Food additives : are the risks worthwhile? / Ecoropa.

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ECOROPA INFORMATION SHEET 12

FOOD ADDITIVES

Are the Risks Worthwhile?

CARBON MONOXIDE SOLVENT RESIDUES STABILIZERS ANTI-OXIDANTS
ANTIBIOTICS ANTIMICROBIAL HERBICIDES CYANOGENS DETERGENTS
MICRO-ORGANISMS DISINFECTANTS
FUMIGANTS FUNGAL-TOXINS DIRT
LEAD-TETRAETHYL GOUTROGEN HORMONES LUBRICANTS MICOTOXINS
NITRIC-OXIDE ACIDULANTS PACKAGING-ADDITIVES PESTICIDES POLYCHLORINATED-BIPHENYLS POLYCYCLIC-AROMATIC-HYDROCARBONS PROTEIN-INHIBITORS RADIO-ACTIVE-FALL-OUT
TRACE METALS RODENTICIDES VETERINARY PESTICIDES SOLVENT RESIDUES NUTRIENT SUPPLEMENTS ANTI-SPLATTERING AGENTS ANTI-MOULDING AGENTS ARTIFICIAL SWEETENERS
REDUCING AGENTS MATURING AGENTS
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COLOURS ALKALINITY AGENTS

We each eat about half a ton of food a year. Much of that food has a selection of some 3,000 chemicals added to it. These chemicals are known as *additives.* This leaflet answers questions which many people are asking about these additives.

Some additives are added *intentionally,* whilst others, like pesticide residues, chemical pollutants and natural moulds are there *unintentionally.*

Official controls on additives do not, because of the difficulties of arranging accurate and ethical tests, include studies on the long-term effects on us. And just because we don't turn green immediately after eating an additive, it doesn't mean it's safe: indeed some are known to be harmful, many others are under grave suspicion. Commonsense dictates that we don't take pointless risks with our, or other people's health. We believe that inessential additives must be firmly withdrawn. Most of the added chemicals are for the producer's benefit and profit, not ours. Some are, almost certainly, poisoning us. It is up to us, the consumer, to halt this process and to do so now.

Ecoropa is a non-political, non-profit-making, trans-European organisation, funded only by its supporters. Members of Ecoropa are concerned for survival - not only our own but that of all natural systems on which our lives ultimately depend.

Q. 1. Is the use of additives on the increase?

A. Their use is increasing rapidly, reflecting the growth of supermarkets and convenience foods which have increased ten-fold in 30 years. Convenience foods necessarily rely on additives: the average Briton ate about 1.5lb of additives in 1955, and will eat no less than 5.4lbs this year, equivalent to *22 aspirin-sized tablets every day.*

The food industry would argue that without additives their products would often spoil more quickly, would sometimes be less nutritious, and might taste and look 'less attractive', and so would be less likely to sell. Additives can also permit less careful storage procedures.

Chemicals can transform soya, maize and sugar beet into 'cheese'-, 'tomato paste', and 'salami' with the right 'mouth-feel'. Of the 3,000 additives in use *over half are cosmetic,* and it is these flavours and colours, which are not proved safe, which are used to make foods look or taste either better than they really are - or like something else completely. If something is labelled 'cheese flavour' for example, it means that additives, not cheese, are the main taste-giver. Colour can make a fruit-flavoured yoghurt look as though it is full of strawberries.

Nowadays, stale food can be made to appear fresh. We have lost the real meanings of words like *natural, fresh* and *home cooked.*

Some manufacturers make 'nature-identical' additives in the laboratory and then claim the products containing them to be 'free from artificial colours or preservatives'. This does not seem honest.

"Shy away from price-oriented commodity items and look to highly manufactured products in the decade ahead. The more additive-addicted food created, the higher will be the profit margin". (Food Engineering 1971)

Q.2. But doesn't the testing process protect us?

A. Chemicals can cause a wide range of adverse effects and it is essential that food chemicals be tested as carefully as medicines, since both are swallowed. But the problems are overwhelming. The variety of effects a chemical can have on different animals makes the guessing of effects between different species unpredictable, as was shown by thalidomide. Later tests showed that a woman was 60 times more sensitive to the drug than a mouse, and 200 times more than a dog. We see no way in which the present testing systems can possibly be sure of showing up the harmful additives. Testing an additive already costs up to £½ million.

