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29/9/03

Dear Russell Wedgbury and Caroline Kennedy,

**CONSULTATION ON PROPOSALS FOR THE INTRODUCTION OF NO-
SPRAY BUFFER ZONES BETWEEN SPRAYING AREAS AND
RESIDENTIAL PROPERTIES IN ENGLAND AND WALES**

My submission is set out as follows:

1. Introductory overview and comments
2. Comments relating to my family's specific circumstances
3. Comments on the section entitled *Background* in PSD letter dated 17/7/03
4. Comments on Summary Document
5. Consultation proposals – Comments on Discussion Paper and Specific questions
6. Comments on Partial Regulatory Impact Assessment and Specific Questions
7. Conclusion
8. Consultation proposals – Key Points and recommendations

Appendices

- I. References, as well as quotes taken from various Government and industry documentation in relation to the dangers of pesticides; notification and public access to information; and sections taken from various other documentation in relation to airborne pesticides; distances pesticides have been shown to travel; mixtures; acute and chronic ill-health effects following exposure(s) and other information relevant to this submission
- II. Extracts taken from a few of the emails/letters that I have been receiving to highlight the comments that are being made by others who also have the direct experience of this situation
- III. Submission to the Consultation on "*Plans For Greater Access to Information About Crop-Spraying*"

1. Introductory Overview and Comments

- 1.1. First of all I would like to make a few comments in relation to the Consultation Process in general.

- 1.2. Whilst it is a step in the right direction for recognising individual rights, that is very long overdue, it definitely does not recognise or represent the seriousness of this issue for people living near regularly sprayed areas, as the Government have denied that there are any health risks involved. There is no evidence that supports this view, but a considerable amount of evidence that shows that there is a high level of risk inherent in the spraying of agricultural chemicals.
- 1.3. The Advisory Committee on Pesticides has stated on a number of occasions that “*science cannot guarantee complete safety or zero risk.*” So I would like to ask why DEFRA launched this Consultation stating that there is *no risk* to people in the countryside from crop-spraying and that pesticides are *safe*?
- 1.4. This claim is not only factually inaccurate and seriously misleading to both farmers and the public, but it is obviously downright dangerous and I definitely do not believe, based on the evidence that this claim would stand up in a court of law. There are a number of other statements throughout this second Consultation Document on the *Introduction of no-spray zones around residential properties* that are also misleading and factually inaccurate and I shall address each one in the relevant section. (*NB. This may result in a degree of repetition, but this has been made necessary by the Consultation Document itself being repetitious.*)
- 1.5. It has been stated in the documentation relating to these two Consultations’ that they have been undertaken to reassure the public and provide a further degree of public confidence in the current system. Yet it is this current system that is the problem.
- 1.6. Pesticides by their very nature are designed to kill living organisms, so it is not surprising that these chemicals are highly poisonous substances. There has been over 50 years of documented scientific and medical evidence in relation to their damaging effects on human health, including from Government’s very own documentation. I continue to receive responses daily from people all over the country reporting acute and chronic long-term ill-health effects following exposure(s) to pesticides. Reports of this nature have gone on for decades. At present there is virtually no regulatory control or legal protection for members of the public exposed to agricultural chemicals.
- 1.7. There are serious fundamental flaws throughout the existing regulations governing the approval and use of pesticides, as the “*bystander model*” is not representative of the exposure scenario for a resident. The Consultation Documents’ seem to have centred on the problem of immediate visible spraydrift only and **not** the wider issue of the long-term exposures to pesticides in the air. This is a fundamental point in relation to the case that has been presented to the Government over the last year, as this is not about the misuse of pesticides, but about pesticides legally allowed to be sprayed near to people’s homes, schools, workplaces and the inherent health risks. (*See paper presented for the ACP Open Meeting on July 10th 2002 entitled “Why the “bystander risk assessment” does not equate to real-life exposure scenarios”*).

- 1.8. The monitoring system is totally inadequate, as HSE and PIAP were only really set up to deal with one-off incidents of acute exposure, (*and even then many people report a lack of any investigation following a complaint, as well as inaccurate recording and reporting. This results in only a few cases of acute effects being confirmed by PIAP as related to pesticide exposure per year. NB. It should also be pointed out that none of these cases are ever followed up to see if the acute effects have resulted in permanent long-term illness*). People who are living near regularly sprayed areas are obviously receiving repeated high level exposures to mixtures of pesticides throughout every year and in many cases for decades. HSE/PIAP have not collected appropriate data on this kind of exposure scenario and related ill-health. This has been recognised in a number of previous reports (ie. British Medical Association's *Guide to Pesticides, Chemicals and Health*, in 1992 and the 1987 report of the *Chairman of the House of Commons Agriculture Committee on the effects of pesticides on human health*¹, as well as other reports). Therefore without any adequate or appropriate monitoring for chronic effects, there is no evidence that the clusters of medical conditions that people are reporting are not related to pesticide exposure(s).
- 1.9. With the increase in cancers, ME, asthma's, allergies (*NB. 1 in 3 people now suffer from some form of allergy*) and many other illnesses (especially in young children) then what is in the surrounding environment has to be taken into consideration. These chemicals are extremely dangerous and I think that anyone with common sense can see that regularly spraying poison into the air where people live and breathe is definitely not safe and can be nothing but harmful both in the short and the long-term. In most cases it is not possible to reverse the damage caused, therefore the significance of these consequences requires a precautionary approach.²
- 1.10. The Government, it's agencies and scientific advisors must recognise and admit the effects that pesticides have on human health, as *prevention* of pesticide poisoning is the only way to protect people from pesticide related ill-health.
- 1.11. I would like to quote a couple of people who have worked with pesticides and whose emails I have recently received: *"I used to work as a pesticide chemist. There is definitive risk to people near to farmers spraying fields. I used to analyse drainage water near such sites and they contained significant levels of pesticides. The Government department commenting on this needs to get it's facts right."*
- 1.12. The other stated *"I used to work in the commercial glasshouse industry and at a research institute. At both I used to have to spray pesticides and fungicides. I had to wear full protective clothing and breathing apparatus, but the main point is that no-one was allowed into the sprayed area for 1 day, fruit was not allowed to be eaten for up to 5-7 days the substance sprayed was so toxic. These are still used today. We were not allowed to spray anywhere where people were working, which would apply to the garden etc. of the house and family shown. Being aware of the poisons used from working at the research establishment, in no way is any pesticide safe for anyone to breathe in the drifting spray."*

- 1.13. The principle aim of pesticide regulation is supposed to be the protection of public health, therefore this has to be the number one priority and take precedence over any financial, economic or other considerations. Therefore if people are not being informed about the *true* dangers and risks of these chemicals then they will not be able to take the necessary precautions to protect themselves from exposure. Yet everyone has a recognised right to protect their health and the health of their family from any risks to their health and safety.
- 1.14. At the present time a crop-sprayer is legally allowed to repeatedly spray mixtures of poisonous chemicals right up to the open window of any occupied premises whether it be a resident's home, a school (nursery, infant, primary etc.) a home for the elderly or disabled or any office or workplace.
- 1.15. Under the COSHH regulations an employer has a legal obligation to supply any employees/workers with all the necessary information in relation to the hazards/risks of exposure from using/spraying pesticides. Therefore workers should have all the knowledge, information, equipment to protect themselves, whereas members of the public *do not*, even though in relation to the actual application of pesticides, residents and others can be exposed to the very same airborne droplets, particles, vapours and dusts that workers require protection from. Obviously this will include babies', children, pregnant women, the elderly, those with pre-existing medical problems, chemical sensitivity and other vulnerable groups where the health risks are increased.
- 1.16. In the whole 50 years that crop-spraying has been a predominant feature of agriculture there has never been a ban on the use of pesticides near human habitation in an attempt to protect residents and others in the countryside from exposure to these chemicals.
- 1.17. **This situation is completely unacceptable as the Government has an overriding duty to protect public health from any harm. Residents and other members of the public should not have their lives put at risk, restricted or affected in anyway by someone else's hazardous activity when on your own land and property. This is a breach of Articles 2, 5, 8 and Part 2, The First Protocol – Article 1 of the Human Rights Act 1998 and Articles 2, 6, 7, 17 and 37 of the Charter of Fundamental Rights of the European Union. This cannot possibly be classified as the Natural Peaceful Enjoyment of one's property! The World Health Organisation's European Charter on Environment and Health states that: “Every individual is entitled to “an environment conducive to the highest level of health and well being” and that “the health of every individual, especially those in vulnerable and high risk groups must be protected.”**

2. Comments on my family's specific situation

- 2.1. I would like to clarify a few points in relation to our specific situation, as there have been a few factually inaccurate statements made in recent media.

