

APPENDIX 1

Contents:-

Section 1 – Quotes taken from various Government and industry documentation in relation to the dangers of pesticides; notification and public access to information as per my response to the *Consultation on Plans for Greater Access to Information about Crop-Spraying*

Section 2 – References relating to this submission *Consultation on Proposals for the Introduction of No-Spray Buffer Zones Between Spraying Areas and Residential Properties in England and Wales*

Section 3 – Sections and quotes taken from various documentation in relation to the dangers of pesticides; acute and chronic long-term ill-health effects following exposure(s); airborne pesticides; distances pesticides have been shown to travel; mixtures; Cuba's agricultural system and other information relevant to this submission *Consultation on Proposals for the Introduction of No-Spray Buffer Zones Between Spraying Areas and Residential Properties in England and Wales*

Section 4 – References relating to my first submission *Consultation on Plans for Greater Access to Information about Crop-Spraying*

Section 1 – Warnings to third parties before spraying and access to information on the chemicals used has been recommended (although obviously not a legal obligation) in both Government and industry documentation spanning decades. The following are quotes taken from just a few of these documents and also includes some further quotes in relation to the dangers and adverse health effects of pesticides:-

Sections taken from the document “*The Safe Use of Poisonous Chemicals on the Farm*” – MAFF 1975:-

Page 27:- Cumulative Effect of Poisons – “*The repeated use of pesticides, even in small quantities, can have cumulative effects which may not be noticed until a dangerous amount has been absorbed.*”

Page 16/17:- “*Possibly the greatest hazard of all arises from the use of aerosols containing specified substances. The special risks involved are:-*

- *The danger of inhaling the fine particles produced by the spray and the vapour of the substance. These fine particles – only the larger ones may be visible – which do not settle quickly, are capable of penetrating gaps in badly fitting respirators or protective clothing.*
- *Avoid inhaling particles of any pesticide.*”

Page 21:- *“The nearer someone is to the source from which a pesticide is being dispersed, whether this is in the form of droplets, dust, granules, smoke or vapour, the greater the risk of absorbing poison.”*

Page 21:- **Warnings to Third Parties – “Place warning notices on gates of fields that are being sprayed and warn other workers in the spraying area or in adjoining fields to keep out of spray drift unless they are adequately protected.”**

“Take particular care when spraying land near public roads and footpaths, or private homes, gardens and buildings and inform occupiers of nearby homes of the possibility of drift so that they may remove from danger anything that might be soiled or injured, e.g. washing or poultry.”

Page 22:- *“Pesticides may present a respiratory hazard in the form either of a cloud of dust or liquid droplets or a cloud of vapour.”*

“Depending on the pesticides used, the danger may exist for many weeks after spraying.”

Page 26:- *“If a person who has been using poisonous pesticides becomes ill, first aid should be given and a doctor called AT ONCE. If a doctor cannot come immediately, the patient should be taken as quickly as possible to a hospital for medical attention. **REMEMBER both the doctor and the hospital should be told at least the name of the chemical the patient has been using and shown any available leaflet or label about the chemical: or given a note with the name copied from the container.**”*

Taken from “Dangerous Dips – The Truth about Organophosphates” by Michael Meacher MP in 1996:-

“In the two years from April 1994 to March 1996 there were 210 incidents of pesticide poisoning reported to the HSE, involving 353 people. Of these

- one quarter of the people involved were employees, and three quarters were members of the public*
- three fifths of the incidents involved crop-spraying”*

Taken from a MAFF Press Notice – November 23rd 1982 – Alick Buchannan-Smith speaks on pesticides safety:-

“Agro-chemicals, by their very nature, pose potential risks for humans, other living creatures and the environment.”

“We must recognise that people have a genuine concern about the use and possible effects of agro-chemicals.”

“Any drifting spray can affect local residents, passers-by or motorists when they find themselves, their livestock or pets, their homes, their vehicles or perhaps their washing, covered in spray droplets.”

“Neighbouring farmers and others living close to the site should be warned in advance when spraying is expected to take place. They can then, if they wish, take special precautions such as closing glasshouse vents, keeping livestock and pets under cover and bringing washing indoors.”

“Spray drift can be both dangerous and expensive.”

Taken from a MAFF Press Notice – May 5th 1983:-

“Certain herbicides should not be used on hot, calm days when air movement tends to be unpredictable and fine spray may be carried in various directions. Additional problems can be caused by vapour lift off and drift.”

A section taken from “The Plain Man’s Guide to Pesticides and the COSHH Assessment” – British Agrochemicals Association Limited:-

“Notify neighbours of the intention to apply pesticides; In general such warnings are expected where agricultural boom-type sprayers are likely to be working close to houses, gardens, pets and public places so that people can take the precautions they feel necessary.”

Taken from “Guidance Note MS17 from the Health and Safety Executive:- Biological Monitoring of workers exposed to organo-phosphorus pesticides” – Medical Series 17 (December 1980):-

“OP pesticides can produce harmful effects in man following acute and subacute exposure and repeated exposure at lower doses may cause insidious cumulative toxicity.”

“Repeated absorption of small doses, as may occur from saturated clothing, have cumulative effects resulting in progressive inhibition of nervous tissue cholinesterase. Further small exposure may then precipitate the classical condition of OP poisoning.”

Part of the document “Notes on the Diagnosis of Prescribed Diseases – Prescribed under the Industrial Injuries Provisions of the Social Security Act” – 1975 – Causative Agent: Organophosphorous Pesticides, one or more of a large group:-

“Repeated absorption of small doses is cumulative to a point where a slight additional uptake is sufficient to cause an attack of poisoning.”

“DIAGNOSIS ACUTE – History:- Exposure to organophosphorus pesticides. This may be as a single high dose or repeated low dose exposures.”

“Symptoms – Early – Headaches, giddiness, nausea, fatigue, blurred vision. Late – (2-8 hours) abdominal pain, cramp, vomiting, diarrhoea, sweating, sphincter paralysis leading to urinary and faecal incontinence.”

“DIAGNOSIS CHRONIC – Symptoms – Symptoms may be delayed by up to 4 weeks. There may be tingling and burning in the extremities, weakness of the legs and ataxia followed by progressive paralysis of the legs and arms.”

Taken from “Toxic Chemicals in Agriculture” – Report of the Working Party 1951:-

(viii) Warning to Local Doctors

*“The Ministry of Agriculture and Fisheries should consult the British Medical Association about the practicability of medical practitioners being circularized by the Association about the dangers and appropriate treatment. **Medical practitioners and hospitals should be warned when spraying operations are to be undertaken on farms in their vicinity.**”*

(ix) Manufacturers' Responsibilities

LABELS

“The labels of containers should be required to show the words “Deadly Poison” in large, clear type, a concise statement of the dangers and precautions to be taken, antidotes where known, and a minimum indication of the purposes for which the product is to be used.”

(x) Instruction

“The Agricultural Departments should institute arrangements for the thorough education of all concerned in the dangers of the chemical compounds and in the precautionary measures to be taken and should enlist the co-operation in this work of the organizations shown in Section IV, Para. 4, of our report.”

57. *“In the course of our inquiry, we have found that the public may be exposed to some risk to health arising from the agricultural use of dinitro and organo-phosphorus compounds and we have been asked by the Ministers of Agriculture and Fisheries, Food, and Health, and the Secretary of State for Scotland, to investigate this risk. The chief danger lies in the chronic effects, which result from frequent exposure to these chemicals.....There are, however, certain precautions, which should obviously be taken in the public interest. We recommend these in advance of any further advice, which we may put forward at the end of the second part of our inquiry, namely:*

(xiii) Warning notices should be placed on gates giving access to fields that are being, or have recently been, sprayed.

(xv) Farm animals should be kept away from spraying operations and from fields that have recently been sprayed.”

