co.uk](http://www.parkfarm.co.uk)
- Caws Cenarth Cheese [www.cawscenarth.co.uk](http://www.cawscenarth.co.uk)
- Daylesford Organic [www.daylesfordorganic.com](http://www.daylesfordorganic.com)
- Godminster Vintage Cheese [www.godminster.co.uk](http://www.godminster.co.uk)
- H.S. Bourne [www.hsbourne.co.uk](http://www.hsbourne.co.uk)
- Llanboidy Cheesemakers [www.llanboidycheese.co.uk](http://www.llanboidycheese.co.uk)
- Llangloffan Farmhouse Cheese [www.welshcheese.co.uk](http://www.welshcheese.co.uk)
- Loch Arthur Creamery [www.locharthur.org.uk](http://www.locharthur.org.uk)
- Staffordshire Organic Cheese [www.deaville.demon.co.uk](http://www.deaville.demon.co.uk)
- FISH**
- Craig Farm Organics [www.graigfarm.co.uk](http://www.graigfarm.co.uk)
- Inverawe Smokehouses [www.smokedsalmon.co.uk](http://www.smokedsalmon.co.uk)
- Martins Seafresh [www.martins-seafresh.co.uk](http://www.martins-seafresh.co.uk)
- Organico [www.organico.co.uk](http://www.organico.co.uk)
- The Organic Smokehouse [www.organicssmokehouse.com](http://www.organicssmokehouse.com)
- MEAT**

- A.G. Millers [www.agmillers.co.uk](http://www.agmillers.co.uk)
- Angus Organics Ltd [www.angusorganics.com](http://www.angusorganics.com)
- Askerton Castle Estate [www.askertoncastle.co.uk](http://www.askertoncastle.co.uk)
- Atholl Glens Organic Meat [www.athollglens.co.uk](http://www.athollglens.co.uk)
- Bath Organic Farms [www.bathorganicfarms.co.uk](http://www.bathorganicfarms.co.uk)
- Borland Farm [www.borlandfold.co.uk](http://www.borlandfold.co.uk)
- Brockleby Farm Shop [www.brocklebys.co.uk](http://www.brocklebys.co.uk)
- Bumpylane Rare Breeds [www.bumpylane.co.uk](http://www.bumpylane.co.uk)
- Cambrian Organics [www.cambrianorganics.com](http://www.cambrianorganics.com)
- Cambrian Organics [www.cambrianorganics.com](http://www.cambrianorganics.com)
- Childhay Manor Organics [www.childhaymanor.com](http://www.childhaymanor.com)
- Clyro Hill Farm [www.clyrohillfarm.co.uk](http://www.clyrohillfarm.co.uk)
- Daylesford Organic [www.daylesfordorganic.com](http://www.daylesfordorganic.com)
- Eastbrook Farms Organic Meat [www.helenbrowningorganics.co.uk](http://www.helenbrowningorganics.co.uk)
- Fishleigh Estate [www.fishleighestate.com](http://www.fishleighestate.com)
- Graig Farm Organics [www.graigfarm.co.uk](http://www.graigfarm.co.uk)
- Hallsford (AN & HS Tomkins) [www.hallsford.co.uk](http://www.hallsford.co.uk)
- Helen Browning [www.helenbrowningorganics.co.uk](http://www.helenbrowningorganics.co.uk)
- Heritage Prime – Earnestly British Meats of Rare Quality [www.heritageprime.co.uk](http://www.heritageprime.co.uk)
- Higher Hacknell Farm [www.higherhacknell.co.uk](http://www.higherhacknell.co.uk)

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 email: [sarah@cocoaloco.co.uk](mailto:sarah@cocoaloco.co.uk)  
[www.cocoaloco.co.uk](http://www.cocoaloco.co.uk)