Q.3. But if the additives had adverse effects, surely we would have felt them by now?

A. Most human cancers are caused by something in our surroundings – but can take many years to develop. For example, lung cancers produced from contact with coal dust, asbestos dust, or smoke, may take 10 to 20 years to show up. This makes testing the long-term results of additives almost impossible. Had thalidomide been a slow-acting cause of cancer, for instance, *it would still be used today* – and, even though the drug produced gross malformations, it took almost five years of concentrated research to establish the cause-effect relationship of this one chemical. Few additives are researched in such depth.

In some areas fluoride is added to water to counteract the effects on our teeth of over-sugaring of foods by the food manufacturers. This is an absurd and unethical use of a suspect chemical – sweet food, drinks and sweet consumption should be discouraged first. If people want fluoride, they should take it individually.

"We can never know for sure whether additives are safe or not. Long term use of food chemicals can in no way be related to safety. We have too many cases of common disease like mental retardation and cancer for which we cannot find cause or effect". (Marvin Legator, Chief Bio-Chemist to the US Food & Drug Administration).

Q.4. Are there any short term effects?

A. Yes, there may be a large number, particularly allergies, but it is not easy to relate the cause to the effect.

"Although the ecological lobby in western countries has been more and more vocal of late, fears have been expressed mainly about the long-term effects of chemical additives and contaminants in food, sprays on crops and artificial fertilisers. Very few people have realised that a lot of us are being made ill **now** *by what is being done to the food we eat and the air we breathe."* Dr. Richard Mackarness 'It's Not All In The Mind' Pan Books.

Q.5. Surely some additives are useful, even essential?

A. This is true up to a point. If we want to eat ham, bacon and many canned meats then we are accepting the possible dangers of suspected cancer-causing nitrosamines formed from the sodium nitrate additive, in preference to Botulinus poisoning. In this case additives *are* necessary but, would you eat it if you understood the risk from the additives? There are also preservatives and antioxidants, which do have an important role to play and are essential in certain circumstances. Vitamin C, for example, is often used as an antioxidant and may have beneficial effects. There are also a number of natural flavours from herbs and spices which are likely to be quite harmless. But we must also ask why one jam manufacturer says a preservative is essential in their jam when another doesn't add it. Some additives may provide protection against natural poisons, but they can also be used as a cover for bad practice, and it is no reason not to reduce those which are unnecessary to a minimum. This will only happen as a result of continual vigilance and pressure from the public.

Q.6. But the Government says that manufacturers are only allowed to use additives 'when they have been proved to be safe ?

A. It sounds reassuring. But to state that all Britain's additives 'have been proved safe' is untrue.The 1957 Food Standards Committee which prepared the first list of permitted colourants acknowledged candidly that it was "unable to recommend any colour as unreservedly safe". Nor could a 1965 committee which laid down the guidelines for assessing the safety of additives. What the Government does not tell you is that *several additives permitted in Britain are barred in other countries.* The Food and Drugs Act of 1955 required that all additives introduced after 1955 should be tested for safety; the manufacturers are obliged to 'prove' safety to the satisfaction of various committees, even though this is impossible! But most additives in use before 1955 *have not been so tested.*

Besides, we often eat a whole mixture of additives in the course of a meal or a day. Mixing two harmless chemicals and ending up with a harmful result is a well-known biochemical phenomenon. No-one knows whether, or how often it occurs among additives and we may never find out. Another problem is that even if one food contains a small amount which is considered safe, we can easily eat several 'doses' from different foods in one day.

For the sake of our health and especially that of our children, inessential additives must be reviewed and reduced. This would significantly lessen the chemical burden to the human body, and make little difference to the flavour of our food. It is only a few years since artificial colours were barred from all foods designed for babies and young children.

Q.7. You mention colours as a particular problem – why?

A. There are now 30 food colours, many of which derive from coal tar. When the UK joined the EEC, we had 24 permitted food colours while the EEC had 19, only 10 of which were allowed by both. Of the other nine, we had considered and rejected five. In the EEC, subject to the existing food colour directive, we *had to accept the extra nine colours* at least for a review period. The USA has only 10 permitted artificial colours and USSR only four, so that many of our cosmetic food colours have been rejected as unsafe by other countries.