Taken from a Health and Safety Executive Booklet – “Agricultural Pesticides” (Date 1995?):-

“Are operational controls in use, eg. Warning signs and keeping people out of treated areas, notification of adjacent occupiers and others who need to know.”

Taken from Leaflet APS/3 – “Poisoning by Agricultural Chemicals” – Issued by MAFF in 1961:-

*“First Aid Measure – When a worker who has been using poisonous chemicals is taken ill a doctor should be called immediately and told the name of the chemical the patient has been using. – Stop the patient working and take **him away from the spraying area** – if possible, into shelter.”*

Taken from the document “Pesticide Poisoning,” 2nd Edition – Edited by Dr. Alex Proudfoot – “Notes for the Guidance of Medical Practitioners” – 1996:-

“Many pesticides are formulated in organic solvents which may contribute to the toxicity of the formulation. It is important therefore for doctors to consider ingredients other than active ones as possible causes of toxicity of pesticide formulations.”

Quote from the Department of Health to the Radio 4 programme “Costing the Earth”:-

“The Department of Health recognises that it is possible for mixtures of chemicals to exert very much greater toxicity than would be expected from their individual toxic properties.”

A quote from Peter Beaumont, a member of the “Working Group on the Risk Assessment of Mixtures of Pesticides and Similar Substances,” at the WIGRAMP open meeting – 28/2/02:-

“If you live next door to someone who is an arable or a fruit farmer, you are going to be subject to quite a lot of spraydrift. Those who live within the curtelage or adjoining the

curtelage of farms have a higher exposure than many other people. Bystanders, neighbours are subject not only to exposure to mixtures, but sequential exposures.”

Quotes taken from the Environment Agency’s Consultation Document “*Managing Chemicals for a Better Environment*” – *The Environment Agency’s Strategy*:-

Page 25:- *“Long-term and chronic effects are most likely to be realised if a chemical is continuously or frequently released, or if it persists in the environment.”*

“Dispersive use, such as the application of insecticides, can cause widespread effects.”

Sections taken from the “*Green Code for the Safe Use Of Pesticides on Farms and Holdings*”:-

Part 2 – Planning and Preparation – Section 3 – The COSHH Assessment:-

63 – “Recording the assessment – *In all but the simplest cases (where the results can be explained easily and at any time) assessments should be recorded in order to ensure continuity and make the results accessible to everyone who needs to know them.*”

Section 7 – Protecting the Public:- Notification of adjacent occupiers:-

104 – *“A COSHH Assessment of work with pesticides must take account, so far as is reasonably practicable, of the way in which exposure could affect members of the public. The COSHH Assessment should cover any additional measures required when spraying near premises where there are vulnerable groups of people. Where such people could be affected the assessment should take into consideration any need to notify or otherwise warn anyone of the work activity.”*

106 – *“However, prior notification of spraying for occupiers of land, premises or houses close to the target area is good practice and may help to allay any concerns they may have on possible ill-health effects. Notification may also be desirable where organic or sensitive crops are growing adjacent to the treated area.”*

Vulnerable groups:-

107 – *“Particular care is required when spraying near premises where there are vulnerable groups of people. Where vulnerable people could be affected, the assessment should take into consideration any need to notify or otherwise warn anyone of the spraying activity and if necessary, agree with those in charge suitable precautions to avoid exposure.”*

109 – *“Deliberate application of a pesticide to a public right of way is likely to expose those who use the path **to a risk to health**, particularly until the spray has dried. Pets*

could also be adversely affected. As a landowner or occupier has no powers to temporarily close a right of way, pesticides should not be used on paths where such a risk exists.”

*111 – “Where a public right of way crosses or runs alongside a field, members of the public **could be at risk** from the spraying of adjacent crops. The use of notices, warning people of spraying and advising that they keep themselves, children and pets to the footpath, should always be considered.”*

113 – “Always remember to remove warning notices when they are no longer appropriate. Take account of any residual risk such as children and pets straying into the freshly treated crop. With some pesticides it is a condition of approval that unprotected persons and livestock be kept out of the treated area for a specified period.”

Part 4 – Keeping Records – Pesticide Treatments:-

202 – “Such records are necessary, not only as a matter of good management practice, but also provide a source of reference in the event of the accidental contamination of people, honeybees, other creatures, land, water or non-target crops.”

How can records of pesticide treatments be kept:-

206 – “If an enquirer suggests that they may have been affected by a pesticide used on the farm or holding, it is most important to give them or their advisors full and accurate information without delay. That means the full name of the product, including prefixes or suffixes and any other information which may be needed for the treatment of people.” – (NB. This obviously applies to the chronic long-term effects following repeated exposures, as well as any acute effects experienced).

Taken from a letter to Margaret Reichlin from J.E Terry FWAG Advisor who stated that *“I have worked for some years in the pesticide industry.”*

*“As regards overalls – disposal overalls are best and should be burnt along with paper bags and plastic containers. **The public should be kept away from fields sprayed with toxic materials by clear signs.**”*

Quotes taken from the Royal Commission on Environmental Pollution’s Twenty-fourth Report – “Chemicals in Products – Safeguarding the Environment and Human Health” – 2003

6.7 – “A second problem is the distinct lack of reliable data for the vast majority of these chemicals.....only a small proportion of chemicals on the market have been the subject of risk assessment.”

6.8 – *“Thirdly, major problems arise from limitations and uncertainties in the hazard evaluation procedures and risk assessment process itself.”*

6.11 – *“Given the inherent uncertainties about the way chemicals interact with the environment, it makes sense to assume that the continuing use of large numbers of synthetic chemicals will lead to serious effects, which we cannot predict on the basis of our current or foreseeable understanding of these processes. A sensible approach to this uncertainty would be one of precaution – to reduce the hazard wherever we have an opportunity to do so.”*

6.17 – *“The lack of adequate information about the hazards presented by most of the chemicals currently on the market is a serious failure, which must be addressed as a matter of urgency.”*

Taken from *The Aarhus Convention* - <http://europa.eu.int/comm/environment/aarhus/>

(NB. The Aarhus Convention has been signed by over 40 European Countries: Including all 15 EU Member States).

“The UN Economic Commission for Europe (UNECE) Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters was adopted on 25 June 1998 in the Danish city of Aarhus at the Fourth Ministerial Conference in the "Environment for Europe" process.”

*“The Aarhus Convention lays down the basic rules to promote citizens’ involvement in environmental matters and enforcement of environmental law. **The Aarhus Convention consists of three pillars**, each of which grants different rights:*

- *the first pillar gives the public the right of access to environmental information;*
- *the second pillar gives the public the right to participate in decision-making processes and;*
- *the third pillar ensures access to justice for the public.”*

“The Aarhus Convention is a new kind of environmental agreement. It links environmental rights and human rights. It acknowledges that we owe an obligation to future generations. It establishes that sustainable development can be achieved only through the involvement of all stakeholders. It links government accountability and environmental protection.”

“The subject of the Aarhus Convention goes to the heart of the relationship between people and governments. The Convention is not only an environmental agreement, it is also a Convention about government accountability, transparency and responsiveness. The Aarhus Convention grants the public rights and imposes on Parties and public authorities obligations regarding access to information and public participation and access to justice.”

Section 2 – References relating to this submission *Consultation on Proposals for the Introduction of No-Spray Buffer Zones Between Spraying Areas and Residential Properties in England and Wales*

The following references also contain extra sections relevant to my submission:-

1.

Sections taken from “*The BMA Guide to Pesticides, Chemicals and Health*” – 1992

Risks to Users

“In 1986, three UK trade unions (TGWU, GMB and NUPE) carried out a survey of unionised pesticide operators. These included farm-workers, local authority grounds staff, parks and gardens staff, nursery workers and Forestry Commission staff.....in the absence of any similar UK survey, the results should be taken as indicative of work practices and health problems experienced by pesticide users in the UK. Fifty per cent of respondents reported that they had suffered symptoms (headaches, sickness, sore throats) that they attributed to exposure to pesticides. This was despite the fact that a large proportion (greater than 80%) were being supplied with and wore protective equipment and clothing. Thirty-eight per cent of the respondents had received no training on the health and safety representatives had received no information from their employers on pesticide hazards.”