## FOOD & DRINK

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 Hugh Grierson [www.the-organic-farm.co.uk](http://www.the-organic-farm.co.uk)  
 Langley Chase Organic Farm [www.langleychase.co.uk](http://www.langleychase.co.uk)  
 Lee House Farm [www.leehousefarm.co.uk](http://www.leehousefarm.co.uk)  
 Lower Hurst Farm [www.lowerhurstfarm.co.uk](http://www.lowerhurstfarm.co.uk)  
 Lurgan Farm Shop [www.lurganfarmshop.co.uk](http://www.lurganfarmshop.co.uk)  
 Natural Good Food [www.goodfooddelivery.co.uk](http://www.goodfooddelivery.co.uk)  
 Northumbrian Quality Meats [www.northumbrian-organic-meat.co.uk](http://www.northumbrian-organic-meat.co.uk)  
 Organic Meat & Products (Scotland) Ltd [www.jamesfieldfarm.co.uk](http://www.jamesfieldfarm.co.uk)  
 Orkney Organic Meat [www.orkneyorganicmeat.co.uk](http://www.orkneyorganicmeat.co.uk)  
 Pioneer Catering Suppliers Ltd [www.organicbutchers.net](http://www.organicbutchers.net)  
 Providence Farm Organic Meats [www.providencefarm.co.uk](http://www.providencefarm.co.uk)  
 Red Poll Meats [www.redpollmeats.co.uk](http://www.redpollmeats.co.uk)  
 S & J Organics [www.sjorganics.co.uk](http://www.sjorganics.co.uk)  
 Save the Bacon [www.savethebacon.com](http://www.savethebacon.com)  
 Sheepdrove Organic Farm [www.sheepdrove.com](http://www.sheepdrove.com)  
 Swaddles [www.swaddles.co.uk](http://www.swaddles.co.uk)  
 The May Organic Farms The Real Meat Company [www.realmeatco.sageweb.co.uk](http://www.realmeatco.sageweb.co.uk)  
 Traditional Norfolk Poultry [www.tnpltd.com](http://www.tnpltd.com)  
 Vivian Olds Ltd [www.vivianolds.co.uk](http://www.vivianolds.co.uk)  
 Well Hung Meat [www.wellhungmeat.com](http://www.wellhungmeat.com)  
 Welsh Hoop Meat Centre [www.welsh-organic-meat.co.uk](http://www.welsh-organic-meat.co.uk)  
 Woodlands [www.woodlandsfarm.co.uk](http://www.woodlandsfarm.co.uk)  
**BAKING**  
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 Matthews Ltd, FWP – The Cotswold Flour Millers [www.fwpmatthews.co.uk](http://www.fwpmatthews.co.uk)  
 Pertwood Organic Cereal Co Ltd [www.pertwood.co.uk](http://www.pertwood.co.uk)  
 Shipton Mill Ltd [www.shipton-mill.com](http://www.shipton-mill.com)  
 The Authentic Bread Co [www.authenticbread.co.uk](http://www.authenticbread.co.uk)  
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 Village Bakery [www.village-bakery.com](http://www.village-bakery.com)  
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 Cotons Continental Chocolates [www.cotonschocolates.co.uk](http://www.cotonschocolates.co.uk)  
 Green and Blacks [www.greenandblacks.com](http://www.greenandblacks.com)  
 Montezumas [www.montezumas.co.uk](http://www.montezumas.co.uk)  
 Plamil Foods [www.plamilfoods.co.uk](http://www.plamilfoods.co.uk)  
 Stamp Collection [www.buxtonfoods.com](http://www.buxtonfoods.com)  
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 Get Real (Organic Foods) Ltd [www.get-real.co.uk](http://www.get-real.co.uk)  
 Dragonfly Foods [www.beany.co.uk](http://www.beany.co.uk)  
 The Fresh Network (raw) [www.fresh-network.com](http://www.fresh-network.com)  
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 Heaven Scent Herbs [www.heavenscentherbs.co.uk](http://www.heavenscentherbs.co.uk)  
 Seasoned Pioneers Ltd [www.seasonedpioneers.co.uk](http://www.seasonedpioneers.co.uk)  
 Fresh-Coconut [www.fresh-coconut.com](http://www.fresh-coconut.com)  
 Steenbergs Organic Pepper & Spice [www.steenbergs.co.uk](http://www.steenbergs.co.uk)  
 Seaveg [www.seaveg.co.uk](http://www.seaveg.co.uk)  
 Anglesey Sea Salt Co [www.seasalt.co.uk](http://www.seasalt.co.uk)  
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 Beers in a Box [www.beersinabox.com](http://www.beersinabox.com)  
 Black Isle Organic Beers [www.blackislebrewery.com](http://www.blackislebrewery.com)  
 Broughton Ales [www.broughtonales.co.uk](http://www.broughtonales.co.uk)  
 Dunkerton's Cider and Perry [www.orchard-hive-and-vine.co.uk](http://www.orchard-hive-and-vine.co.uk)  
 Freedom Organic Beer [www.freedombeer.com](http://www.freedombeer.com)  
 Fuller's Vintage Ale [www.fullers-ales.com](http://www.fullers-ales.com)