- 2.2. First of all, as has been well documented, we have not been able to get any information on the 14 years of chemicals that were used on the surrounding fields next to our property between 1984 and 1998. This information is vital in view of the chronic long-term health effects that we are suffering. Last year, two medical professionals, including our GP, wrote to the farmer in question to request this information, but he refused to disclose. Therefore our medical records are obviously incomplete since we have not been able to obtain the necessary chemical information from the farmer or the HSE, as there is currently no law to force any farmer to disclose this information to the public.
- 2.3. The fields next to our house have now been rented to a new farming business where the majority of them are used for intensive lettuce production.
- 2.4. In December, the farming business in question agreed to give local residents prior notification before any spraying application and to supply information on the chemicals being used.
- 2.5. However, although we did meet with a representative in March who supplied us with the information on the chemical products that they intended to use on the crops, they refused to give us any prior notification of which chemicals they would be using when and in what combinations.
- 2.6. Interestingly the local Parish Council informed us that the farming business do operate a Hotline system for notification in other areas, but do not to my knowledge at present operate that system here despite approaches for them to do so.
- 2.7. Also, the promised no-spray zone in the field adjoining our property is obviously not a no-spray zone, as it was sprayed on Saturday 23rd August and it has been confirmed that it will be sprayed as and when it is necessary.
- 2.8. Therefore in this Consultation I think that DEFRA will need to be extremely precise as to the exact definition of a *no-spray zone*.
- 2.9. **It is essential that we receive prior notification before any spraying and information on the chemicals to be used to be able to take the necessary precautions to try and reduce exposure as much as possible to these chemicals. It is also imperative to have full access to the spray records for a proper appraisal and assessment of our long-term health effects. However, the fundamental point remains that we should not be exposed in the first place and therefore a ban on crop-spraying near human habitation is essential and an urgent priority.*

3. Comments on the section entitled *Background* in the letter from Mick Oliver accompanying the Consultation Document – Dated 17th July 2003

- 3.1. The current method of assessing the dangers and risks to public health from agricultural spraying and under which chemical usage is approved, is based on the model of a “bystander” which assumes that there will only be

occasional short-term exposure from the spray cloud at the time of application **only**. It also assumes exposure will only be to one individual pesticide at any time.

3.2. This *predictive* model is dangerously inadequate and bears no resemblance whatsoever to the sort of exposure scenario experienced by people who are actually living in these sprayed areas, 24 hours a day, every day and for multiple years. The Consultation Documents' seem to have centred on the problem of immediate visible spraydrift only and **not** the wider issue of the long-term exposures to pesticides in the air.

3.3. The *Green Code* is an advisory document for guidance **only** and is not legally enforceable, so a farmer does not have to legally abide by any of the advice given. Therefore I disagree strongly with the statements made in paragraph 2 that "*The risk posed to people living in the countryside from pesticide spraydrift is assessed as an integral part of the pesticide approvals process,*" and "*Taken together all the above factors constitute a robust system of assessment.*"

3.4. I would like to clarify that the recent media coverage has been in relation to the inherent health risks of crop-spraying and the ill-health suffered by people living near regularly sprayed fields and the failure of the current regulations, monitoring system and legislation to protect public health. This is not an issue of whether spraying poisonous chemicals around human habitation may be seen as being "*socially unacceptable,*" or about how to reassure the public/provide a further degree of public confidence in the current system. **The current system is completely unacceptable for the protection of public health.** (*See above, below, Appendix 1, 2, 3 and video to follow*).

4. Summary Document

4.1. Proposals:

Option 1: Do Nothing

4.2. I definitely **do not** support this option

Option 2: Farmers and growers to operate a no-spray buffer zone between the edge of spraying and surrounding houses

4.3. **I fully support this proposal**

4.4. However, I have to stress that I do not think the launch of this Consultation was an adequate or appropriate response from the Government to the evidence that has been presented over the last year, especially, as previously stated, in relation to the way the Consultation has been managed.

4.5. This situation is completely unacceptable for the protection of public health and requires urgent and decisive action from the Government that is very long

overdue, not further discussion, as this only delays the necessary action from being taken.

- 4.6. As previously stated the principle aim of pesticide regulation is supposed to be the protection of public health, therefore this has to be the number one priority and take precedence over any financial, economic or other considerations.
- 4.7. The only responsible course of action for the EU and the UK Government to take is an immediate ban on crop-spraying and the use of pesticides near to homes, schools, workplaces and any other places of human habitation. (This has been referred to in the recent EU report "*Towards a Thematic Strategy on the Sustainable Use of Pesticides*," which called on the European Commission, before the end of 2003, to "*propose a ban on the use of pesticides.....in schools, playgrounds and parks in order to protect children and in areas close to inhabited zones.*")
- 4.8. I do not agree with the assertion under Option 2 that the land would necessarily be lost to cultivation, as it could still be farmed using sustainable non-chemical management practices. Therefore I believe this to be a very misleading and factually inaccurate statement for the author to have made.

5. Discussion Paper

- 5.1. *The current approach for assessing and mitigating the effects of spray drift*
- 5.2. The current method of assessing the dangers and risks to public health from agricultural spraying and under which chemical usage is approved, is based on the model of a "*bystander*" which assumes that there will only be occasional short-term exposure from the spray cloud at the time of application **only**.
- 5.3. This was confirmed in the recent PSD paper "*Bystander Exposure Assessment*"³ that stated "*Direct measurements of long-term bystander exposure, for example for a bystander living adjacent to a treated area, have not been made in the UK. The current assessment approach considers both dermal contamination and potential inhalation exposure from the spray cloud at the time of application only. After the spray cloud has passed there may potentially be further exposure to pesticide that volatilises from the crop or soil surfaces.*" (NB. It has since been confirmed by PSD that there have been no direct measurements for this exposure scenario made in Europe either).
- 5.4. The assumptions in the risk assessments are that workers get more exposure and bystanders less, but people who **live** in the sprayed areas are **not** bystanders. There is a clear distinction to be made between a *bystander* who occasionally happens to be in the area at the time of application and is only exposed short-term and someone that lives or works in a treated area.

- 5.5. The Scientific Committee on Plants questioned the comparison of bystanders and residents in their recommendations to the European Commission in October 2002:- *“The SCP is of the opinion that a difference should be made between a subject who is at risk of being exposed during the application of the PPP because he is occasionally in the proximity of the field and a subject who lives or works near the field being treated.”*
- 5.6. The SCP also stated that *“there appears to be no clear definition of bystander. In addition, specific criteria to assess or estimate bystander exposure have not yet been developed.”*
- 5.7. The existing risk assessments are *predictive* models based on estimates and assumptions of what could be happening. I have presented to the Government over the last year the **reality** of what is actually happening in this situation. This obviously portrays a far more accurate representation than that of scientific theory and speculation.
- 5.8. Spray operators’ should have all the knowledge, information, equipment to protect themselves, whereas members of the public **will not**, even though in relation to the actual application of pesticides, residents and others can be exposed to the very same airborne droplets, particles, vapours and dusts that workers require protection from. Obviously this will include babies’, children, pregnant women, the elderly, those with pre-existing medical problems, chemical sensitivity and other vulnerable groups where the health risks are increased.
- 5.9. **This means that residents and others in the area will also come into direct contact with the pesticide(s) and will be receiving relatively high dose exposures along with lower doses⁴ from the contamination of their surrounding environment. The routes of exposure will include oral, dermal and inhalation, as well as eyes and they will not have protective clothing and equipment to minimise exposure.**
- 5.10. The statement in Paragraph 2 *“The risk assessment also assumes that people are exposed at the same level every day over a period of three months, ie. exposure far in excess of that which those living next door to a farmer’s field would experience in real life situations,”* is factually inaccurate and grossly misleading to both farmers and the public.
- 5.11. The actual facts are as follows. The **maximum daily exposure** that is assumed in the *bystander risk assessment* is for the duration of **5 minutes**. As stated previously in 5.3 this is from the spray cloud at the time of application **only** from a single close pass of a sprayer. It is then assumed that *bystanders* are exposed at this level, (for 5 minutes) each day for a 90 day period.
- 5.12. The *“bystander”* model is not representative of the **long-term exposure** of a resident living in a contaminated area 24 hours a day, every day, where they are subjected to regular spraying applications, with mixtures of pesticides and other hazardous chemicals, for multiple years and in many cases for decades.

5.13. Therefore there is no evidence that this does not pose risks to health for people who actually live near regularly sprayed areas, as without an adequate exposure assessment there cannot possibly be an appropriate or realistic assessment of the risks to public health for this specific exposure scenario. (NB. The recent report from the “*Royal Commission on Environmental Pollution*” entitled “*Chemicals in Products – Safeguarding the Environment and Human Health*,” acknowledged that risk assessments also cannot be accurate without adequate monitoring which I referred to previously in section 1.8).

[Q: Do you feel that the present risk assessment adequately addresses the risks posed by pesticide spraydrift? If not what additional criteria do you believe should be covered?]

5.14. No, definitely not. There are inherent uncertainties within the existing risk assessment processes and as previously stated the current “*bystander risk assessment*” is not realistic or appropriate in relation to the long-term exposure of a resident.

5.15. The scientific assessment of the toxicity of pesticides is also flawed as it is based on creating visible symptoms in laboratory animals, which is unlikely to detect some of the more common adverse health effects experienced by people suffering pesticide related ill-health. In the book “*Gassed*,” by Rob Evans (2000) it states that:- “*Animal experiments can give little quantitative information on damage caused by chemicals.*” Therefore, animal studies of this nature are not accurate or conclusive and yet this is the whole basis for the safety levels of chemicals.

5.16. However, I think the most important factor to highlight here is the complete illogicality of the current regulations.

5.17. Risk assessments are supposed to be carried out to assess how much exposure(s) someone can receive in a specific exposure scenario theoretically without suffering any adverse effects on their health.

5.18. Yet the Government’s own monitoring system, the *Pesticides Incidents Appraisal Panel* confirms cases of poisoning from just **1 single exposure** to spraydrift. (NB. As previously stated in section 1.8 these “confirmed” cases will be related to acute effects only, as to date HSE/PIAP have not “confirmed” any cases of chronic long-term ill-health related to pesticide exposure(s) as they were only really set up to deal with one-off incidents of acute exposure).

5.19. Again this does not tally with the claims made by DEFRA at the launch of this Consultation that there is *no risk* to people in the countryside from crop-spraying and that pesticides are *safe*.