Short-term effects

*“Acute reactions usually occur while the chemical is being used or shortly afterwards. Most acute reactions last only a short time, without long-term complications. **However, a few people may suffer permanent damage of some kind.**”*

Long-Term Chronic Effects

“Chronic effects are only likely to become apparent after prolonged exposure to a chemical.”

“One way of attempting to identify the long-term or chronic effect of pesticides on health is by studying the different groups of people who are exposed to these chemicals in varying ways. The evidence relating to exposure in manufacturers, users and their families is particularly important in studying the effects of pesticides on the health of the individual.”

“In 1987 the Chairman of the House of Commons Select Committee on Pesticides considered that underreporting of pesticide incidents through organisational, resource and medical diagnosis problems was a major obstacle in the full assessment of pesticide health hazards.”

*“Despite the importance of accurate information gathering to epidemiological research, there has been criticism of the lack of data available, particularly on the long-term effects of pesticides. The Report of the Chairman of the House of Commons Agriculture Committee on the effects of pesticides on human health expressed concern that **“none of the Government agencies involved with pesticides seems to have made any serious attempt to gather data on the chronic effects of pesticides on human health.”** There are several data collection bodies, but none of these seem to be able to provide much useful information on the long-term health effects. **The Health and Safety Executive admitted to the Committee that it only collects data on acute cases: “the known statistics on poisoning, ill-health and disease in agriculture do not allow us to form any judgement on illness resulting from chronic exposure.”** Similarly, MAFF indicated that they have no system for routinely monitoring any possible chronic effects caused by pesticide use, or of determining the extent to which they occur. The Advisory Committee on Pesticides is charged with responding to data received rather than acting as an initiator of enquiries.”*

*“Neither NHS hospitals nor the National Poisons Unit (NPU) are in a position to make much more of a contribution to epidemiological research. The National Poisons Information Service (NPIS) and the regional centres were established to deal with the problems of acute poisoning and few enquiries from medical practitioners relate to chronic effects. In evidence to the Agriculture Committee, the NPIS expressed concern about under-reporting and claimed that doctor’s failure to recognise symptoms and signs of acute poisoning may be one reason for under-reporting. It was estimated that centres in the UK receive enquiries on only about 50% of suspected poisonings seen by general medical practitioners. **Moreover, it was suggested that many members of the public who are exposed to agro-chemicals do not seek medical attention.”***

*“Other data collection bodies include the Medical Research Council, which is supporting research into the long-term effects of worker exposure to phenoxy herbicides, although this research **does not have a high priority**. Some of the larger pesticide manufacturing companies have themselves carried out regular monitoring of their employees for many years and these data are regularly scanned for health trends. **However, extrapolation of data from a human population in a carefully controlled manufacturing environment to the general public – including the very young and old, the sick, pregnant women and so on – is fraught with problems.**”*

*“The conclusion drawn from this by the Chairman of the Agriculture Committee was that: **“in view of the undoubted public concern about possible chronic health effects of pesticide use, we find this lack of epidemiological research quite unsatisfactory and urge greater efforts to be made in this area by the responsible public authorities.”***

“Information Strategy – A Pesticides Policy should have a two-pronged strategy on information: firstly, to make more accessible existing information; and secondly, to commission and facilitate new research. There is also a need to improve the present mechanisms of collecting information on pesticide incidents for epidemiological purposes. Lack of information about how to gain access to data is perhaps the single

greatest deficiency that has been identified by the British Medical Association with regards to pesticides safety. Existing information must be brought into the public domain and greater efforts should be made to obtain more complete and comprehensive toxicological, epidemiological and other scientific data on chemical pesticides and their effects on human health.”

Research and development

*“In 1987 the Chairman’s report of the House of Commons Select Committee on Agriculture said that he found the **“.....lack of epidemiological research quite unsatisfactory”** and he urged the government to exert themselves to remedy that situation. Research protocols in this area are difficult to design and implement but in 1990 there is no published evidence that steps have been taken to implement that recommendation effectively. There is an urgent need for concerted efforts by the Agricultural and Food Research Council (AFRC) the Medical Research Council, the Ministry of Agriculture, Fisheries and Food (MAFF) the Health and Safety Executive (HSE) and the Department of Health and other interested bodies to resolve this problem.”*

“A significant expansion of international research is required to improve and validate toxicological models. Only then will it be possible to estimate the validity of current methods of research and the way in which extrapolations can reasonably be made from the animal model, as predictors of human ill health.”

“In particular, we would like to see the system of public notification substantially improved, so that particularly vulnerable patient groups, such as those suffering from respiratory problems, may be alerted in advance of spraying activities.”

“One area that has caused particular concern is the use of “total weedkillers” for non-agricultural purposes. A review, commissioned jointly by MAFF, the Department of the Environment and the Department of Health should be set up regarding the use of these chemicals by bodies such as British Rail, local authorities and industry. The impact of this practice on public health and the environment should be analysed in a comprehensive fashion and the results of that study should be published.”

“Education, of all those involved in the manufacture and application of the pesticides, as well as the doctors who may be expected to diagnose and treat symptoms of exposure to pesticides.”

Educating the doctors

“General practitioners and hospital doctors have an important role to play in providing guidance to the public and patients about the hazards of toxic chemicals. They can, however, only fulfil their responsibilities if they receive sufficient training to enable them to recognise the symptoms of exposure to toxic chemicals when they encounter them. While it is sometimes difficult to identify cases of exposure to pesticides, given the non-

specific nature of the symptoms, it is evident that the training available to doctors on these matters could be improved.”

“The training of medical students in the basis of toxicology should be given a higher priority than at present. Doctors who have completed their training should also have access to in-service education which would enable them to update and refresh their existing toxicological knowledge.”

Training the workers

*“Since preparation of this report the World Health Organisation in collaboration with the United Nations Environment Programme has published a comprehensive report on pesticides revealing that **“the situation is particularly worrying in view of the lack of reliable data on the long-term consequences of exposure to pesticides.”** They recommend better training and supervision of workers, improved legislation with more enforcement and long-term exposure studies for the general population.”*

2.

Sections taken from definitions and literature on the Precautionary Principle:-

“uncertainty should not be regarded as a valid reason for inaction.”

“absence of scientific proof should not delay or prevent proportionate measures to remove or reduce threats of serious harm.”

In the Commission of the European Communities (Brussels 2/2/00):- Communication from the Commission on the Precautionary Principle it states:-

“in certain cases, a total ban is the sole possible response to a given risk.”

“the dimension of the Precautionary Principle goes beyond the problems associated with a short or medium term approach to risks. It also concerns the longer run and the well being of future generations.”

“Whether or not to invoke the Precautionary Principle is a decision exercised where scientific information is insufficient, inconclusive or uncertain and where there are indications that the possible effects on the environment or human, animal or plant health may be potentially dangerous and inconsistent with the chosen level of protection.”

3.

Taken from the PSD paper “Bystander Exposure Assessment,” by Paul Hamey presented for the ACP Meeting on January 16th 2003

4.

Sections taken from the report “Body Burden – The Pollution in People” by the Environmental Working Group – January 2003:-

“Health professionals are not trained to link health problems to an individual’s chemical exposure, but it is increasingly evident that background exposures to industrial chemicals and pesticides are contributing to a portion of the steady increase in some health problems in the population. A number of significant health effects potentially linked to chemical exposures are increasingly prevalent.”

“In the face of a powerful and growing body of literature linking low dose chemical exposures and health harms in the general population, the chemical industry continues to claim that low dose exposures to hundreds of chemicals simultaneously are safe. These claims, however, are nearly always based on a lack of scientific information on the toxicity of dose exposures, not on a definitive, scientific proof of safety.”