Hambleton Ales [www.hambletonales.co.uk](http://www.hambletonales.co.uk)  
 Houston Brewery [www.houston-brewing.co.uk](http://www.houston-brewing.co.uk)  
 O'Hanlons [www.ohanlons.co.uk](http://www.ohanlons.co.uk)  
 Only Fine Beer [www.onlyfinebeer.co.uk](http://www.onlyfinebeer.co.uk)  
 Organic Brewhouse [www.quaffale.org.uk](http://www.quaffale.org.uk)  
 Pennard Organic Wines & Cider [www.pennardorganicwines.co.uk](http://www.pennardorganicwines.co.uk)  
 Pitfield Beershop [www.pitfieldbeershop.co.uk](http://www.pitfieldbeershop.co.uk)  
 Smiles Brewing Company [www.smiles.co.uk](http://www.smiles.co.uk)  
 Skinner's Brewery [www.skinnerbrewery.com](http://www.skinnerbrewery.com)  
 St. Peter's Brewery [www.stpetersbrewery.co.uk](http://www.stpetersbrewery.co.uk)  
 Valhalla Brewery [www.valhallabrewery.co.uk](http://www.valhallabrewery.co.uk)  
 Weston's Cider [www.westons-cider.co.uk](http://www.westons-cider.co.uk)  
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 A Lot of Coffee [www.alotofcoffee.co.uk](http://www.alotofcoffee.co.uk)  
 Burgil Coffee [www.burgil.com](http://www.burgil.com)  
 Café Direct [www.cafedirect.co.uk](http://www.cafedirect.co.uk)  
 Coffee Plant [www.coffee.uk.com](http://www.coffee.uk.com)  
 Equal Exchange [www.equalexchange.com](http://www.equalexchange.com)  
 Hampstead Tea and Coffee Co [www.hampsteadtea.com](http://www.hampsteadtea.com)  
 Hehlis Holistics [www.hehlis-holistics.com](http://www.hehlis-holistics.com)  
 James' Gourmet Coffee Co Ltd [www.jamesgourmetcoffee.com](http://www.jamesgourmetcoffee.com)  
 Monmouth Coffee Company [www.monmouthcoffee.co.uk](http://www.monmouthcoffee.co.uk)  
 Organico [www.organico.co.uk](http://www.organico.co.uk)  
 Origin [www.origincoffee.co.uk](http://www.origincoffee.co.uk)  
 Pumphreys Coffee Ltd [www.pumphreys-coffee.co.uk](http://www.pumphreys-coffee.co.uk)  
 The Bean Shop [www.thebeanshop.com](http://www.thebeanshop.com)  
 The Tea and Coffee Plant [www.coffee.uk.com](http://www.coffee.uk.com)  
**SPIRITS**  
 Juniper Green Organic Gin [www.junipergreen.org](http://www.junipergreen.org)  
 The Organic Spirits Company [www.uk5.org](http://www.uk5.org)  
 Stonelink Farm (organic sloe gin) [www.stonelinkfarm.co.uk](http://www.stonelinkfarm.co.uk)  
 Vinceremos [www.vinceremos.co.uk](http://www.vinceremos.co.uk)  
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 Broughton Pastures Organic Fruit Wine Co [www.broughtonpastures.co.uk](http://www.broughtonpastures.co.uk)  
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 Irma Fingal-Rock [www.pinotnoir.co.uk](http://www.pinotnoir.co.uk)  
 Pennard Organic Wines & Cider [www.pennardorganicwines.co.uk](http://www.pennardorganicwines.co.uk)  
 Pure Wine [www.purewine.co.uk](http://www.purewine.co.uk)  
 Sedlescombe Organic Vineyard [www.englishorganicwine.co.uk](http://www.englishorganicwine.co.uk)  
 Sharpham Partnerships Ltd [www.sharpham.com](http://www.sharpham.com)  
 The Organic Wine Company [www.theorganicwinecompany.com](http://www.theorganicwinecompany.com)  
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 Vinceremos [www.vinceremos.co.uk](http://www.vinceremos.co.uk)  
 Vintage Roots [www.vintageroots.co.uk](http://www.vintageroots.co.uk)  
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 Ethical Juicers [www.ethicaljuicers.co.uk](http://www.ethicaljuicers.co.uk)  
 James White Drinks Ltd [www.jameswhite.co.uk](http://www.jameswhite.co.uk)  
 UK Juicers [www.ukjuicers.com](http://www.ukjuicers.com)