5.20. The safety data sheet for each product shows how hazardous these chemicals are, with warnings like:-

- *Very toxic by inhalation, in contact with skin and swallowed*

- *May be fatal if inhaled*
- ***Do not breathe spray/do not breathe vapour***
- *If swallowed can kill*
- *May cause lung damage if swallowed*
- *Risk of serious damage to eyes*
- *Possible risk of irreversible effects*
- *May cause tingling/numbness in exposed area (paraesthesia)*
- *Wear suitable protective clothing, gloves, eyes/face protection, approved air purifying respirator*
- *Obtain immediate medical attention*

5.21. The Safety Data Sheet for a product is not solely related to an operator, as the advice given is for anyone who is at risk of exposure to the chemicals and who may suffer adverse health effects. The late Professor Dennis Parke, Former Chairman WHO Joint Meeting on Pesticide Residues stated “*Not a single tested pesticide has ever been proven safe.*”

5.22. Another example of the damage caused from just 1 single exposure can be found in the recent court case in Florida, Castillo vs Du Pont, which was decided in favour of the plaintiff. This case involved a woman, who had been walking near her home on a right of way whilst crop-spraying was taking place in a nearby field. She was exposed to the spray just once, at the time of application, at a critical point in pregnancy. The spray contained the fungicide Benlate (active ingredient Benomyl) and she subsequently gave birth to a son suffering microphthalmia.

5.23. There have been a number of other cases, from all around the world, spanning decades, that confirm poisoning from just one single exposure to pesticide(s) and many more are suspected cases. (*NB. See Appendix 2 for a few examples that I have received recently*).

5.24. This demonstrates that people are clearly at risk of suffering adverse health effects following exposure to pesticides, whether it be from just one exposure to a single pesticide or repeated exposures to mixtures of pesticides and other hazardous chemicals. Therefore this is a serious health risk that is completely unacceptable and unnecessary and it highlights the inadequacy of current risk assessment processes. (*See paper presented for the ACP Open Meeting on July 10th 2002 entitled “Why the “bystander risk assessment” does not equate to real-life exposure scenarios” for further information*).

5.25. ***Exposure to residents has to take into account all the following combined criteria***:-

- The accumulation from the total overall exposure of all agricultural pesticide intake from regular crop-spraying applications including the high levels of exposure together with the slightly lower levels contaminating both the indoor and outdoor air and living environment (eg. near field applications and applications on fields 1 or 2 away, sequentially, possibly on the same day, with different chemical mixes, repeatedly throughout the year, every year and for the amount of years exposed, which could be a life-time)

- All routes of exposure combined – oral, dermal and inhalation, as well as eyes, as a total overall exposure load, for each and every time exposure occurs and for the duration of these exposures and the acute and chronic long-term health impacts, taking into account:-
 - o all exposures – particles, droplets, vapours, dusts etc.
 - o no information, protection or precautions taken to reduce exposure
 - o the mixtures of chemicals exposed to in each and every application and the potential increased toxicity of such mixtures (ie. potentiating/synergistic effects etc.)
 - o **contamination of both indoor and outdoor air/living environment** – as pesticides will be in the surrounding air where people are living and breathing for continued exposure, 24 hours a day, every day, as volatilisation can occur days, weeks or even months after an application (*see 5.54/5.55*) – therefore safety data sheet instruction to remove any contaminated person from exposure, to fresh air, is impossible – spraying takes place during hot weather every year with increased likelihood of vapour lift off and drift and also people regularly in their gardens/outside/windows open etc. – washing/garden furniture/outdoor equipment could all be contaminated – pesticides can be transported on shoes, clothes, dust etc. from outdoor applications and then redistributed into indoor air, surfaces and house dust for further prolonged exposure
 - o vulnerable groups including babies, children, pregnant women, the elderly, those with pre-existing medical problems/body burdens and chemical sensitivity (also taking into account any interactions or synergistic effects with medication) and the additional risks associated with each of these specific groups
 - o exposure to mixtures of pesticides and other hazardous chemicals from other sources, including fog, harvesting dust, soil, pollen, water, food residues and precipitation (eg. rain, sleet, snow, hail etc.) and non-agricultural sources including home and garden use, local authority or private pest control, spraying of sports fields, schools, parks, playgrounds, public footpaths, roads, pavements, golf courses, domestic goods etc.

5.26. In Paragraph 3 it states *“The Green Code includes specific advice to users to carry out suitable and sufficient assessments of the risk to health from the use of a pesticide before spraying starts. Users are directed to consider whether anybody might be at risk from exposure, to assess the potential for spraydrift taking into account of the application methods and weather conditions and are advised to give prior notice to occupiers of land or premises nearby. Particular care is advised when spraying near vulnerable groups such as hospitals and schools or where there are public rights of way.”*

5.27. However, DEFRA launched this Consultation stating that there is *no risk* to people in the countryside from crop-spraying and that pesticides are *safe* so therefore why would a farmer/grower or other pesticide user follow any of this advice?

5.28. The claims made by DEFRA throughout this Consultation process have been grossly irresponsible, as they are factually inaccurate, seriously misleading and downright dangerous for both farmers and the public. (*NB. In the US false or misleading claims in relation to pesticides safety are deemed a federal offence*⁵).

[Q: Do you feel that the present advice and guidance in the “Green Code” is adequate? What, if anything, could usefully be added to it?]

5.29. No, definitely not. The *Green Code* is an advisory document for guidance **only** and is not legally enforceable, so a farmer does not have to legally abide by any of the advice given. Voluntary and self-regulatory measures are completely unacceptable in this situation. Therefore the introduction of statutory measures is essential.

5.30. The *Green Code* should have legal status, with amendments as required to incorporate all the necessary changes following the outcome of both Consultations’ and any further input from Stakeholders.

5.31. In paragraph 4 it states that “*The Advisory Committee on Pesticide.....remains of the view that the current techniques for assessing the risks from crop-spraying were robust and sufficient to prevent adverse health effects in nearby residents.*” Unfortunately this is not the case in real-life, as I continue to receive responses daily from people all over the country reporting acute and chronic long-term ill-health effects following exposure(s) to pesticides. Reports of this nature have gone on for decades. (*NB. See Appendix 2 for examples*).

5.32. Paragraph 4 – As previously stated this is not an issue of whether spraying poisonous chemicals around human habitation may be seen as being “*socially unacceptable*,” or about how to reassure the public/provide a further degree of public confidence in the current system. **The current system is completely unacceptable for the protection of public health.**

[Q: The imposition of no-spray buffer zones is not justified solely on scientific grounds. What, if any, public interest justification do you believe there is for introducing them?]

5.33. The actual meaning of this question is unclear, as it is subject to interpretation. If the intended meaning is that there are no scientific grounds to justify the introduction of no-spray zones then yet again this statement is factually inaccurate, seriously misleading and downright dangerous for both farmers and the public. Therefore I completely disagree with this statement for all the reasons set out in this submission. As previously stated there has been over 50 years of documented scientific and medical evidence in relation to pesticides and their damaging effects on human health, including from

Government's very own documentation. *(NB. Some examples of this can be found in Appendix 1).*

- 5.34. Many scientists and medical professionals, both past and present, have warned the Government of the inherent dangers of agricultural spraying from exposure to pesticides for both farmers and the public, but unfortunately the Government has all too often been selective in its' choice of scientific opinion. *(NB. See above, below, Appendix 1, 2, 3 and video to follow for further evidence that fully justifies the need for immediate action by the Government that is very long overdue, based on scientific, ethical and Human Rights' grounds⁶).*
- 5.35. This Consultation Document is completely biased, as it focuses on the potential negative implications for the farming industry and the economics of production if no-spray zones were to be introduced. There is no mention anywhere of the existing impacts and devastating consequences for people living or working near regularly sprayed fields or the benefits and gains that would be realised if these proposals were implemented, as the problems have not been recognised, accepted or admitted in this document. *(NB. See Appendix 2 for extracts taken from a few of the emails/letters that I have been receiving to highlight the acute and chronic ill-health that is being reported by others who also have the direct experience of this situation).*
- 5.36. As previously stated the principle aim of pesticide regulation is supposed to be the protection of public health, therefore this has to be the number one priority and take precedence over any financial, economic or other considerations.
- 5.37. I personally do not believe that pesticides should be dispersed into the air at all, let alone around houses, schools and other occupied premises. If pesticides were not used, then there would be no risk of exposure to anyone. Therefore, the only way to solve this problem is through the widespread adoption of sustainable non-chemical management practices. The move away from chemical dependency can only be encouraged and authorised by Central Government.
- 5.38. With the increase in cancers, ME, asthma's, allergies *(NB. 1 in 3 people now suffer from some form of allergy)* and many other illnesses (especially in young children) then what is in the surrounding environment has to be taken into consideration. These chemicals are extremely dangerous and I think that anyone with common sense can see that regularly spraying poison into the air where people live and breathe is definitely not safe and can be nothing but harmful both in the short and the long-term. In most cases it is not possible to reverse the damage caused, therefore the significance of these consequences requires a precautionary approach.²
- 5.39. If no-spray zones were introduced, of an effective size, then the risks to public health and the environment would be reduced. There would be less costs to the NHS from pesticide related disease, to the economy through lack of earnings, dependence on disability benefits and state aid and from the

recovery of environmental damage from contaminated water supplies/land and soil etc. (*See 6.34, External Costs of Pesticide Use*).

5.40. People who live near regularly sprayed fields might actually be able to use (and even enjoy!) their property without being imprisoned throughout the summer months, shut up in stifling conditions to try and reduce exposure as much as possible to these chemicals. (*See 6.19 and 6.47 for further response to the above question*).

5.41. *Options*

Option 1: To maintain the status quo by continuing to rely on the existing statutory and non-statutory controls

5.42. This is completely unacceptable and I definitely **do not** support this option. (*NB. See above, below, Appendix 1,2 ,3 and video to follow*).