“Atrazine – Five studies published in the past year have found that exposure to 100 parts per trillion of atrazine in water causes deformities in frogs, including hermaphroditism (individuals with both male and female sex organs) underdeveloped testes, and a decrease in the number of germ cells (sperm and eggs).”

(Hayes, et al. 2002a, Hayes, et al. 2002b, Hayes, et al. In press, Tavera-Mendoza, et al. 2002a, Tavera-Mendoza, et al. 2002b).

“Hermaphroditism is extremely rare and was not detected in any unexposed frogs (Hayes, et al. 2002b). Atrazine is the most commonly used weedkiller in US agriculture and is found in the tap water of 10 million people in corn belt states. The level that causes these effects, 100 parts per trillion, is commonly found in corn belt tap water and is 30 times less than the legal maximum contamination limit for atrazine of 3 parts per billion.”

“Aldicarb – Numerous studies have found that low doses of aldicarb impair immune function at low doses” (Dean, et al. 1990a, Dean, et al. 1990b, Hajoui, et al. 1992, Olson, et al. 1987, Selvan, et al. 1989, Shirazi, et al. 1990). “Immunologic effects were observed at concentrations as low as 0.1 to 1 ppb” (Dean, et al. 1990b, Olson, et al. 1987, Selvan, et al. 1989).

“Many of the compounds detected in this study have been studied and found to cause adverse human effects at low doses. Other chemicals detected in this study have not been tested at all.”

5.

Sections taken from “Toxic Fraud” – by Zev Ross, Toxics Policy Advocate CALPIRG Charitable Trust

“The federal law that regulates pesticide products, the Federal Insecticide, Fungicide and Ro-denticide Act (FIFRA) expressly prohibits false or misleading information on pesticide labels. The law further prohibits advertising claims that differ from those claims allowed on the label. According to a US General Accounting Office report, US EPA’s Policy is that “any claim that is unacceptable for a pesticide label is also unacceptable in advertising.

The Federal Law prohibits:

“Claims as to the safety of the pesticide or it’s ingredients” even when using a qualifying phrase such as “when used as directed.” This includes using the words “safe” “non-poisonous” “harmless” or “non-toxic to humans and pets.”

“A true statement used in such a way as to give false or misleading impression to the purchaser.”

Taken from a report by the United States General Accounting Office, to the Chairman of the Subcommittee on Toxic Substances, Environmental Oversight, Research and Development, Committee on Environment and Public Works, US Senate – March 1990.

“EPA’s labelling prohibitions are based on its repeatedly stated position that no pesticide is “safe” because pesticides are, by their very nature, designed to be biologically active and kill various kinds of organisms. Further, an OPP Registration Division official said that labelling statements that convey the impression of safety could lead users to believe that directions and caution statements are not important.”

Taken from “Pesticide Registration No Guarantee of Safety,” by Caroline Cox – US Northwest Coalition for Alternatives to Pesticides, Journal of Pesticide Reform – Summer 1997, Vol. 17, No. 2

“As a starting place, it is crucial to understand that EPA does not view registration as a guarantee of safety. In fact, EPA regulations specifically prohibit manufacturers of pesticides from making claims like “safe,” “harmless,” or “non-toxic to humans and pets” with or without accompanying phrases like “when used as directed.”¹ NCAP believes that no pesticide users should make these kinds of claims. Pesticides are poisons, most of which are designed to kill. Claims to the contrary are misleading and should be challenged.”

6. Rights.

Article 6 of the EU Treaty reads as follows:-

“The Union is founded on the Principles of Liberty, Democracy, Respect for Human Rights and Fundamental Freedoms and the rule of law, Principles which are common to the Member States.”

Charter of the Fundamental Rights of the European Union:-

“Enjoyment of these rights entails responsibility of duties with regard to other persons, to the human community and future generations.”

Article 2:- *“Right to Life”*

Article 6:- *“Right to liberty and security”*

Article 7:- *“Right for private and family life”*

Article 17:- *“Everyone has the right to respect for his private and family life, his home and his correspondence”*

Article 37:- *“Environmental Protection”*

Human Rights Act 1998:-

Article 2:- *“Right to life - Everyone’s right to life shall be protected by Law”*

Article 5:- *“Right to liberty and security - Everyone has the right to Liberty and Security of person”*

Article 8:- *“Right to respect for private and family Life - Everyone has the right to respect for private and family life, his home and his correspondence”*

Part 2 the First Protocol- Article1- Protection of Property:-

“Every natural or legal person is entitled to the peaceful enjoyment of his possessions”

7.

Taken from Toxicity of Pesticides- Inhalation Route, Cornell University, New York.

8.

Taken from the article “Toxic Pesticides Found in California Rainfall Samples,” – Beyond Pesticides – August 20, 2003:-

“The U. S. Geological Survey (USGS) released a report on August 19, on their finding of the pesticides diazinon and chlorpyrifos in all rainfall samples collected in the Modesto, California area during January and February 2001 storms.”

The USGS report can be found at <http://water.usgs.gov/pubs/wri/wri034091>

9.

Sections taken from the study “Community Exposures to Airborne Agricultural Pesticides in California: Ranking of Inhalation Risks,” – California Department of

Health Services, Environmental Health Investigations Branch, California, USA – Environmental Health Perspectives, Volume 110, Number 12, December 2002:-

“Pesticides applied in agriculture can travel in the air through processes such as spray drift and post application volatilisation, sometimes for substantial distances. A wide range of agricultural pesticides has been found in ambient air. Agricultural pesticides have also been measured in indoor air, sometimes at increased concentrations.”

“Acute health effects, such as eye, respiratory and gastrointestinal irritation, fatigue and headaches, have been associated with some instances of agricultural pesticide drift into California communities. However, there is a risk of other, non-acute health effects from airborne agricultural pesticides, many of which are less readily apparent than irritant effects.”

“Agricultural pesticide use was evaluated within 1.5 – 3 miles of each monitoring station, for the year of monitoring.”

“It is worth noting that the pesticide air concentrations in this risk assessment are ambient community air measurements not measurements near field applications. Near-field air concentrations are typically much higher than ambient community air data.”

“Pesticide exposures and risks are characterised for the communities around the air monitoring locations. However, the potential for exposures in other residential areas clearly exists...These data suggest a potential for exposures and risks, similar to those calculated in this risk assessment, for hundreds of thousands of people in California.”

“Children’s exposures require particular attention. Risks to children are uniformly higher than those of adults due to a greater inhalation rate-to-body weight ratio and other factors. Our report specifically assesses risks to children from a rarely evaluated exposure – inhalation of agricultural pesticides. This pathway is important because an increasing number of children live along the nation’s agricultural-urban edge.”

“The risk assessment only considered inhalation exposures. Ingestion and dermal pathways are also likely exposure routes. Young children in particular, with a higher ingestion rate of fresh fruit and vegetables and higher contact rates with soil and house dust through hand-to-mouth activities, are at risk for cumulative pesticide exposures by such routes. There is also a large sub-population at potentially higher risk: farm-worker/farm children. An estimated 20% of 5 million US farm-workers live or work in California. Increased exposures of children of farm-workers and farmers have been repeatedly documented, through occupational take-home exposures and other routes.”

“There is a lack of toxicity data on exposures to multiple pesticides. Combined exposures to pesticides have been shown to cause effects not observed individually and may potentiate toxicity in some pesticide combinations, for example, cholinesterase inhibitors. Several pesticides found in the air of communities are organophosphate (OP) cholinesterase inhibitors.”

“Children may be exposed to multiple OP’s, all sharing a common toxicity, through multiple routes. Exposure studies have shown OP pesticide accumulation on children’s toys as a result of prolonged vaporisation from other deposits, indoor transport from outdoor applications of OP’s, with redistribution into indoor air and surfaces and increased OP metabolites in children living near agricultural applications. Exposure to organophosphate pesticides may potentially impact neurodevelopment, growth and respiratory health in children.”