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[www.communityfoods.co.uk](http://www.communityfoods.co.uk)



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### ENERGY ENERGY EFFICIENCY

Carbon Trust [www.thecarbontrust.co.uk](http://www.thecarbontrust.co.uk)  
Eco-Exmoor [www.eco-exmoor.co.uk](http://www.eco-exmoor.co.uk)  
Energy Saving World [www.energysavingworld.co.uk](http://www.energysavingworld.co.uk)  
National Centre for Business and Sustainability [www.thencbs.co.uk](http://www.thencbs.co.uk)  
Nigel's Eco Store [www.theinsightecostore.com](http://www.theinsightecostore.com)  
Save Energy [www.saveenergyonline.com](http://www.saveenergyonline.com)  
The Organic Energy Company [www.organicenergy.co.uk](http://www.organicenergy.co.uk)

### ELECTRICITY Generation

Dulas Ltd [www.renewable-resources.com](http://www.renewable-resources.com)  
Green Dragon Energy [www.greendragonenergy.co.uk](http://www.greendragonenergy.co.uk)  
Rainbow Solar Trading [www.rainbowtradingpost.co.uk](http://www.rainbowtradingpost.co.uk)  
Sustainable Energy Installations [www.sustainable-energy.org.uk](http://www.sustainable-energy.org.uk)  
Wind and Sun Ltd [www.windandsun.co.uk](http://www.windandsun.co.uk)

### Light bulbs

Energy Saving World [www.energysavingworld.co.uk](http://www.energysavingworld.co.uk)  
Lampholder 2000 [www.lampholder.co.uk](http://www.lampholder.co.uk)  
Lumin8 [www.lumin8.co.uk](http://www.lumin8.co.uk)  
Nigel's Eco Store [www.theinsightecostore.com](http://www.theinsightecostore.com)  
**Suppliers**  
Ecotricity [www.ecotricity.co.uk](http://www.ecotricity.co.uk)

### GROUND SOURCE HEAT PUMPS

Conservation Engineering Ltd [www.heating-designs.co.uk](http://www.heating-designs.co.uk)  
Earthwise Scotland Ltd [www.earthwisescotland.co.uk](http://www.earthwisescotland.co.uk)  
Eco Heat Pumps Energy and the Environment [www.ecoheatpumps.co.uk](http://www.ecoheatpumps.co.uk)  
[www.energyenv.co.uk](http://www.energyenv.co.uk)

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 Geothermal Heating International [www.geoheat.co.uk](http://www.geoheat.co.uk)  
 Green Systems [www.greensystems.net](http://www.greensystems.net)  
 Groenholland UK Ltd [www.groenholland.com](http://www.groenholland.com)  
 Ice Energy [www.iceenergy.co.uk](http://www.iceenergy.co.uk)  
 Kensa

Engineering Ltd [www.kensaengineering.com](http://www.kensaengineering.com)

### INSULATION

Polarwall Ltd [www.polarwall.co.uk](http://www.polarwall.co.uk)  
 Second Nature [www.secondnatureuk.com](http://www.secondnatureuk.com)  
 Skanda UK [www.skanda-uk.com](http://www.skanda-uk.com)