5.43. As previously stated there have not been any direct measurements made for this type of exposure scenario in either the UK or the EU. Therefore there is no evidence to support the claim “*that air levels following spray applications are low.*” The lack of UK data available was recognised and acknowledged in the recent WIGRAMP report that stated “*Data on exposure from sources other than food and water seem to be extremely poor or non-existent.*”

5.44. Yet again Paragraph 7 is misleading. As previously stated in section 1.8 the monitoring system is totally inadequate, as HSE and PIAP were only really set up to deal with one-off incidents of acute exposure. Therefore without any adequate or appropriate monitoring for chronic effects, there is no evidence that the clusters of medical conditions that people are reporting are not related to pesticide exposure(s). (*See 1.8*).

5.45. HSE recently stated in the “Big Issue” (Edition – August 4th 2003) that “*People come to us with symptoms like headaches, nausea and asthma after they’ve been sprayed. But, in the last four and a half years, HSE has been unable to prove that any pesticide incident has been linked to a criminal offence that has caused the ill health of any individual.*” Therefore, the current regulations mean that if pesticides have been used in accordance with the approval, then they have been seen as “acceptably safe” and HSE’s response will be that if there is no evidence of illegal use, then their hands are tied. This again is the fundamental point in relation to the case that has been presented to the Government over the last year. This is not about ill-health occurring through the misuse of pesticides, or illegal use, but about pesticides legally allowed to be sprayed near to people’s homes, schools, workplaces and the inherent health risks and acute and chronic long-term effects. (*See paper presented for the ACP Open Meeting on July 10th 2002 entitled “Why the “bystander risk assessment” does not equate to real-life exposure scenarios” for further comments in relation to this*).

5.46. Also, as highlighted in my submission to the first Consultation, the existing system is totally obstructive, as currently members of the public are not entitled to access the information on the chemicals they are exposed to, nor

can their doctors or other medical advisors. Yet this information is vital for the correct assessment and treatment of anyone who suffers adverse health effects (whether it be acute or chronic) as a doctor cannot possibly make a proper assessment of their patient's health effects unless this information is provided. It is also essential to be able to feed back into the monitoring system otherwise pesticide related ill-health statistics will never have a hope of being accurate or complete.

5.47. The BMA stated in their report referred to above in 1.8 that *“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.”*

5.48. However, considering farmers, rural residents and others are being told that there is *no risk* to people in the countryside from crop-spraying and that pesticides are *safe*, then how can they be expected to know/recognise that any health problems could be pesticide-related? The same applies to doctors and other medical professionals, who only receive a few hours of toxicological training and therefore will not be familiar with the symptoms and adverse effects following exposure, especially when in the absence of the necessary chemical information (see 5.46). The 1992 BMA report states *“it was suggested that many members of the public who are exposed to agro-chemicals do not seek medical attention.”* But according to DEFRA they don't need to!

5.49. Therefore this again demonstrates that the claims made by DEFRA throughout this Consultation process have been grossly irresponsible, as they are factually inaccurate, seriously misleading and downright dangerous for both farmers and the public. (See Appendix 1 for quotes taken from the meeting with Lord Whitty and Michael Meacher on December 17th 2002 in relation to incidents of pesticide related ill-health).

Option 2: To introduce no-spray buffer zones around residential properties in England and Wales

5.50. **I fully support this proposal** (NB. See also comments made in 4.4 – 4.7)

[Q: If no-spray buffer zones are to be introduced what sizes do you believe these should be? Should they all be of a single uniform size or would they need to be of varying size to take into account different application equipment and different crops?]

5.51. As previously stated the Consultation Documents' seem to have centred on the problem of immediate visible spraydrift only and **not** the wider issue of the long-term exposures to pesticides in the air.

5.52. Pesticide particles and droplets cannot be controlled once they have been dispersed into the surrounding air. They are airborne contaminants. When people in the sprayed area breathe in the chemical fumes, they will be inhaling these particles, where the largest particles tend to stay on the surface

of the throat and nasal passages and smaller particles can be inhaled directly into the lungs. Even inhalation of dilute pesticides can result in poisoning. Once they are absorbed through the surfaces of the lungs, chemicals enter the blood stream and are distributed to the rest of the body.⁷

5.53. There are obviously other forms of drift, the most important being vapour drift, where the chemicals which have been applied may volatilise in warm/hot weather and drift away from the target area. Vapour drift cannot be prevented once the chemical is on crops/plants so therefore tracing the source is often impossible. Volatilisation can persist for days, weeks and even months after application. Another form of drift is Blow, where pesticides can be carried off site on windblown soil particles.

5.54. In the Agricultural Research Service's report, "*Action Plan: Component V: Pesticides and Other Synthetic Chemicals*," it states "*Many pesticides are volatile, and even those with low volatility can be transported in the atmosphere as residues bound to dust particles or as aerosols. Both the active ingredient and formulation constituents can become air contaminants. Volatile components and residues bound to dusts may rise high into the atmosphere, travel long distances, and be deposited far from the point of origin through various deposition processes. Raindrops have been shown to have pesticide components...Volatile pesticides are released to the atmosphere during and after application. Large pulses of pesticides may be released from areas of heavy agricultural activity for three to four days after application, causing increased pesticide concentrations in the entire region. Lower concentrations persist throughout the remainder of the year as the pesticide material is cycled within the plant-air-soil-water environment.*"

5.55. A recent report released on August 19th 2003 funded by the US California Department of Pesticide Regulation found the pesticides diazinon and chlorpyrifos in all rainfall samples collected in the Modesto, California area during January and February 2001 storms. Michael Majewski, a USGS scientist and expert in atmospheric deposition who contributed to the study said "*Many pesticides become airborne during the application process and can drift off-site. After they are applied, many pesticides volatilise into the lower atmosphere, a process that can continue for days, weeks, or months after the application, depending on the compound. In addition, pesticides can become airborne attached to wind-blown dust*⁸."

5.56. The lead author of the report USGS scientist Celia Zamora stated "*It is important to recognise that the application of these pesticides affect all parts of the hydrologic cycle. It is during rainfall events that these pesticides get washed out of the atmosphere and produce run-off at surprisingly high levels that exceed the guidelines for protection of aquatic life.*"

5.57. A US report entitled "*Poisoning the Air*" by the CALPRIG Charitable Trust states "*Although only limited air monitoring has been performed, studies in California consistently find pesticides in air, rain and even fog.*" (NB. Appendix 1 contains further references and quotes taken from studies demonstrating the precipitation of pesticides and the continued contamination for residents of both their indoor and outdoor living environment).

- 5.58. Pesticides in the air can travel considerable distances resulting in widespread toxic air pollution. Studies have shown pesticide particles located miles away from where they were originally applied. Recent scientific research from California has calculated risks within a 1.5 to 3 mile radius of pesticide treated areas⁹. The US report entitled “*Poisoning the Air*” by the CALPRIG Charitable Trust states “*Many pesticides commonly used in California have been detected far from the site of application, some as far as 25 to 50 miles and at high elevations in the Sierra Nevada Mountains.*”
- 5.59. Another example that indicates potential vapour drift is in relation to pollen, which has also been shown to travel considerable distances once airborne. One study found that pollen from GM oilseed rape could travel 16.1 miles.
- 5.60. Therefore I presume that the distances suggested in this Consultation Document are based on the drift being immediate visible spraydrift? In terms of the longer-term exposure to pesticides in the air then a small buffer zone is not going to be adequate or in anyway acceptable to protect residents and others from the high level of risk inherent in the spraying of agricultural chemicals or prevent contamination of their land. In a previous PSD paper presented to the Advisory Committee on Pesticides on January 17th 2003 a Californian study had shown high levels of chlorpyrifos associated with an application 300 metres from the sampling station. This highlights the inadequacy of even the greatest distance suggested in this Consultation Document. (NB. See Appendix 1 for sections and quotes taken from a number of studies and reports from around the world in relation to the distances pesticides have been shown to travel and the inherent health risks and effects).
- 5.61. I am aware that the Soil Association’s organic standard requires either a hedge or a 10 metre buffer zone to be left between a sprayed field and an organic one and I know that there are a number of conventional farmers who will probably raise this in their submissions’. Therefore I would like to address this point, as I think it is extremely important.
- 5.62. The distance set by the Soil Association is in relation to immediate spraydrift and the protection of organic crops from any damage resulting from a spraying application on an adjoining or nearby field. It is not in relation to the oral, dermal and inhalation exposures for any residents and others that live or spend time in these sprayed areas and the inherent health risks and acute and chronic long-term ill-health effects from repeated exposures to mixtures of pesticides and other hazardous chemicals.
- 5.63. Incidentally, there have been a number of reports over the years where organic farmers and even other conventional farmers have lost part or all of their crops following contamination from crop-spraying applications¹⁰. In an article in Arable Farming, in March 1982 entitled “*The Vapour Drift Story*,” by Herbert Daybell, it stated that “*Herbicide damage was seen that did not show the normal pattern of spray drift, of severe damage near to the sprayed area thickly tailing off in the crop. For the first time crop damage was seen in larger areas and tailing off gradually. Also hedges appeared to offer no*

screen...vapour drift passed straight through them and into sensitive crops.”