10.

Taken from “Spraydrift – An Investigation by the Soil Association” – 1984

Vale of Evesham

“Robert Hale estimated that 20% of his tomato crop was ruined in 1977, and 5% again in 1978. He was particularly concerned that the hormone spray had travelled a long distance; no spraying had been notified or taken place, in the immediate vicinity. Mr. Hale estimated that spray drift had caused tens of thousands of pounds worth of damage in the Vale (Anon 1978).”

“In 1977, Mr. Helier saw spray drifting across a field containing 180 Border Leicester ewes and one ram. One man was spraying with a knapsack sprayer, five or six others were watching; they shouted at Helier to keep away.....They were spraying there for 2-3 days. Next February, 19 ewes aborted, followed by more abortions when lambing began in March. Later, 25 ewes, 59 lambs and a ram also died and 159 of the surviving lambs were sickly and put on little weight. He lost a year’s income from the flock, but more significantly, was unable to sell in following years because of the local fears after news of the contamination had spread.”

The magazine “Arable Farming” carried the following advice about preventing vapour drift in 1982:-

“Follow weather conditions closely – especially wind and temperature and if necessary, stop spraying when changes occur.”

“It is worth noting that several of these points, especially the ones about taking note of the weather, will be of little use when it is the weather in the days following the spraying that is important in determining vapour drift.”

“Despite over thirty years of complaints about spray drift (Brooks 1947) provisions for controlling it are still remarkably inadequate, as is the legal framework for claiming damage compensation.”

“The preceding report has shown that spraydrift is not going to be solved simply by a little first aid. Indeed as Graham Martin, stated in evidence to the Lords Select Committee in 1982, “The evidence suggests that a whole complex of factors related to

general changes in agricultural practice are to blame for the occurrence of spraydrift. It would seem inadequate to blame spraydrift upon a few irresponsible farmers.” (Martin 1982).”

Taken from “Liability for Damage Caused by Agricultural Chemical Drift” by Michael T. Olexa, Associate Professor and Agriculture Law Specialist, University of Florida:-

*“Louisiana, applying a provision of its civil code, was the first state to impose strict liability for damages caused by the aerial application of pesticides. In *Gottreax v Gary*, the defendant sprayed his rice crop with 2, 4-D. The herbicide drifted onto the plaintiff’s cotton and pea crops located three miles away and destroyed them. The court held that the plaintiff could not be unreasonably inconvenienced or denied the right to enjoy his property.”*

*“The Oregon Supreme Court, in *Loe v Lenhardt*, imposed strict liability in an unintentional trespass suit, finding that there was no need to prove fault or negligence where the defendants were engaged in an “extrahazardous” activity. The court stated the usual justification for the imposition of strict liability rather than a negligence standard: “The element of fault, if it can be called that, lies in the deliberate choice by the defendant to inflict a high degree of risk upon his neighbour, even though utmost care is observed in doing so.”*

“The courts of at least twelve states have held that the aerial application of pesticides is an “inherently dangerous” activity.”

11.

Section taken from the report “Farming and Food – A Sustainable Future” by the Policy Commission on the Future of Farming and Food – January 2002:-

Summary of recommendations

“As a Commission, we start from the position that the situation in England’s farming and food industry today is unsustainable, in every sense of that term. It is serving nobody well.

Taxpayers are handing over huge subsidies every year for a policy which is destroying economic value. Consumers are paying more for their food than world prices. The environment is being degraded. Farming incomes are on the floor.

We believe the real reason why the present situation is so dysfunctional is that farming has become detached from the rest of the economy and the environment.

The trauma of last year should be a watershed. The key objective for public policy should be to reconnect our farming and food industry: to reconnect farming with its market and the rest of the food chain; to reconnect the food chain with the countryside; and to reconnect consumers with what they eat and how it is produced.

Our vision is for a farming and food sector that is profitable and sustainable, that can and does compete internationally, that is a good steward of the environment and provides healthy food to people in England and around the world.”

12.

Approx. figure quoted by the Ramblers Association

13.

Taken from the paper “New Farming for Britain – Towards a National Plan for Reconstruction” by Prof. Jules Pretty, Fabian Society – August 10th 2001

14.

Taken from the book “The Survival Guide” by Dr. Acquista, published by Hodder and Stoughton:-

“Unidentified Chemical Agent (chemical gas, liquid or powder)

- *Early symptoms may include burning eyes, nose, throat or skin and blisters, welts or rashes.*

Response:

Leave the area of exposure at once – seconds may count. Don’t touch suspicious substances. Go against the wind and uphill. Do NOT go below ground unless told to. Cover your nose and mouth with fabric, preferably wet. Breathe as little as possible, taking shallow breaths until out of the exposure area. Close your eyes if you can. Remove clothing and rinse skin. Shower if possible. Flush eyes with water for 10-15 minutes.”

15.

Taken from the report “Trouble on the Farm – Growing Up with Pesticides in Agricultural Communities – Toxic Chemicals and Health: Kids’ Health: In Depth: Report,” by Natural Resources Defence Council:-
<http://www.nrdc.org/health/kids/farm/farminx.asp>

“Pesticides can have an array of adverse health impacts on adults and children, ranging from acute poisonings to cancer, brain damage, and reproductive harm. Recent studies have linked pesticides with childhood leukaemia, kidney tumours, brain tumours, and learning and memory problems.”

“There is evidence of associations between parental or infant exposures to pesticides and childhood brain tumours, leukaemia, non-Hodgkin’s lymphoma, sarcoma, and Wilm’s tumour. In many of the reports, children’s increased cancer risks were of greater magnitude than the risks reported in studies of adults. Five of the nine human studies that evaluated the risk of childhood leukaemia after parental exposures to pesticides found an increased risk, while four out of five studies looking at postnatal exposures to pesticides also found a link with acute leukaemia.”

“People who live in agricultural regions or undergo occupational exposure to pesticides are at increased risk of a variety of adverse reproductive outcomes.”

“A Minnesota study indicated an association between paternal employment as a pesticide applicator and a variety of birth defects in offspring, including abnormalities of the lungs, heart, musculoskeletal system, and urogenital system. Furthermore, the general population of agricultural regions of the state had an increase of birth defects, with the peak incidence among children conceived in the spring, when spraying is most intense.”

“The NRDC report shows that the children of farmers, farmworkers and agricultural communities -- including over 500,000 children under the age of six -- are surrounded by a virtual sea of pesticides. They come in contact with pesticides through residues from their parents’ clothing, dust tracked into their homes, contaminated soil in areas where they play, food brought directly from the fields to the table, and contaminated well water. These children are likely to have the highest exposure to pesticides of any group of people in the country.”

“There are nearly two million farms in the United States and over one billion acres of cropland. An estimated five million agricultural workers labour on these farms. There are more than 320,000 children under the age of six living on farms in the United States while hundreds of thousands more live adjacent to fields and have family members who work on farms. The overall costs of the human health effects from pesticide exposures are considerable. Economists have estimated that the nation-wide health impacts from pesticide use total as much as \$786 million dollars per year. The large numbers of affected people and the monetary and social costs of exposure are seldom considered when evaluating the costs and benefits of pesticide use.”

“Take-Home Exposures *A one-and-a-half-year-old girl was poisoned by demeton when her father, a crop sprayer, came home with contaminated shoes. He cleaned the shoes with paper towels, placed the towels in a wastebasket and left the shoes in the bathroom. The child contacted either the towels or the shoes and became unconscious. After treatment for organophosphate poisoning, she recovered.”*

“Pesticides in the air can also deposit onto surfaces, including carpets, kitchen counters, and children’s toys. Therefore airborne pesticides eventually create tactile exposures through skin contact or children’s hand to mouth behaviour. The deposited residues, in turn, can become airborne again when dust is stirred up, or through evaporation from surfaces, resulting in a veritable swirl of pesticides throughout the home.