### SOLAR

Energy and the Environment [www.energyenv.co.uk](http://www.energyenv.co.uk)  
 Future Heating Ltd [www.future-heating.co.uk](http://www.future-heating.co.uk)  
 HiTech Energy Ltd [www.hitechenergy.co.uk](http://www.hitechenergy.co.uk)  
 Llanisolar [www.llanisolar.co.uk](http://www.llanisolar.co.uk)  
 The Organic Energy Company [www.organicenergy.co.uk](http://www.organicenergy.co.uk)  
 Power Tech Solar [www.powertech-solar.com](http://www.powertech-solar.com)  
 Radiant Energy [www.radiantenergy.co.uk](http://www.radiantenergy.co.uk)  
 Rainbow Solar Trading [www.rainbowtradingpost.co.uk](http://www.rainbowtradingpost.co.uk)  
 The Solar Design Company [www.solar-design.demon.co.uk](http://www.solar-design.demon.co.uk)  
 Solarsense UK Ltd [www.solarsense-uk.com](http://www.solarsense-uk.com)  
 Solar Twin [www.solartwin.com](http://www.solartwin.com)  
 Sun Harvester [www.sun-harvester.co.uk](http://www.sun-harvester.co.uk)  
 West Wales Solar Heating [www.solarwales.co.uk](http://www.solarwales.co.uk)

### WOOD FUEL STOVES

3G energi [www.3genergi.co.uk](http://www.3genergi.co.uk)  
 Able Fuels Ltd [www.ablefuels.co.uk](http://www.ablefuels.co.uk)  
 Beacon Stoves [www.beacon-stoves.co.uk](http://www.beacon-stoves.co.uk)  
 Bio Energy Devices [www.bioenergy-devices.co.uk](http://www.bioenergy-devices.co.uk)  
 Bioenergy Technology Ltd [www.bioenergy.org](http://www.bioenergy.org)  
 Chilli Penguin Stoves [www.chillipenguin.co.uk](http://www.chillipenguin.co.uk)  
 Ebc wood fuels [www.ebc-ecofuel.co.uk](http://www.ebc-ecofuel.co.uk)  
 Rural Energy Ltd [www.ruralenergy.co.uk](http://www.ruralenergy.co.uk)  
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 Bio Energy Devices [www.bioenergy-devices.co.uk](http://www.bioenergy-devices.co.uk)  
 Bioenergy Technology Ltd [www.bioenergy.org](http://www.bioenergy.org)  
 Chilli Penguin Stoves [www.chillipenguin.co.uk](http://www.chillipenguin.co.uk)  
 Ebc wood fuels [www.ebc-ecofuel.co.uk](http://www.ebc-ecofuel.co.uk)  
 Rural Energy Ltd [www.ruralenergy.co.uk](http://www.ruralenergy.co.uk)  
 Wood Energy Ltd [www.woodenergyltd.co.uk](http://www.woodenergyltd.co.uk)

### GARDEN

#### GENERAL STOCKISTS:

Including books, compost & wormeries, garden furniture, pest & weed control, seeds, soil and plant care  
 British Eco [www.britisheco.com](http://www.britisheco.com)  
 Ernest Charles Wildlife Gardening [www.ernest-charles.com](http://www.ernest-charles.com)  
 Green Gardener [www.greengardener.co.uk](http://www.greengardener.co.uk)  
 The Organic Gardening Catalogue [www.OrganicCatalogue.com](http://www.OrganicCatalogue.com)  
 Tamar Organics [www.tamarorganics.co.uk](http://www.tamarorganics.co.uk)  
 The Natural Collection [www.naturalcollection.com](http://www.naturalcollection.com)  
 The Organic Gardening Catalogue [www.OrganicCatalogue.com](http://www.OrganicCatalogue.com)

#### ALLOTMENTS

Allotments UK [www.allotments-uk.com](http://www.allotments-uk.com)  
 Allotments Regeneration Initiative [www.farmgarden.org.uk](http://www.farmgarden.org.uk)