- 5.64. Therefore the introduction of no-spray zones will also benefit and offer greater protection to organic farmers and their crops from any pesticide contamination that could affect their certification and subsequent end products. *(NB. See Appendix 1 for further examples of contamination effects from crop-spraying on other farmers, including cases of damage to livestock).*
- 5.65. Paragraph 9 states *“The introduction of such no-spray zones may also have some environmental benefits. Unsprayed but cultivated buffer zones around houses may help increase biodiversity by allowing a greater range of weeds and invertebrates to survive in the “untreated crop” thereby benefiting birds and other wildlife.”* The heavily reliance on agricultural chemicals for mass production has also had a severe impact on bird populations, wildlife and the wider environment.
- 5.66. In the book entitled *“Agri-Culture”* Professor Jules Pretty writes *“Modern farming has had a severe impact on wildlife in the UK. More than nine-tenths of wildflower-rich meadows have been lost since the 1940s, together with one half of heathland, lowland fens and valley and basin mires and one third to one half of ancient lowland woods and hedgerows. Species diversity is also declining in the farmed habitat itself. Increased use of drainage and fertilisers has led to grass monocultures replacing flower-rich meadows; overgrazing of uplands has reduced species diversity; and herbicides have cut diversity in arable fields. Hedgerows were removed at a rate of 18,000 kilometres a year between the 1980s and 1990s. Farmland birds have particularly suffered, with the populations of nine species falling by more than one half in the 25 years to 1995.”*
- 5.67. Therefore again the introduction of no-spray zones can only benefit the wider environment and provide a diversity of natural wildlife habitats for birds, butterflies and other species, which in turn could encourage predatory insects as one form of non-chemical pest control.
- 5.68. Apart from the damaging effects on people and the environment another example of the widespread impacts of agricultural chemical use is the damage to domestic animals. I have received a number of emails from people reporting both acute and chronic long-term ill-health in dogs, cats and other pets, many of which have resulted in death. This also includes a number of reports of dead frogs and fish following crop-spraying applications. *(NB. See Appendix 2 for examples).*
- 5.69. **Considering how far pesticides have been shown to travel and the high level exposures for residents’ and others living or spending time near regularly sprayed fields from a variety of sources over the longer term, then the size of the no-spray zones would have to be of a considerable distance.** *(See above, below, appendix 1, 2, 3 and video to follow).*
- 5.70. The actual distance to be implemented should be determined by all the people who are actually living directly in this situation, in particular the most

vulnerable residents, who have to avoid any exposure to toxic pesticides in their air and surrounding environment. For example, babies, children, pregnant women, the elderly and those with pre-existing medical conditions (ie. cancer, kidney/liver problems, ME, chemical sensitivity, asthma and other allergies etc. and obviously taking into account any medications which may contribute to synergistic effects) and other high risk groups. *(NB. I definitely do not believe that it is appropriate or acceptable for the distance to be set by the pesticide user, manufacturer or anyone else who benefits financially from the use of pesticides).*

Education

- 5.71. To enable residents and others in the countryside to make informed and knowledgeable decisions in relation to the size of the no-spray zone, they would need to be informed about the *true* dangers and risks that are inherent in the spraying of agricultural chemicals. They would also need to see the full weight of evidence demonstrating how far pesticides have been shown to travel. They would also need to be aware of the routes of exposure (oral, dermal, inhalation, as well as eyes) and from all sources of exposure (both outdoor and indoor air, water, dust, soil and food etc.). They would need all the necessary chemical information including in relation to the increased toxic effects of chemical mixtures.
- 5.72. For the last 2 years I have investigated the history of crop-spraying and the whole regulatory system for pesticides and I have been campaigning on behalf of people who live near regularly sprayed fields, as someone who has 20 years direct experience of living in this situation.
- 5.73. Therefore, as stated at the meeting with Lord Whitty and Michael Meacher on December 17th 2002, based on the evidence that I have seen and presented to the Government, I cannot see any justification for a no spray zone being any less than one mile.**
- 5.74. The no-spray zones should all be of a single uniform size, as this is not solely a problem of immediate visible spraydrift, but the wider issue of pesticides in the air. Therefore regardless of the different application equipment or different crops, pesticide particles and droplets cannot be controlled once they have been dispersed into the surrounding air. They are airborne contaminants. *(See above, below, Appendix 1 and 2).*
- 5.75. Also, if mandatory no-spray zones were introduced of varying sizes it would be too complicated and completely unworkable for all parties. This would confuse farmers, residents and others in the countryside and would be uncontrollable, as the HSE would have serious problems with enforcement (even more so than they do already!) if the no-spray zones were forever changing sizes!
- 5.76. As stated previously, I do not agree with the assertion that *“significant losses of “cropping” land would result from the imposition of such buffer zones.”* This is completely biased, as again it focuses on the potential negative implications for the farming industry and the economics of production if no-

spray zones were to be introduced. This ignores any positive aspects, as just because the land isn't sprayed, it doesn't mean it cannot be farmed. Or is this an indication of just how dependent the conventional farming industry has become on chemical inputs? The land in the no-spray zones could still be farmed using sustainable non-chemical management practices. (*See below, Key Points and Recommendations*).

5.77. The January 2002 report by the Policy Commission on the Future of Farming and Food highlighted the serious problems with the modern intensive farming system. In the Summary of Recommendations it states “*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... 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.*”¹¹”

5.78. There are other countries that have had no choice but to cease reliance on pesticides for food production and not only have they been able to continue farming, but the alternative methods adopted have actually resulted in an increase in yields, whilst cutting overall costs of production. (*Eg. Cuba’s agricultural system. See Appendix 1 for this and other examples*).

[Q: In view of the potential losses of cropping land do you feel, in the absence any confirmatory scientific information, such losses are warranted? For example would the environmental benefits gained from no-spray zones mitigate in some way for the “loss” of cropping land?]

5.79. As previously stated I do not believe that the land would necessarily be lost to cultivation and I definitely do not agree that there is an absence of any confirmatory scientific information. There is no evidence to support this view, but a considerable amount of evidence (including from Government’s very own documentation) that shows that there is a high level of risk inherent in the spraying of agricultural chemicals. (*See above, below, appendix 1, 2, 3 and video to follow*).

5.80. Therefore again, these continued claims are not only factually inaccurate and seriously misleading to both farmers and the public, but are obviously downright dangerous and I definitely do not believe, based on the evidence that these claims would stand up in a court of law.

5.81. I continue to receive responses daily from people all over the country reporting acute and chronic long-term ill-health effects following exposure(s) to pesticides. Reports of this nature have gone on for decades. There are an increasing number of people who have had their health and lives destroyed due to pesticide related disease and there is no responsibility, accountability or liability being taken by anyone, as everybody just blames everybody else. This is completely unacceptable and cannot continue.

5.82. Manufacturers are producing products that can harm people and the Government is licensing and approving products that can harm people, so

when that harm does occur, then responsibility has to be taken. The Government, its' agencies and scientific advisors have a duty to protect public health and this is not happening with the existing Government Policy on pesticides.

5.83. Therefore the overriding benefits that would be gained from the introduction of no-spray zones would be for the people who live next to regularly sprayed areas. Residents and other members of the public should never have had their lives put at risk, restricted or affected in anyway by someone else's hazardous activity. (See 6.34, External Costs of Pesticide Use).

[Q: What are your thoughts on the estimated areas given in the above table. Do you have any data/information yourself that either confirms the above or arrives at different values?]

5.84. The only comment I have here is to reiterate that the land in the no-spray zones does not have to be taken out of agricultural production, as there are a number of alternative uses, including non-chemical and natural farming methods. (See below, Key Points and Recommendations).

6. Partial Regulatory Impact Assessment

6.1. Purpose and intended effect of measure

6.2. In answer to paragraphs 2 and 3, as above.

[Q: Are the figures of 5 million and a quarter of a million above accurate?]

[Comment: The above question in no way implies any criticism of the figures produced by PAN UK. Rather we are trying to establish if other estimates of those potentially affected by spray drift are available]

6.3. The UK has an estimated population of 58,789,194. The estimated population of Wales is 2,903,085. There is approx. 18.39 million hectares of agricultural land in the UK where a vast amount will be regularly sprayed, with people living all around these fields. As previously stated pesticides have been shown to travel considerable distances and recent scientific research from California has calculated risks within a 1.5 to 3 mile radius of pesticide treated areas. This means that if you take into account all the people that live within a 3 mile radius of sprayed fields and who are potentially at risk then the figure is likely to be far higher than the estimated figures given above.

6.4. Of course this does not take into account other people in the countryside that either work or spend time in close proximity to sprayed areas that could also potentially be at risk. This includes visitors, ramblers, motorists, cyclists, horseriders and others who may not live within a 3 mile radius, but spend a considerable amount of time either in or passing through the countryside. There are approximately 7 million people that visit the countryside every weekend¹² and every year, day visitors and tourists spend 700 million days in

the British countryside.¹³ (NB. *There will also be a number of people who may have moved out of a rural area after years of habitation and who may suffer long-term chronic illness related to pesticide exposure(s), but again they will not be accounted for in any official statistics*).

6.5. Therefore I believe that the above figures are grossly underestimated not just in terms of the total population of people living in rural areas, but mainly in relation to the total number of people who are potentially at risk from the spraying of agricultural chemicals.

6.6. ***Options (and Risks)***

Option 1: Do Nothing

6.7. In paragraph 6 it states “*Although scientific opinion is that the current risk assessment for bystanders is satisfactory, Ministers could be accused of ignoring the concerns of those who believe they may have been affected and those who consider spraying immediately adjacent to their properties to be socially unacceptable.*”

6.8. I have to say I cannot think of anyone who has contacted me who actually thinks that this problem is one of social unacceptability, as this is not a social issue. This situation is completely unacceptable for the protection of public health and were this phrase to be applied to chemical warfare or chemical terrorism it would be regarded both ludicrous and insulting. Not to mention in that situation if the same level of poisonous chemicals were released to expose innocent members of the public who were uninformed and unprotected then it would obviously be deemed a criminal offence and would certainly not be classified as “*acceptable*” by the UK Government¹⁴. (See 5.20 and Appendix 1, reference 14 for similarities between the safety data sheets for pesticides and recent warnings of the effects from a chemical terrorist attack).