An investigation in Minnesota measured air levels of various pesticides both indoors and outdoors on farms. This study clearly documented "take-home" exposures of pesticides."

"In an in-depth investigation of four Iowa family farms, there were significant differences between pesticide detection's during the application season as opposed to during a non-application period, even when the pesticides were applied miles from the farmhouse."

"Health assessments are also necessary to evaluate the existence of current health impacts related to pesticide exposures. However, we cannot await absolute scientific proof of harm while allowing known exposures to continue unabated. Adequate evidence already exists to demonstrate a public health problem. This evidence should justify action to protect the most exposed and most vulnerable among us from these poisons."

I also referred to the following quotes in my submission document which were taken from the transcript of the meeting between myself and Lord Whitty and Michael Meacher on December 17th 2002:-

Lord Whitty stated that *"society accepts risks of various sorts and the question is is this an unacceptable risk.....it is not a nil risk, as is much in life is not a nil risk."*

Michael Meacher asked the PSD official present *"but how do you explain, that these are not marginal ill-health effects which have been registered, unless you dismiss it as not necessarily being to do with pesticides, these are serious long-term effects and if there is this huge safety margin written in, I don't see how that is remotely compatible with these effects.."*

Paul Hamey from PSD replied *"But it's, it's, it's, it's the same as, as for workers that are using the pesticides, I mean there are a number of incidents a year, a small number, that are confirmed by the er, Pesticides Incident Appraisal Panel as being likely to be due to exposure to the pesticide..."*

Michael Meacher then stated *"but that makes the argument, that in fact pesticides will cause these effects and the only cases that come to light is where people report it, there are probably hundreds of people who don't report it."*

Section 3 – Sections and quotes taken from various documentation in relation to the dangers of pesticides; acute and chronic long-term ill-health effects following exposure(s); airborne pesticides; distances pesticides have been shown to travel; mixtures; Cuba's agricultural system and other information relevant to this submission *Consultation on Proposals for the Introduction of No-Spray Buffer Zones Between Spraying Areas and Residential Properties in England and Wales*

Sections taken from "What's Your Poison?" – A Report by the Environmental Justice Foundation – 2003

“In 1990, the World Health Organisation Statistics Quarterly reported that an estimated 25 million agricultural workers are poisoned by pesticides every year.” – **Jeyaratnam, J 1990. Acute Pesticide Poisoning: A Major Global Health Problem. World Health Statistics Quarterly 43**

“Inhalation of pesticides is promoted by spraying without protective masks, whilst absorption through the skin is made more likely when skin and clothes are wet during spraying.” – **Kishi, M et al 1995. Relationship of pesticide spraying to signs and symptoms in Indonesian farmers. Scandinavian Journal of Work Environment & Health 21**

“Most studies of pesticides’ health impacts have considered only occupational exposure and relatively little is known about the health risks to the wider community exposed to pesticides. In rural El Salvador, detectable levels of organophosphates pesticides metabolites were found in the urine of 30% of subjects not involved in agricultural work.” – **Azaroff, L 1999. Biomarkers of exposure to organophosphate insecticides among farmers’ families in rural El Salvador: Factors associated with exposure. Environmental Research 80**

“A recent study has revealed organochlorine pesticide residues present in new-born humans 25 years after use of the chemicals ceased, suggesting long-term public health problems.” – **Hong, Z et al 2002. Meconium: A matrix reflecting potential fetal exposure to organochlorine pesticides and its metabolites. Ecotoxicology and Environmental Safety 51**

“In Senegal, in 2000, 16 farmers suddenly became ill and died. Government investigators identified the probable cause as two pesticides, Granox TBC and Spinox T (mixtures of fungicides and insecticide carbofuran) which the farmers had been spraying on groundnut crops.” **FAO 2002. Early warning on hazardous chemicals. Ag21 Magazine (May 2002)**

“In an analysis of 22 previously published studies (11 North America, 5 European, 5 Asian and 1 Australian) there was found to be a significantly-increased Parkinson’s disease risk associated with living in rural areas, farming and pesticide exposure.” – **Priyadarshi, A et al. 2001. Environmental risk factors and Parkinson’s disease: A meta-analysis. Environmental Research 86**

“A Hong Kong survey of residents of homes for the elderly found that living in rural areas for over 40 years, or farming for over 20 years increased the risk of Parkinson’s disease, as did previous use of pesticides and herbicides.” – **Ho, S et al 1989. Epidemiological study of Parkinson’s disease in Hong Kong. Neurology 39**

“Leukaemia – Some studies were able to show increased risks with greater exposure, for example, in one study, children exposed to pesticides once a week, once to twice a week and on most days, had increased risks of 80%, 100% and 250% respectively.” – **Buckley, J et al 1989. Occupational exposures of parents of children with acute**

**nonlymphocytic leukaemia: a report from the Children and Cancer Study Group.
Cancer Research 49**

“In 1993, 44 children were born with congenital malformations in the Curico Regional (Chile). The same thing happened to a large proportion of children in 1994. Almost all the parents of these children had been exposed to pesticides, due to the fact that they worked in fruit orchards, packing plants, or lived close to them.” **Dr. Norman Merchak, Director, Curico Regional Hospital, Chile.**

“Maternal residential proximity to pesticide applications in California was found to increase risk of late foetal death due to congenital anomalies.” – **Bell, M et al 2001. A case-control study of pesticide and fetal death due to congenital anomalies. Epidemiology 12**

“In a recent Vietnamese study in which 50 farmers reported signs or symptoms of poisoning for a full year, 31% of spraying operations were followed by at least one clearly-defined sign or symptom of pesticide poisoning and 61% were associated with ill-defined effects.” – **Murphy, H et al. Farmer self-surveillance on pesticide poisoning: a 12 month pilot in Northern Vietnam. International Journal of Occupational Environmental Health, 2002**

Taken from the European Commission’s Communication “Towards a Thematic Strategy on the Sustainable Use of Pesticides” – July 1st 2002:-

“Potential exposure of bystanders and residents to pesticides via the air might constitute an exposure route, which needs further attention by research and possibly also regulatory measures.”

Taken from the report “How Much Toxic Pesticide Is Used Near Your Child's School?” – Environmental Working Group (EWG) – February 20th 2001

<http://www.ewg.org/reports/everybreathyoutake/everybreathpr.html>

“Children's developing bodies and brains are known to be more susceptible to the harmful effects of toxic pesticides, but thousands of California children attend schools directly adjacent to or surrounded by fields where pesticide use totals tens of thousands of pounds a year. State and independent studies show not only that pesticides routinely drift from farm fields onto nearby school campuses, but that drifting pesticides pose serious health risks for people miles away from the fields.”

“A new report from the California Department of Pesticide Regulation says cases of people being poisoned by drifting pesticides increased by 20 percent last year. And a National Cancer Institute researcher who matched pesticide data and medical records in 10 California Agricultural counties recently reported that pregnant women living within

9 miles of farms where pesticides are sprayed on fields may have an increased risk of losing an unborn baby to birth defects.”

Every Breath You Take – EWG

“Independent scientific monitoring by the Environmental Working Group found dangerously high concentrations of a partially banned pesticide in the air San Joaquin Valley residents breathe.”

“EWG air monitoring also detected two other pesticides classified by the federal and state governments as hazardous air pollutants - chemicals the U.S. EPA says are likely to cause increased death rates or serious illness.”

“Pesticide use in Fresno, Kern and Tulare counties puts more than 15 million pounds of toxic chemicals into the air each year - an amount equal to about one-third of the air pollution from most other area industrial sources combined. This amount includes not only pesticide drift, but post-application emissions of other toxic ingredients in pesticide products.”