Tartrazine (shown on labels as E102), a yellow dye put into buns, medicines, sweets and many other foods is strongly suspected of causing hyperactivity in some children, and allergies in some adults and children, particularly people intolerant to Aspirin. Some US researchers recommend that children avoid all artificial colours: maybe we all should.

Q.8. What is the difference between modern and traditional methods of food processing?

A. Take flour refining. It is not just mechanisation that sets the modern bread factory apart from traditional bakers, it is also that manufacturers now use chemicals to 'trump' nature. Matured flour is easier to bake because it is stiffer, but maturing flour naturally means storing it – and storage costs money. So today flour is 'matured' by having *chemical oxidising agents* – notably chlorine gas – blown into it; the chlorine gas also bleaches it – an added 'bonus' when you are making white bread. Most other countries do not permit the use of chlorine in flour. Another additive called BHT is also barred in many other countries. The Food Standards Committee has twice recommended that alternatives be found to BHT in food. It has been barred for baby and young children's food because it is felt to be unsafe. Yet BHT is used in many processed foods. There are around 34 additives permitted to be added to bread, which is why you should bake your own, preferably from organically-grown wholewheat flour, from which additives are prohibited.

There is now even a proposed law to allow more chemicals in wholewheat bread, to make production easier, but we believe that when you buy a wholewheat loaf, *that's what you want,* not lots of unnecessary chemicals as well.

Q.9. Can the additives market really expand any further?

A. Yes. Manufacturers are drawing away from agriculture and seeking closer ties with the chemical industry. The market was worth £150 million in Britain in 1980.

"It is predicted that there will be a 100% increase in the use of flavour enhancers and anti-oxidants, a 70% boost in sweeteners, a 60% rise in preservatives, a 50% increase in stabilisers and flavours and a 40% rise in the use of foam controllers over the next 10 years". (Nutrition and Human Needs).

Q.10. Can't you just avoid additives by looking at the label?

A. Not easy! Additives are often just given code numbers and some are just called 'preservatives' or 'colourings', although this option may soon be closed. The consumer must write for the 'Look at the Label' leaflet or check the code against its chemical name at the public library. But even then no information is given about the purpose or the possible hazards of the chemical, whether it has been banned outside Britain, or how fully it has been tested. In any case the leaflet implies that we have to put up with these additives. *We certainly do not:* for example public pressure has caused a major US cereal manufacturer to remove added sugar from its leading brand. In Britain sugar is still added to the same cereal. *Why?* The same pressure would also work for those additives used for purely cosmetic reasons.

Q.11. What about 'unintentional' additives?

A. Many thousands of chemicals, introduced by man into the environment, have now entered the food chain, and are resident within us. Perhaps the most obvious example is pesticides. We, in Britain, have at least five parts per million of a mixture of up to 20 highly poisonous pesticides in our body fat. In the US the level is as high as 12 parts per million, with all that this may mean to the health of the body.

Another worrying aspect is the chemicals which, for reasons that are primarily related to farming profitability, are injected or fed into livestock. Not surprisingly they don't just disappear, and an assortment of disturbing effects are being reported, one of the more alarming being that some milk now contains hormones which are known to be carcinogenic.

Q.12. How widespread is the use of pesticides?

A. Practically all crops in Britain are sprayed with pesticides. Several of these – DDT, Dieldrin and Aldrin amongst others – are banned in the US.

The only control on pesticides in Britain is a *purely voluntary* scheme – known as the Pesticide Precaution Scheme. *This is scandalous and unacceptable.*

"No pesticide is banned in Britain . . . . . There is no law which forces a manufacturer to test the pesticide he proposes to

put on the market, no law which forces him to submit them for examination, no law which obliges him to have them tested for their long-term effects on living things." (The Ecologist 1980)

Q.13. But surely foods that contain high pesticide residues are not allowed to be sold in Britain?

A. Wrong. *In any other EEC country you would be right.* It is the view of the Ministry of Agriculture, Fisheries and Food (MAFF) working party on pesticide residues that *"in most circumstances, occasional exposure to higher-than-average levels of a pesticide in a foodstuff has no public health significance".* This is the same discredited argument that the nuclear authorities have used over radiation.

Q.14. Well, what's wrong with the MAFF view?

A. Several things. First of all, there is no such thing as an average diet. People tend to eat more of their favourite foods. In the US, when setting permissible levels of pesticide residues, it was assumed that no-one would eat more than certain levels of foods such as artichokes, avocados, dates, tangerines, raspberries, turnips and mushrooms. *In other words, if you eat more than one avocado a year, you could expose yourself to levels of pesticide residues above those deemed safe by the US Government.*

Q.15. Are the permitted levels for other additives set on the same basis?