6.9. Therefore if Ministers fail to take any decisive action on this issue then the only thing they will be accused of is continuing to ignore the evidence of the health risks of pesticides and the increasing number of people suffering acute and chronic long-term ill-health following exposure(s). (See Appendix 1, 2 and video to follow).

Option 2: Farmers and growers to operate a no-spray buffer zone between the edge of spraying and surrounding houses

6.10. In Paragraph 7 it states “*The risk with imposing a no-spray buffer zone is that land will be “lost” to cultivation with no scientific case to back this up. As a result although there could be social benefits it is unlikely that there would be any safety gains involved.*”

6.11. See 5.79 – 5.83 for response to 6.10

6.12.Paragraph 7 continues “*Additionally if farmers were to withdraw areas from cropping there could be adverse or at least unexpected effects on landscape as well as economic consequences.*”

6.13.I think it is important to highlight that under current EC legislation there is a compulsory set-aside requirement that was established to reduce the amount of agricultural land in arable production. Therefore land is already being taken out of production and set-aside as a matter of Policy. However, as previously stated I do not believe that the land in the no-spray zones would necessarily have to be withdrawn from cropping and again this focuses on the potential negative implications for the farming industry and the economics of production and ignores the potential benefits.

6.14.Paragraph 7 then states “*It is possible however that such a proposal could make some enterprises unsustainable..*” Yet according to the Policy Commission on the Future of Farming and Food, the farming and food industry today is already unsustainable.

[Q: If no-spray buffer zones are to be introduced what sizes do you believe these should be? Should they all be of a single uniform size or would they need to be of varying size to take into account different application equipment and different crops?]

6.15.See 5.51 – 5.75 for response to above question.

6.16.Benefits

Option 1: Do Nothing

6.17.Maintaining the status quo and allowing this situation to continue is completely unacceptable and it cannot possibly be justified on any grounds. (See above, below, appendix 1, 2, 3 and video to follow).

Option 2: Farmers and growers to operate a no-spray buffer zone between the edge of spraying and surrounding houses

6.18.Paragraph 9 – Yet again the claim that no-spray buffer zones are unlikely to involve any safety gains is factually inaccurate, seriously misleading and downright dangerous for both farmers and the public. (See above, below, appendix 1, 2, 3 and video to follow).

[Q: Are there any other direct or indirect benefits you think may accrue as a result of no-spray zones being introduced?]

6.19.Depending on the size, if no-spray zones are introduced it could result in the following:-

- A reduction in the risks to public health, especially for people who live, work or spend time near sprayed fields

- Residents would live in a less polluted environment (both outdoor and indoor air) and they would hopefully, at last, be able to have the full use, enjoyment and freedom of their own property and land without being subjected to high level repeated exposures to mixtures of poisonous chemicals whilst uninformed and unprotected
- Ramblers, motorists, horseriders, dog walkers, children playing and other recreational uses of the countryside would also have the same freedoms without being subjected to exposure(s) to mixtures of poisonous chemicals whilst uninformed and unprotected
- This would return to all a basic human right of which we have long been deprived
- Less consequent effects on the economy from pesticide related ill-health through lack of earnings, dependence on disability benefits and state aid, costly medical care along with the recovery of environmental damage from contaminated water supplies/land and soil etc. *(NB. The first part of the above statement regarding pesticide related ill-health obviously does not apply to those already damaged/ill only those at risk of suffering acute or chronic adverse health effects from pesticide exposure(s)).*
- Domestic animals and other pets would also have reduced exposure and risk
- Benefits to the wider environment including: providing a diversity of natural wildlife habitats for birds, butterflies and other species, which in turn could encourage predatory insects as one form of non-chemical pest control
- Benefits to other species like frogs, fish, bees' etc.
- Greater protection to organic/livestock and other farmers/growers from any pesticide contamination that could affect their crop/stock, income and certification
- An opportunity to deliver a more healthy, productive and profitable farming industry, with the development and use of sustainable non-chemical and natural farming methods. This in turn would result in achieving the societal and consumer demands for pesticide-free food
- Reduction in pesticide use and overall costs of production for farmers/growers and other pesticide users
- Overall benefits to people and the countryside

6.20. **I would like to ask if no-spray zones would also be considered for chemical fertilisers and liming, as hazardous operations in their own right?*

6.21. *Business sectors affected*

[Q: Are you aware of any areas of the country that are likely to be disproportionately affected were no-spray buffer zones to be introduced?]

6.22.I would like to turn this question round to highlight the disproportionate effects of the current pesticide policy on residents and others living, working or spending time near regularly sprayed fields. As previously stated vulnerable groups include babies, children, pregnant women, the elderly, those with pre-existing medical problems/body burdens and chemical sensitivity as there are additional risks associated with each of these specific groups.

6.23.In the US report by the NRDC entitled *“Trouble on the Farm – Growing Up with Pesticides in Agricultural Communities – Toxic Chemicals and Health: Kid’s Health,”* it states *“Children living on or near farms in the United States are exposed to disproportionately high amounts of dangerous pesticides, putting them at serious risk for adverse health effects...Among infants, only a small dose is required to have potentially devastating health consequences.”*¹⁵

6.24.The report goes on to make the following points concerning children and pesticide exposure:-

- *“All children are disproportionately exposed to pesticides compared with adults due to their greater intake of food, water and air per unit of body weight, their greater activity levels, narrower dietary choices, crawling and hand-to-mouth behaviour*
- *Foetuses, infants and children are particularly susceptible to pesticides compared with adults because their bodies cannot efficiently detoxify and eliminate chemicals, their organs are still growing and developing and because they have a longer lifetime to develop health complications after an exposure*
- *Children living in farming areas or whose parents work in agriculture are exposed to pesticides to a greater degree and from more sources than other children”*

6.25.I would also like to add the following 3 points to the above:-

- Children are extremely vulnerable to classes of synthetic pesticide poisons that mimic naturally occurring hormones or enzymes
- Developing cells are more easily damaged than cells that have completed development. During the rapid growth period of childhood, cells divide very quickly, making it more likely that a cellular mutation will be reproduced, thus initiating cancer
- Children will probably not understand the dangers and will definitely not have given informed consent to have their health put at risk

6.26. **The NRDC report goes on to say “Children, like canaries, have greater susceptibility to the health effects than do adults. Yet in this case we cannot afford to wait and see if science proves conclusively that illnesses among these children are due to pesticides -- particularly since many of the expected health effects occur years or even decades after the exposures.”**

6.27. Another one of the most vulnerable groups that I would like to highlight here that are also disproportionately affected from exposure to pesticides and other hazardous chemicals are those suffering MCS (Multiple Chemical Sensitivity). MCS can develop following acute exposure(s) or repeated lower dose exposures to certain chemicals. In the majority of cases that I know of, where people have experienced the effects of pesticide poisoning and subsequent ill-health, which has resulted in the development of MCS, then a small amount of any synthetic chemical, especially other pesticide formulations, have a direct effect on the body. (NB. Even before any potentiating or synergistic interaction of the chemical mixture).

6.28. In the recent WIGRAMP report it is stated that “Hypersensitivity reactions can be a problem with repeated exposure to sensitising chemicals.” Therefore this increased risk has to be taken into account, as residents and others suffering MCS will be particularly susceptible to any pesticide exposure and the same applies to any other vulnerable group where the risks are also increased.

6.29. I found the above question yet again portrayed a bias, as nowhere in this Consultation Document have the existing impacts and devastating consequences for people who live near sprayed fields been mentioned, recognised or accepted and therefore I felt this needed to be addressed.

6.30. *Issues of equity and fairness*

6.31. In regard to paragraph 12 whilst I cannot comment from a farming business perspective, I would like to ask if it is fair under the current system to expose residents and others to mixtures of poisonous chemicals whether it be sprayed several times a week or twice a year? The answer is no, as the current system is completely unacceptable for protection of public health.

6.32. **Costs**

6.33. *Compliance costs*

Option 2

6.34. As previously stated I do not believe that the land in the no-spray zones would necessarily have to be lost to cultivation. Therefore paragraph 14 again portrays a bias, as it focuses on the potential costs/negative implications for the farming industry and the economics of production and ignores the potential benefits. It also does not address the substantial health and environmental costs that already exist from the use of chemicals in agriculture, such as damage to human health (both acute and chronic) contamination of air, water, soil, biodiversity etc.

[Q: Are you able to provide any cost estimates of the likely impact on growers of the introduction of no-spray zones? General or sector specific figures would both be helpful.]

6.35. Again I would like to turn this question round and provide some cost estimates/statistics of the impact on human health and the environment that already exist from the use of pesticides and other hazardous chemicals in UK agriculture/horticulture and other sectors. The cost/benefit analysis of pesticides currently undertaken is incomplete and therefore invalid, as the **full** external costs of pesticide use have never been calculated anywhere. There are serious consequent effects on the economy from pesticide related ill-health through lack of earnings, dependence on disability benefits and state aid, costly medical care along with the recovery of environmental damage from contaminated water supplies/land and soil etc.