“In those counties more than 22,000 children - a population known to be more susceptible to the effects of toxic chemicals that cause damage to the brain, the nervous system and to development - attend school near sites of heavy use of toxic pesticides.”

“Our detection’s were not the result of unusually high pesticide use on the day of sampling. In 1998 there were more than 18,400 applications of pesticides within three miles of our test sites, and applications were made on 227 different days that year. In 1996, state air quality scientists detected chlorpyrifos in 74 percent of samples near orange groves in Tulare County.”

“The more than 1 million San Joaquin Valley residents who live, work and go to school in close proximity to heavy use of toxic pesticides should not have to worry if the amount of poison allowed in their air is considered "safe." They should have the right not to be exposed to poison at all.”

“Agriculture is California's largest industry, and pesticide drift is air pollution as surely as the emissions from a chemical plant. The state should regulate it as strictly as other forms of industrial air pollution. Vigorous enforcement of laws against pesticide drift must apply not only to large-scale drift incidents, but everyday drift from routine use of chemical pesticides.”

Pesticides Used Within 1.5 Miles of California Schools, 1998 - EWG

“More than 7.7 million pounds of pesticides were used within 1.5 miles of California schools in 1998, according to state data analyzed by the Environmental Working Group. Children's developing bodies are known to be more susceptible to harmful effects of

pesticides, but thousands attend schools next to or surrounded by fields where pesticide use per acre totals tens of thousands of pounds per year.”

(NB. On the EWG website is the detailed information on the amount of pesticides used within 1.5 miles of all California Schools in 1998. This can be found at:

<http://www.ewg.org/california/@risk/1998ca15.php>)

Sections taken from the report “*Secondhand Pesticides – Airborne Pesticide Drift in California,*” by Californians for Pesticide Reform – 2003:-

“Pesticide Drift is any airborne movement of pesticides (insecticides, herbicides, fungicides etc) away from the intended target, including droplets, dusts, volatilized vapour-phase pesticides, and pesticide contaminated soil particles. Sometimes drift is very noticeable as a cloud of spray droplets or dust during application or as an unpleasant odor afterwards. But it is frequently insidious – invisible to the eye and odorless – often persisting for days, weeks or even months after application as volatile chemicals evaporate and contaminate the air.”

“In outdoor settings airborne pesticides are carried away from the application site by wind and on windblown soil particles. Drifting pesticides can travel for miles, resulting in widespread toxic air pollution.”

“In California between 1997 and 2000, drift accounted for approximately half of all reported poisonings related to agricultural pesticide use and for 26% of all reported pesticide poisonings. But pesticide incident reports show only the tip of the iceberg in terms of the numbers actually poisoned. These reports do not capture the countless people who are exposed to secondhand pesticides but either are not aware of the exposure or do not know how to report it. Because notification is not required for most pesticide applications, affected people and their physicians are generally not aware of when pesticide applications might play a role in their ill-health.”

“A resident whose house was 1,500 feet away from the pesticide application suffered acute poisoning effects following exposure.”

“Between 1991 and 1996 in California, nearly 4000 cases of agricultural pesticide poisoning were reported with 44% caused by drift. Between 1998 and 2000 51% of reported agricultural pesticide poisonings were caused by drift. The actual figure is certainly much higher since most workers are reluctant to report incidents for fear of retaliation and loss of their jobs.”

“A number of studies demonstrate that winds transport pesticides applied in California’s Central Valley to the Sierra Nevada mountains. A recent US Geological Survey revealed the presence of organophosphorus pesticides in the tissues of frogs in the Sierra Nevada mountains 50 miles from agricultural areas.”

“Pesticide drift creates a lose-lose situation for all involved, including residents of the agricultural communities, farmworkers, fish and wildlife, organic farmers and even conventional farmers.”

Sections taken from “Poisoning the Air,” by the CALPIRG Charitable Trust:-

“Millions of Californians live near heavy agricultural use of known or suspected air contaminants, including those that cause cancer, reproductive and developmental disorders or disrupt the brain and nervous system...Agricultural pesticides are the greatest source of outdoor airborne pesticides. A spatial analysis of US census data and state agricultural pesticide use data carried out by CALPIRG Charitable Trust indicates that nearly four million Californians live within one half mile of heavy annual applications...”

“There have been years of complaints and illness reports from communities living near agricultural lands. In 1995 alone, California’s Pesticide Illness Surveillance Program reported 300 drift-related acute poisonings. This figure is generally accepted as a gross underestimate of actual acute poisonings and does not address the risk of cancer, immune system suppression, birth defects, intelligence loss, asthma and a wide array of other injuries that may result from long-term pesticide exposure.”

“The widespread use of pesticides in and around California communities, combined with their startling mobility in air, suggests that millions of Californians may be exposed to these chemicals. These exposures may pose significant risk, particularly to pregnant women, children or chemically sensitive/immune system compromised individuals. In light of these findings, piecemeal strategies to regulate one chemical at a time are inadequate, resulting in years of study and delay while millions of pounds of pesticides continue to be released. Regulators and policymakers should develop powerful incentives to move urban and agricultural pest management away from its current dependence on pesticides toward strategies for pest prevention and sustainable non-toxic alternatives.”

Quotes taken from the article “Committing Pesticide,” first published in The Ecologist (Dec 2002/Jan 2003 edition)

“A study last year of Californian women showed that even living within a mile of farms where certain pesticides are sprayed, during critical weeks in pregnancy, increased by 120% the chance of losing the baby through birth defects.”

“When the incidence of various cancers in 4 US states was mapped out the areas with the most cancer coincided with the areas where wheat was grown and specific pesticides were used.”

“And simply living within a mile and a half of the cranberry fields of Cape Cod has been shown to increase a child’s risk of developing a particular type of brain tumour.”

Taken from The Ecologist May/June 1999:-

“Swiss researches has found high levels of atrazine, alachlor and other commonly used pesticides in European precipitation. The crop sprays are thought to evaporate from fields and combine with clouds. Until now scientists had assumed that pesticides infiltrated ground water directly from fields.”

“Drinking water standards are regularly exceeded in rain,” says Stephan Muller, a chemist at the Swiss Federal Institute for Environmental Science and Technology in Dubendorf.”

“Whilst EU and Swiss regulations set a limit of 100 nanograms of any pesticide to a litre of drinking water, Muller and his colleagues found almost 4,000 nanograms per litre of 2,4-dinitrophenol in one sample. And levels of atrazine reached up to 900 nanograms per litre.”

“Rain was seen to be particularly toxic after a long dry spell when farmers had recently sprayed their crops.”

“Meanwhile researchers in Sweden have linked pesticides to one of the fastest growing cancers in the EU and US. The incidence of Non-Hodgkin’s lymphoma has risen 73 per cent in the US since 1973.”

Taken from “Relevance of risk assessment to exposed communities,” by Brickley C. Udall Centre for Studies in Public Policy, University of Arizona, Tucson, US – Environmental Health Perspectives – February 1995

“Current environmental policy tends to evaluate potential, theoretical exposure to health risks by evaluating one chemical or hazard at a time. Risk assessment techniques used by the US Environmental Protection Agency (EPA) and other government agencies do not evaluate the cumulative impact of exposure to environmental contaminants. This problem is of particular significance to low-income and minority populations who tend to live in neighbourhoods and work in locations that involve exposure to pollutants in air, water and workplace activity.”

Taken from Environment and Health News – Summer 1997, Volume 2, Edition 4

“Exposure to very tiny amounts of just two chemicals at the same time can be more than a 1000 times dangerous as either chemical alone. The researchers at the Tulane-Xavier Centre for Bio-environmental research in New Orleans were investigating the effects of pesticides and PCB’s on the human hormone system. They were “stunned” by the increase in toxicity when various combinations of 2 chemicals were combined. Lynne Goldman, head of the US Environment Protection Agency’s Prevention, Pesticides and Toxic Substances Office said “obviously these systems are more complex than we imagined.” (Cheryl Long, Organic Gardening 1.1.97, page 18).