A. Yes. The permitted levels for mercury in fish, for instance, assume that an average serving weighs between 150 and 200 grams – no more, no less. Moreover, by averaging out the total fish consumed in Britain, the Government has been able to justify the sale of fish contaminated with the higher levels of mercury. (These same arguments are used to justify high levels of radioactivity in fish caught near Windscale). Thus, in the early 1970 s it was discovered that tinned tuna contained high levels of mercury. In America, sales of the fish were banned, resulting in the withdrawal of 900 million cans of tuna from the market. In Britain, where similar mercury levels were found, *the Government gave assurances that all was well.*

Q.16. Are we all equally susceptible to pollutants?

A. No. The irresponsible but convenient assumption that we are, is contradicted by biological evidence which shows that we are all different and that children are more susceptible to some pollutants than adults – and that the unborn child is even more vulnerable. For example: adults excrete almost 90% of the lead that contaminates our food – children only 50%. So children are more vulnerable to lead pollution than adults. When setting the permitted levels of lead in food, the Government ignores this. *Why?*

Q.17. Can you give us some practical hints summarising this leaflet?

A. **Additives:** examine the label carefully and buy food with the least number of additives - wholefoods are the safest bed. Find out about specific additives from 'The Right Way to Eat' (see below). They're not all bad!

Pesticides: we spray around £4 billion worth of chemicals on to our planet annually. Many are banned in some countries but used in others. Few have been fully examined for health, environmental or ecological side effects. Most are unnecessary.

Buy local food and ask if it has been sprayed. Wash all fresh fruit and vegetables thoroughly. Better still, grown your own or buy organic food. A very useful 'Organic Food Guide' listing over 400 suppliers is available for £2.95 inc. postage, from the Henry Doubleday Research Association, Bocking, Braintree, Essex.

Fertilisers: nitrate pollution from fertilisers now threaten one-third of this country's water supplies, leading to potential cancer hazards and particular danger to babies and the unborn child. The use of fertilisers is increasing so the problem will get much worse in the next few years as the residues enter the water table. Wash crops well and, again, buy organically or compost grown food.

Wholefoods: it is advisable to eat more wholefoods — wholewheat bread, beans, fresh fish and increase your consumption of fresh fruit and vegetables. Raw organic vegetables are particularly nutritious. Visit your local wholefood shop. A wholefood diet may well be cheaper.

Q.18. What is your conclusion?

A. ***Do not imagine that your health is protected by outside agencies such as government.*** **In the face of a powerful lobby, such as the food industry, governments are reluctant to act for wholly discreditable reasons. This is why no effective action has been taken for example against cigarette smoking, radiation releases from the nuclear power industry, pesticide residues in bread, or — until public pressure became overwhelming — lead in petrol. If people exert pressure, we will see changes. Meanwhile, make a fuss. Demand to know what is added to your food and why. Check whose interests are being served - producer or customer? Pressure your supermarket, your baker and your MP; and reject evasive and misleading answers.**

Ecoropa and J.M. Dent Ltd., have also published (March 1984) 'The Right Way to Eat' by Miriam Polunin to provide useful additional background material. It covers everything you could want to know about food, with recipes, tables of fat/sugar contents of common foods, additives, list of the additives 'E' numbers, pros and cons of meat eating, calorie counters, and much more. Miriam Polunin is consultant editor to 'Here's Health' magazine.

Ecoropa would like to thank all those who have freely helped in the production of this leaflet. In particular our thanks are due to Miriam Polunin, and Dr. James Thomson, of the University of Surrey.

Hints on Easy Leafleting

Leaflets are most effective if given personally, especially to people known to the leafleter: your place of work, if you are lucky enough still to have one, is a good place to start. Then local shops, pubs, clubs and bus stops; canteen notice boards, cafes and launderettes. At the railway station give them to people so that they can read them as they travel. You can knock on doors in your village or street. Keep a pile handy for people who come to your door. If you have some left over, apart from sending them to friends or enclosing them with other payments, cards etc., you can put them through letter-boxes, leave them in the library (by arrangement with the librarian) or the doctor's surgery (most doctors will co-operate).

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