6.36. *External Costs of UK Agriculture*

6.37. In the book “*Agri-Culture, Reconnecting People, Land and Nature,*” Professor Jules Pretty states “*At the University of Essex, we recently developed a new framework to study the negative externalities of UK agriculture. This framework uses seven cost categories to assess negative environmental and health costs, such as damage to water, air, soil and biodiversity and damage to human health by pesticides, micro-organisms and disease agents. The analysis of damage and monitoring costs counted only external costs; private costs borne by farmers themselves, such as increased pest or weed resistance from pesticide overuse, were not included. We conservatively estimated that the external costs of UK agriculture, almost all of which is modernized and industrialized, were at least UK£1.5 billion to UK£2 billion each year. Another study by Olivia Hartridge and David Pearce has also put the annual costs of modern agriculture in excess of UK £1 billion. These are costs imposed on the rest of society and are, effectively, a hidden subsidy to the polluters. The annual costs arise from damage to the atmosphere (UK £316 million), to water (UK £231 million), to biodiversity and landscapes (UK £126 million), to soils (UK £96 million) and to human health (UK £777 million). Using a similar framework of analysis, the external costs in the US amount to nearly UK £13 billion per year.....These external costs of UK agriculture are alarming. They should call into question what we mean by efficiency. Farming receives UK £3 billion of public subsidies each year, yet causes another UK £1.5 billion of costs elsewhere in the economy. If we had no alternatives, then we would have to accept these costs. But in every case, there are choices. Pesticides do not have to get into watercourses. **Indeed, they do not need to be used at all in many farm systems. The pesticide market in the UK is UK £500 million; yet, we pay UK £120 million just to clean them out of drinking water.....it is clear that many of these massive distortions could be removed with some clear thinking, firm policies and brave action by farmers.***”

6.38. However, Jules Pretty recognised that it was impossible to calculate various external costs relating solely to pesticides use, especially regarding pesticide related ill-health. He states “*Pesticides can affect workers engaged in their manufacture, transport and disposal; operators who apply them in the field;*

and the general public. Estimates for the external health costs of pesticides are almost certainly considerable underestimates, owing to differing risks per product, poor understanding of chronic effects (eg. Cancer causation), weak monitoring systems and misdiagnoses by doctors.” (Repetto and Baliga, 1996; Pearce and Tinch, 1998; HSE, 1998a, b; Pretty, 1998).

6.39. I have to stress that in relation to the damage to health I believe the **full** costs are incalculable, not just in financial terms, but primarily in human terms.

6.40. Therefore the following cost estimates are just to give an example of some of the costs that are already accounted for, as well as other costs and statistics that could be attributed to the use of pesticides. I will also highlight other personal and human costs that cannot be calculated in financial terms.

6.41. *External Costs of Pesticide Use – (estimated UK costs where known)*

6.42. *Health*

6.43. There were 31,129 tonnes of pesticides used in agricultural and horticultural in 2002. (Pesticide Usage Survey Group, pers comm Miles Thomas and Georgina Downs, 30th October 2003).

6.44. As previously stated with the increase in cancers, ME, asthma's, allergies (*NB. 1 in 3 people now suffer from some form of allergy*) and many other illnesses (especially in young children) then what is in the surrounding environment has to be taken into consideration.

6.45. I continue to receive responses daily from people all over the country reporting acute and chronic long-term ill-health effects following exposure(s) to pesticides. The most common illnesses that are being reported are clusters of various cancers (especially breast cancer among rural women) leukaemia, asthma, and ME, along with many other medical conditions. (*NB. See Appendix 2 for extracts taken from a few of the emails/letters that I have been receiving to highlight the acute and chronic ill-health that is being reported by others who also have the direct experience of this situation*).

6.46. It is not possible to express in financial terms the devastating impact that ill-health has on a person, their family, their friends and all those around them. Many people have had their health and lives destroyed due to chemical poisoning following exposure(s) to pesticides with no one accepting any responsibility or being held accountable or liable for the damage caused.

6.47. Residents have to spend every summer during the spraying season imprisoned in their own homes, usually in unbearable heat to try and reduce exposure as much as possible to these chemicals. They are unable to use their garden or even to open a window on some of the hottest days of the year. Unfortunately, considering most residents do not have any prior warning that spraying is to take place, then they are not always able to close all windows in time before a spraying application and take the necessary precautions to try and protect themselves and any other members of their family. This is inhumane, as residents and other members of the public should not be put at

risk, restricted or affected in anyway by someone else's hazardous activity. **Therefore the personal and human costs of this situation are incalculable.** (NB. See Appendix 2 for extracts taken from a few of the emails/letters that I have been receiving to highlight the acute and chronic ill-health that is being reported by others who also have the direct experience of this situation).

6.48. However, I would like to highlight the economic costs of just a few of the illnesses/diseases stated in 6.44 and 6.45 that have been reported in rural communities all over the country and are conditions that have been strongly associated with exposure to pesticides in many scientific studies. (See above, below, Appendix 1, 2, 3 and video to follow). Just to reiterate there are many other medical conditions that have also been linked to pesticides and other chemical pollutants in the environment, but they are not included here.

6.49. **Important note: There are obviously a number of different causes for the following illnesses (cancer, ME, asthma/allergies) however, as estimated in the 2002 World Health Organisation: European Health report, 25 to 33 per cent of the total burden of disease in industrialised countries can be attributed to environmental factors. Therefore a considerable percentage of the following costs can be attributed to environmental causes, with pesticides as a major factor.**

6.50. Cancer

6.51. Many pesticides are carcinogenic.

6.52. In the report entitled "Second-hand Pesticides" by Californians for Pesticide Reform it states "Cancer in adults – For adults living in a crop production area where pesticides are used increases the risk of non-Hodgkin lymphoma, leukaemia, brain cancer, nasal cancer, ovarian cancer, pancreatic cancer, rectal cancer in males, soft tissue sarcoma, stomach cancer and thyroid cancer in males."

6.53. The report "What's Your Poison" by the Environmental Justice Foundation also lists the following cancers as ones that have all been linked with pesticide exposure:- Brain, Breast, Liver, Stomach, Bladder, Kidney, Skin, Prostrate, Rectal, Pancreatic, Lung, Ovarian, Testicular, Soft tissue sarcomas, Multiple myeloma, Leukaemia and Non-Hodkin's lymphoma.

UK Cancer Statistics

Total Costs to the UK – £2 billion per year in terms of NHS expenditure alone

- Cancer is the cause of a quarter (26 per cent) of all deaths in the UK
- Deaths from cancer outnumber deaths from heart disease
- In 2001, there were 154,460 deaths from cancer
- Breast and lung are the most common cancers
- Breast cancer is by far the most common cancer in women and accounts for 30% of all new cases
- Lung cancer, with its low survival rates is the biggest cancer killer in the UK
- On average 94 people die every day from lung cancer in the UK

- Over one fifth (22 per cent) of all cancer deaths were from lung cancer, and a quarter (24 per cent) from cancers of the large bowel, breast and prostate
- Overall, a third of all cancer deaths are linked to smoking
- Cancers cause an even greater proportion of deaths in those under the age of 65, when more than one in three (36 per cent) deaths are caused by cancer. When the sexes are separated, this proportion is even greater for women, with 45 per cent of deaths caused by cancer. In men under 65, cancer is responsible for approximately 30 per cent of deaths
- Leukaemia is the most common cancer in children representing a third of all cases

(NB. It states that a third of all cancer deaths are linked to smoking, which means that two thirds have no confirmed (or investigated?) cause).

6.54. ME (Myalgic Encephalomyelitis)

6.55. Pesticides are neurotoxic and immunotoxic.

6.56. In the “*European Environment and Health Strategy*” (the “SCALE” initiative) it states “*Pesticides are possibly related to immunological effects, endocrine-disrupting effects, neurotoxic disorders and cancer.*”

UK ME Statistics

Total Costs to the UK – £3.5 billion a year

- ME generates huge costs in treatments, lost income and benefit payments
- There are approx. 240,000 people in Britain estimated to have the illness
- ME is estimated to cost Britain around £15,000 a year per sufferer

6.57. Asthma

6.58. Pesticides cause respiratory illness/damage and sensitising effects

6.59. In the article “*Asthma costs UK industry billions,*” The Trades Union Congress (TUC) stated that “*More than 150,000 people in the UK suffer from asthma symptoms believed to be work-related, according to HSE statistics. Recent research suggests that a third of all adult-onset asthma results from occupational exposure to asthma-causing substances.*”

UK Asthma Statistics

Total Costs to the UK – £850 million per year in terms of NHS costs alone

- On average, 1,500 people die from asthma each year in the UK. This equates to four people per day, or one person every six hours
- There are 18,000 first or new episodes of asthma presented each week to GPs in the UK
- Respiratory disease now kills more people than coronary heart disease – that's one in four people in the UK
- Respiratory disease is the most common illness responsible for an emergency admission to hospital
- We estimate 255,000 people in the UK are living with asthma that can not be controlled by inhalers or stronger medicine. This represents up to 5% of people with asthma
- We estimate caring for patients who experience an asthma attack costs more than **3.5 times** than for those who do not
- Asthma now costs the NHS an average of **£850 million per year**

- At a local level, the annual cost of managing asthma for an average sized primary care organisation has been estimated at **£4 million**
- The estimated annual cost of treating a child with asthma (**£181**) is higher than the cost per adult with asthma (**£162**)
- The annual cost of hospital treatment for asthma per child under 5 years of age is almost six times greater (**£198**) than for a child aged 5–15 years (**£34**)
- Over 18 million working days are lost to asthma each year
- 1.2 million people with asthma experience significant restrictions on their daily lives because of asthma
- For 42% of people with asthma (2.1 million) their condition requires constant or repeated attention and their daily life is affected by a range of symptoms
- Every 16 minutes a child is admitted to hospital in England, Scotland or Wales because of their asthma
- One in eight children has asthma and this figure has increased six-fold in the last 25 years
- A primary care organisation of 100,000 people could expect each year on average almost 4,000 children to be diagnosed with asthma and around 60 emergency admissions for childhood asthma

Other allergies and intolerances UK statistics

Total Costs to the UK – ???