#### COMPOSTING

The Composting Association [www.compost.org.uk](http://www.compost.org.uk)  
 Community Composting Network [www.communitycompost.org](http://www.communitycompost.org)  
 Recycle Works [www.recycleworks.co.uk](http://www.recycleworks.co.uk)  
 Permaculture Association [www.permaculture.org.uk](http://www.permaculture.org.uk)  
 Organic UK [www.organicgarden.org.uk](http://www.organicgarden.org.uk)  
 Recycle Works... [www.recycleworks.co.uk](http://www.recycleworks.co.uk)  
 Blackwall Ltd [www.blackwall-ltd.com](http://www.blackwall-ltd.com)  
 Original Organics [www.originalorganics.co.uk](http://www.originalorganics.co.uk)  
 The Bin Company [www.thebincompany.com](http://www.thebincompany.com)  
 The Worm Hotel [www.thewormhotel.com](http://www.thewormhotel.com)  
 Wiggly Wiggles [www.wigglywiggles.co.uk](http://www.wigglywiggles.co.uk)

#### FERTILISERS

Enviromulch [www.wbpenviromulch.com](http://www.wbpenviromulch.com)  
 Fertile Fibre [www.fertilefibre.co.uk](http://www.fertilefibre.co.uk)  
 Rooster Pelleted Manure [www.rooster.uk.com](http://www.rooster.uk.com)

#### FURNITURE & FENCING

Duchy Originals [www.duchyoriginals.com](http://www.duchyoriginals.com)  
 English Hurdle [www.hurdle.co.uk](http://www.hurdle.co.uk)

Forest Stewardship Council [www.fsc-uk.info](http://www.fsc-uk.info)  
 Pendlewood [www.pendlewood.com](http://www.pendlewood.com)  
 Potential [www.potentialonline.co.uk](http://www.potentialonline.co.uk)  
 Wilderess Wood [www.wilderesswood.co.uk](http://www.wilderesswood.co.uk)

#### NURSERIES AND GARDENS

Butterworth's Organic Fruit Nursery [www.butterworthsorganicnursery.co.uk](http://www.butterworthsorganicnursery.co.uk)  
 Ryton Organic Gardens [www.hdra.org.uk](http://www.hdra.org.uk)  
 Walcot Organic Nursery [www.walcotnursery.co.uk](http://www.walcotnursery.co.uk)  
 Landlife Wildflowers [www.wildflower.org.uk](http://www.wildflower.org.uk)  
 National Wildflower Centre [www.nwc.org.uk](http://www.nwc.org.uk)

#### SEEDS

Exchange Flora Locale [www.floralocale.org](http://www.floralocale.org)  
 Henry Doubleday Research Association [www.hdra.org.uk](http://www.hdra.org.uk)

#### Suppliers

Association Kokopelli Organic Seeds [www.organicseedsonline.com](http://www.organicseedsonline.com)  
 EcoSeeds [www.ecoseeds.co.uk](http://www.ecoseeds.co.uk)  
 Tamar Organics [www.tamarorganics.co.uk](http://www.tamarorganics.co.uk)  
 The Real Seed Catalogue [www.realseeds.co.uk](http://www.realseeds.co.uk)

### HOME

**GENERAL STOCKISTS:** companies whose products include building materials, flooring, furniture, insulation, paints, water saving devices and windows & doors  
 Construction Resources [www.constructionresources.com](http://www.constructionresources.com)  
 Earth and Reed [www.earth-and-reed.co.uk](http://www.earth-and-reed.co.uk)  
 Ecomerchant [www.ecomerchant.co.uk](http://www.ecomerchant.co.uk)  
 Green Building Store [www.greenbuildingstore.co.uk](http://www.greenbuildingstore.co.uk)  
 The Green Shop [www.thegreenshop.co.uk](http://www.thegreenshop.co.uk)  
 The Healthy House [www.healthy-house.co.uk](http://www.healthy-house.co.uk)

#### Construction

Resources [www.constructionresources.com](http://www.constructionresources.com)  
 Earth and Reed [www.earth-and-reed.co.uk](http://www.earth-and-reed.co.uk)  
 Ecomerchant [www.ecomerchant.co.uk](http://www.ecomerchant.co.uk)  
 Green Building Store [www.greenbuildingstore.co.uk](http://www.greenbuildingstore.co.uk)  
 The Green Shop [www.thegreenshop.co.uk](http://www.thegreenshop.co.uk)  
 The Healthy House [www.healthy-house.co.uk](http://www.healthy-house.co.uk)