The website www.getipm.com highlights various cases and examples, from all over the world, where people have suffered pesticide related ill-health. (NB. This site covers pesticide poisoning across the board and therefore is not just related to agricultural).

Sections taken from the study “Reducing food poverty by increasing agricultural sustainability in developing countries,” by Prof. J.N. Pretty, J.I.L. Morison and R.E. Hine, Centre for Environment and Society and Department of Biological Sciences, University of Essex, Colchester UK:-

“What do we understand by agricultural sustainability? Systems high in sustainability are making the best use of nature’s goods and services whilst not damaging these assets” (Altieri, 1995; Pretty, 1995, 1998; Thrupp, 1996; Conway, 1997; Hinchliffe et al., 1999; NRC, 2000; Li Wenhua, 2001; McNeely and Scherr, 2001; Uphoff, 2002).

“Modern farmers have come to depend on a great variety of insecticides, herbicides and fungicides to control pests, weeds and diseases, and each year, some 5 billion kg of pesticide active ingredients are applied to farms (BAA, 2000). But farmers in these projects have found many effective and more sustainable alternatives. In some crops, it may mean the end of pesticides altogether, as cheaper and more environmentally-benign practices are found to be effective.”

“As has been indicated earlier, agricultural sustainability can contribute to increased food production, as well as make an impact on rural people’s welfare and livelihoods. Clearly much can be done with existing resources. A transition towards a more sustainable agriculture will not, however, happen without some external help and money. There are always transition costs in learning, in developing new or adapting old technologies, in learning to work together, and in breaking free from existing patterns of thought and practice. It also costs time and money to rebuild depleted natural and social capital.”

“Agricultural systems can be economically, environmentally and socially sustainable, and contribute positively to local livelihoods. But without appropriate policy support, they are likely to remain at best localised in extent, and at worst simply wither away.”

“Increased agricultural sustainability can also be complementary to improvements in rural people’s livelihoods. It can deliver increases in food production at relatively low cost, plus contribute to other important functions. Were these approaches to be widely adopted, they would make a significant impact on rural people’s livelihoods, as well as on local and regional food security. But there are clearly major constraints to overcome. There will be losers along with winners, and some of the losers are currently powerful players.”

Sections taken from “Cuba’s organic revolution” by Hugh Warwick:-

“The US trade embargo of Cuba, plus the collapse of the island’s Soviet market, has meant that the country has found it virtually impossible to import the chemicals and machinery necessary to practise modern, intensive agriculture. Instead, it has turned to farming much of its land organically - with results that overturn the myths about the ‘inefficiency’ of organic farming.”

“But the most significant aspect of the post-Soviet agricultural revolution has been the response to the removal of the chemical crutch, as imports of pesticides, herbicides, etc., collapsed. Fortunately for Cuba, it was well-placed to respond to this.”

“While Cuba has only 2% of the Caribbean region’s population, for example, it has some 11% of its scientists. And many of them, influenced by the ecology movement, had already developed a critique of Cuba’s intensive agriculture system (to the displeasure of some in the establishment). They had also begun to develop alternatives to chemical dependency, which have since come into their own.”

“As a result of such necessary innovations, the Cuban landscape, once dominated by chemical inputs, has been changing rapidly. And many of the new control methods are proving more efficient than pesticides. For example, the use of cut banana stems baited with honey to attract ants, which are then placed in sweet-potato fields, has led to the complete control of the sweet-potato borer a major pest by the predatory ants.”

“There is much reason to be hopeful that Cuba’s turn to less-intensive agriculture will succeed as it has elsewhere. Jules Pretty has analysed 45 non-chemical agricultural initiatives spread across 17 African countries. From these, some 730,000 farming households have substantially improved their food production and food security. In 95% of the projects where yield increases were the aim, cereal yields have improved by 50-100%. Total farm food production has increased overall.”

Taken from “Organic Agriculture in Cuba” by George Mokray – 21 August 2000:-

“The withdrawal of Soviet aid meant that 1,300,000 tons of chemical fertilizers, 17,000 tons of herbicides, and 10,000 tons of pesticides, could no longer be imported, according to the report.”

“Urban agriculture is now a “major element of the Havana cityscape,” the Food First report says, and the model is now being copied throughout the country, with production growing at 250-350% per year. Today, food from the urban farms is grown almost entirely with active organic methods, the report says. Havana has outlawed the use of chemical pesticides in agriculture within city limits.”

Taken from the report “Fields of Change – A New Crop of American Farmers Finds Alternatives to Pesticides,” by Natural Resources Defence Council:-

“Farmers purchase materials that are legal and that they believe can be used safely and effectively for crop production, only to later be denied the use of some of these chemicals because they are discovered to be hazardous.”

“Despite the overall trend toward increasing use of toxic chemicals in agriculture, there are signs of a growing understanding among people ranging from scientists to farmers that pesticides may not be the lasting solution that they were initially believed to be. A recent NRDC report, Fields of Change, interviewed nearly two dozen farmers who are moving away from reliance on pesticides while maintaining and in many cases improving the profitability of their operations. These examples are an inspiration and a road map to the future for those who wish to take action to prevent health risks to children and the generations to come.”

Pesticides are not a lasting solution

“Whereas the capacity of pesticides to harm human health and wildlife species is widely recognized, their potential to cause negative on-farm impacts is less well known. Some of these effects are well summarized by the National Research Council in their recent report, Ecologically Based Pest Management: New Solutions for a New Century:-

“The disruption of inherent natural and biological processes of pest management, the resistance to pesticides developed by many major pests, and the frequency of pesticide-induced or exacerbated pest problems suggests that dependence on pesticides as the dominant means of controlling pests is not a durable solution.”

Sections taken from “Agri-Culture, Reconnecting People, Land and Nature,” by Jules Pretty:-

Putting Monetary Values on Externalities

“Several studies have recently put a cost on the negative externalities of agriculture in China, Germany, the Netherlands, the Philippines, the UK and the US. When it is possible to make the calculations, our understanding of what is the best or most efficient form of agriculture can change rapidly. In the Philippines, researchers from the International Rice Research Institute found that modern rice cultivation was costly to human health. They investigated the health status of rice farmers who were exposed to pesticides and estimated the monetary costs of significantly increased incidence of eye, skin, lung and neurological disorders. By incorporating these within the economics of pest control, they found that modern high-input pesticides systems suffer twice. For example, with nine pesticide sprays per season, they returned less per hectare than the integrated pest management strategies and cost the most in terms of ill-health. Any expected positive production benefits of applying pesticides were overwhelmed by the

health costs. Rice production using natural control methods exhibits multifunctionality by contributing positively both to human health and by sustaining food production.”

Section 4 – References relating to the first submission *Consultation on Plans for Greater Access to Information about Crop-Spraying*

1.

As per reference 1 above for *Consultation on Proposals for the Introduction of No-Spray Buffer Zones Between Spraying Areas and Residential Properties in England and Wales*

2.

Taken from the Commission of the European Communities – White Paper – “Strategy for a future Chemicals Policy” – 2001

Increasing Transparency

*“Providing full information to the public: **The public has a right to access to information about the chemicals to which they are exposed.** This will enable them to make informed choices.”*

“Better public access to information on chemicals will increase public awareness and will lead in turn to greater accountability on the part of industry and authorities.”

3.

A recent study from California entitled "*Community Exposures to Airborne Agricultural Pesticides in California: Ranking of Inhalation Risks*" evaluated pesticide use within 1.5 – 3 miles of monitoring stations and has calculated risks at this distance. It noted that obviously the levels would be significantly higher for those who actually live near regularly sprayed fields.

Drift has been recorded travelling 5 miles from point of release in Britain (Martin 1982), up to 15 miles in the USA (Akesson and Yates 1964) and distances up to 50 miles have been suggested (Bunyan et al 1981).