#### BEDDING AND LINEN

Albatross [www.albatross-global.com](http://www.albatross-global.com)  
 Green Fibres [www.greenfibres.com](http://www.greenfibres.com)  
 Schmidt Natural Clothing [www.naturalclothing.co.uk](http://www.naturalclothing.co.uk)

#### CLEANING PRODUCTS

Aqual Ball [www.21stcenturyhealth.co.uk/aquaball.asp](http://www.21stcenturyhealth.co.uk/aquaball.asp)  
 Bio-D Company Ltd [www.biodegradable.biz](http://www.biodegradable.biz)  
 Ecotopia [www.ecotopia.co.uk](http://www.ecotopia.co.uk)  
 Ecover [www.ecover.com](http://www.ecover.com)  
 Green Fibres [www.greenfibres.com](http://www.greenfibres.com)  
 Greenlands [www.greenlands-env.co.uk](http://www.greenlands-env.co.uk)  
 Natural Eco Trading Ltd [www.greenbrands.co.uk](http://www.greenbrands.co.uk)  
 Vertue [www.vertue.com](http://www.vertue.com)  
 Wonderwash Laundry Ball [www.thehealthyhome.com](http://www.thehealthyhome.com)

#### CONSTRUCTION/ RENOVATION

Cob in Cornwall [www.cobincornwall.com](http://www.cobincornwall.com)  
 Concept Timber [www.concept-timber.co.uk](http://www.concept-timber.co.uk)  
 Finch Macintosh Architects [www.finchmacintosh.co.uk](http://www.finchmacintosh.co.uk)  
 Gale and Snowden [www.ecodesign.co.uk](http://www.ecodesign.co.uk)  
 Insideout Buildings [www.iobuild.co.uk](http://www.iobuild.co.uk)  
 Nicholas Hare [www.nicholashare.co.uk](http://www.nicholashare.co.uk)  
 Mike Wye and Associates [www.mikewye.co.uk](http://www.mikewye.co.uk)  
 Quattro Design [www.quattrodesign.co.uk](http://www.quattrodesign.co.uk)

#### ESTATE AGENTS

Green Moves [www.greenmoves.co.uk](http://www.greenmoves.co.uk)

#### FURNITURE

**New**  
 Arbor Vetum [www.arborvetum.co.uk](http://www.arborvetum.co.uk)  
 Rawnsley Woodland Products [www.cornishwoodland.co.uk](http://www.cornishwoodland.co.uk)

#### Recycled and salvage

African Trackwoods [www.african-trackwoods.co.uk](http://www.african-trackwoods.co.uk)  
 Ashcroft Reclaimed Timber Flooring [www.woodflooringuk.com](http://www.woodflooringuk.com)  
 Cox's Architectural Salvage [www.coxsarchitectural.co.uk](http://www.coxsarchitectural.co.uk)  
 Drummonds Architectural Antiques [www.drummonds-arch.co.uk](http://www.drummonds-arch.co.uk)  
 Reclaimed Pine Online [www.reclaimed-pine-online.co.uk](http://www.reclaimed-pine-online.co.uk)  
 Reclaimed Timber Specialists [www.reclaimed.uk.com](http://www.reclaimed.uk.com)

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 Treesave Reclamation Ltd [www.buresreclamation.co.uk](http://www.buresreclamation.co.uk)  
 Toby's Reclamation [www.tobysreclamation.co.uk](http://www.tobysreclamation.co.uk)  
 Viking Reclamation [www.reclaimed.co.uk](http://www.reclaimed.co.uk)  
**PAINTS**  
 Auro Organic Paints [www.auro.co.uk](http://www.auro.co.uk)  
 Earth Born Paints [www.earthbornpaints.co.uk](http://www.earthbornpaints.co.uk)  
 Ecopaints [www.ecopaint.co.uk](http://www.ecopaint.co.uk)  
 Eco Solutions Ltd [www.ecosolutions.co.uk](http://www.ecosolutions.co.uk)  
 Little Greene Paint Company [www.thelittlegreene.com](http://www.thelittlegreene.com)  
 Nutshell Natural Paints [www.nutshellpaints.com](http://www.nutshellpaints.com)  
 The Green Shop [www.greenshop.co.uk](http://www.greenshop.co.uk)  
**TILES**  
 Natural Tile [www.naturaltile.co.uk](http://www.naturaltile.co.uk)  
 Siesta Cork Tile Co [www.siestacorktiles.co.uk](http://www.siestacorktiles.co.uk)

**TIMBER**  
 Altham Hardwood Centre [www.oak-beams.co.uk](http://www.oak-beams.co.uk)  
 Victorian Wood Works [www.victorianwoodworks.co.uk](http://www.victorianwoodworks.co.uk)  
**WINDOWS AND DOORS**  
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# THE HAMMER-BASHING SOCIETY:

## A PARABLE FOR OUR TIMES

BY EDWARD GOLDSMITH

You promised to tell me why I can't have a hammer,' said the little boy.' 'It's a long story,' answered the old man, 'but here it goes...

'It all started a long time ago. Some people began hitting each other on the head with hammers, the craze caught on, and soon everyone was at it. Eventually people did almost nothing else, and the country was changed beyond recognition.

'Sure enough, smart businessmen started producing all sorts of hammers; utility hammers, foldable hammers, flick-hammers, slenderline, double-headed, spring-loaded and even rubber hammers for use in schools. Yes, even education was transformed. 'Mineralogists started developing new alloys to be extra tough though super-light, and specialist hospitals and clinics opened to keep up with the overwhelming wave of the hammer-bashing victims.

'Hatmakers cashed in, with ever smarter and more elaborate protective headgear and wigmakers rapidly climbed onto the bandwagon with lightweight protective toupees lined with appropriately robust alloys.

'Punting on the hammer-bashing pools, attending professional hammer-bashing tournaments and the latest hammer-bashing based TV dramas became the main diversions of those who could not be more directly involved.

'Politicians, basking in the glory of the new prosperity, engendered by an ever expanding hammer-bashing economy, vied with each other in offering rebates and subsidies on the latest hammer-bashing accessories and ever more comprehensive state services to cater for the victims.

'Academics wrote ever more learned treatises bristling with tables, charts, figures, equations and computer printouts to provide the theoretical and empirical rationale for the new course on which our country had embarked.

'For the same reason they had no choice but to turn a blind eye to the unfortunate side-effects of the activity to which they were so uncompromisingly committed – the hundreds of thousands of fractured skulls, brain lesions, neuromas, cerebral haemorrhages, brain seizures and aneurisms that had to be treated in our hideously overcrowded hospitals. Also, we had to find ways of dealing with the hordes of the epileptic, schizophrenic, neurotic, manic-depressive, the paranoid, the amnesiac and the partially and totally paralysed, into which categories we could eventually classify the great majority of our citizens, including those who directed our major institutions and on whose judgement hinged the fate of untold millions. Surprisingly enough few people seemed to worry too much about these little problems. They were seen to be but part of the



very acceptable price that had to be paid for the incomparable benefits of hammer-bashing progress.

'However, one day a small group of people on the periphery of our hammer-bashing society started to make an awful fuss – they suggested that hammer-bashing was anti-social and should not only be discouraged but actually outlawed. The reaction to this proposal was brutal to say the least. Those who supported it were denounced as dangerous lunatics bent on destroying the very basis of social order. If they were taken seriously, we were assured, our hammer-bashing economy would be prevented from further expansion. Businessmen would be deprived of their profits, scientists of their research grants, technologists of their development programmes, working men and women of their jobs, politicians of their electoral support, in fact the whole hammer-bashing economy together with the society that had become its mere appendage would be condemned to immediate and irreversible collapse.

'Needless to say, these rebels were treated with the disdain they so fully deserved and hammer-bashing continued to monopolise our thoughts, our working days and leisure hours until the last enfeebled and demented survivors succumbed under a hail of weak and badly-aimed hammer blows.'

'It won't happen again will it, Grandpa?' asked the little boy.

'Oh no', the old man answered reassuringly. 'The gods of one civilisation are the devils of the next, that is why today hammer-bashing is now taboo, and hammers can only be bought on the black market.'

**EDWARD GOLDSMITH,**  
*The Ecologist* editorial July/August 1978

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e-co-tric-i-ty

noun

ecofriendly electricity: electric energy produced by ecologically friendly means, for example, by solar power or wind power (informal)

[Late 20th century. A blend of ecological and electricity.]

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