- 1 in 3 people in the UK now suffer from some form of allergy
- 18 million in total and 3 million of these have a potentially life threatening severe allergy
- The leading medical charity for people with allergies estimates that up to 40 per cent of the UK population could suffer from food intolerances.
- Food intolerances can contribute to a wide range of conditions including asthma, eczema, rashes and behavioural problems.
- One in eight children in the UK currently suffers from asthma and up to one in five school children are affected by eczema

6.60.(NB. *It should be remembered that chemical sensitivities unlike allergies are not recognised in the UK, even though MCS is recognised by the World Health Organisation and in other countries. Therefore no recorded costs are available).*

6.61.The above figures of course only represent the basic estimate of costs for these conditions, as it does not include the individual costs borne by members of the public or the total costs to the economy.

6.62.*For example individual costs resulting from the health and environmental damage of pesticides to people and their property will include the following:-*

- Cost of private medical care, as the majority of people suffering pesticide related ill-health do not receive any recognition or assistance of their condition from the NHS
- Legal costs – There is virtually no legal redress for damaged individuals. The costs of mounting a claim for compensation are huge and the chances of success are almost non-existent in view of the problems of proving causation. In the small number of successful cases the awards have been pitiful and seriously inadequate for the damaged individual's future needs
- Insurance costs
- Expenses paid out for equipment to try and reduce exposure to indoor and outdoor contamination – eg. Air purifiers, fans, goggles, masks, respirators and their filters etc. and cleaning up of contaminated property after spraying eg. Garden furniture, clothes etc.

- Expenses paid out when residents and others have to vacate the area eg. Hotel bills and expense of having to stay away for days and sometimes weeks at a time depending on the spraying schedule
- Residents forced to sell up and move and devaluation of property. (NB. In New Zealand the Government have paid for people to be moved out of urban spraying areas permanently and for many other residents to be evacuated and relocated during and after a spraying application. Therefore if the proposals in this Consultation are not adopted I wonder if the UK Government would be willing to do the same here?)

6.63. *Other costs to the economy*

- Serious consequent effects on the economy from pesticide related ill-health through lack of earnings and unemployment, dependence on disability benefits and state aid

6.64. *Environmental*

6.65. 89% of pesticides (some 22.5 million kg) are applied in farming (*External Costs of UK Agriculture, Jules Pretty, 1996*).

6.66. *Water*

Total Costs to the UK – £231 million is the estimated cost arising from damage to water from UK agriculture (*External Costs of UK Agriculture, Jules Pretty, 1996*) of which a considerable percentage is attributed to pesticides

- The cost of removing agricultural pesticides from drinking water (alone) is over £120 million per year
- It costs approx. £4.75 million to monitor pesticides at 2500 surface and groundwater sites

6.67. *Atmosphere*

Total Costs to the UK – £316 million is the estimated costs arising from damage to the atmosphere from UK agriculture (*External Costs of UK Agriculture, Jules Pretty, 1996*) of which a considerable percentage would be attributable to pesticides

6.68. *Biodiversity and landscapes*

6.69. An article in The Observer Magazine on 27th June 1999 stated that “*In the past 50 years, half of Britain’s woodlands and enough of its hedgerow to stretch four times round the world have been destroyed. It is still disappearing at a rate of 10,000 miles per year...The number of acres of hay and wildflower meadows has declined by 95 per cent since 1945.*”

Total Costs to the UK – £126 million is the estimated costs arising from damage to biodiversity and landscapes from UK agriculture (*External Costs of UK Agriculture, Jules Pretty, 1996*) of which a considerable percentage would be attributable to pesticides

6.70. *Soil*

Total Costs to the UK – £96 million is the estimated costs arising from damage to soils from UK agriculture (*External Costs of UK Agriculture, Jules*

Pretty, 1996) of which a considerable percentage would be attributable to pesticides

6.71. *Food*

Total Costs to the UK – ???

- The Pesticides Residues Committee spend approx. **£2 million** a year to check for pesticides residues in food
- The costs are **£5.4 million** for pesticide monitoring in both food and livestock
- The Government does not have any data available on residue monitoring carried out by supermarkets and food processors themselves. However, I asked 2 leading supermarkets for estimates on what they spend to check for pesticides residues. The first one spends **£56,000** per year and the second **£85,000** per year.
- There will also be costs of other residue testing undertaken by suppliers/growers (*NB. It should be noted that any testing for pesticide residues in food will only cover a small quantity of the overall produce sold at any time*)

6.72. The above figures of course do not include the individual costs borne by members of the public and farmers as a result of pesticide use and damage.

6.73. *For example other costs will include the following:-*

- Costs to organic farmers, other farmers and growers from crop/plant damage following spraying contamination and any subsequent legal costs to gain compensation
- High costs to farmers/growers and other pesticide users buying and using expensive chemicals and the related costs of intensive farming production
- Damage to domestic animals and other pets
- Loss of wildlife eg. birds, species and habitats
- Damage and loss of bees and bee colonies

6.74. There will be other costs that are not accounted for above, as this was just to give an example of some of the estimated costs and other statistics.

6.75. It is not known what proportion of the total costs could be attributable to pesticides, however, even if it was just a small percentage, the cost to the economy and society, as whole, would be substantial and run into billions. I personally believe that the percentage is relatively high. **I must stress again though that the personal and human costs cannot be calculated in financial terms.**

6.76. At present members of the public subsidise intensive farming at a cost of approx. £3 billion per year (*External Costs of UK Agriculture, Jules Pretty, 1996*). However, the taxpayer then has to pay again in both financial and human terms for the damage caused to their health and the wider environment. This is completely unacceptable and cannot continue.

6.77. *Costs for a typical business*

6.78. In the study “*Reducing food poverty by increasing agricultural sustainability in developing countries*” Professor Jules Pretty states “*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.”

6.79. Therefore in relation to the comments made in paragraph 16, I do not believe it is correct to say that *“Any additional costs arising from this proposal will fall directly on growers.”* The move away from chemical dependency to the development of sustainable non-chemical and natural farming methods can only be encouraged and authorised by Central Government. This will mean providing financial support, as well as having the political will to change.

6.80. Lord Whitty has recently stated that *“Reducing reliance on pesticides is a priority, and we want to find alternative, more environment-friendly pest controls for farmers and growers.”*

6.81. ****The Government should provide financial assistance where needed for the implementation of the proposals set out in this Consultation Document, as until now public money has subsidised the wrong and very damaging approach from which we are all suffering.***

6.82. Consultation with small business

[Comment: We would welcome any information from small businesses on how they would be affected were no-spray buffer zones to be introduced]

6.83. Whilst I cannot comment from a farming business perspective, please see above, below, appendix 1, 2, 3 and video to follow to see how residents and others in the countryside will continue to be affected if no-spray zones are not introduced.

6.84. Competition assessment

[Q: What do you believe the competitive effect on UK growers would be compared to their EU counterparts were no-spray buffer zones to be introduced?]

6.85. I have raised this issue in the European Parliament, both independently and through my MEP, Dr. Caroline Lucas, as it needs to be addressed on a Europe-wide basis. (NB. *This problem is not only confined to the UK and EU, but is prevalent on a much wider scale globally – See Appendix 1*). The only responsible course of action for the EU and the UK Government to take is an immediate ban on crop-spraying and the use of pesticides near to homes, schools, workplaces and any other places of human habitation. (This has been referred to in the recent EU report *“Towards a Thematic Strategy on the Sustainable Use of Pesticides,”* which called on the European Commission, before the end of 2003, to *“propose a ban on the use of pesticides.....in schools, playgrounds and parks in order to protect children and in areas close to inhabited zones.”*)

6.86. Enforcement and sanctions

6.87. With the introduction of any new legislation there has to be a vast improvement in relation to the current system for enforcement. The new mandatory measures should be enforceable by the Health and Safety Executive, the local council's Environmental Health Department, as well as the police.

7. Conclusion

7.1. The current crisis in farming has deepened over the last few years and as recognised by the Policy Commission on the Future of Farming and Food this is not serving anyone well. The origins of traditional farming methods did not include reliance on chemical inputs for mass production. The use of pesticides and other hazardous chemicals has resulted in devastating consequences for public health, animals, wildlife, air, water, soil, food and the wider environment. (*See above, appendix 1, 2, 3 and video to follow*). This has massive economic and financial implications for all parties (with the exception of the pesticide industry) that are impossible to quantify. This means that the cost/benefit analysis of pesticides is incomplete and therefore invalid, as the **full** external costs of pesticide use have never been calculated. (*NB. In relation to the damage to human health I believe the costs are incalculable*).

7.2. The US report entitled "*Pesticide Registration No Guarantee of Safety*," by Caroline Cox, states that "*The failures of the regulatory process result from many causes, but most important is probably the basic assumption on which registration is based: the requirement that regulation of pesticide use must take "into account the economic, social and environmental costs and benefits"...There is no satisfactory way, for example, that any government agency can weigh the costs of two million dead birds or 100 children born with birth defects, against the profit margins of chemical manufacturing companies...The only true resolution to this problem will come when the money now being spent to register and regulate pesticides is spent to develop and implement alternatives to their use.*"

7.3. It is now up to the UK Government and the EU to take decisive action on this issue and to combine the urgent need to protect public health and the countryside with societal and consumer demand for pesticide-free food. The move away from chemical dependency and the strong ties with the agro-chemical industry to the development of sustainable non-chemical and natural farming methods can only be encouraged and authorised by Central Government. The proposal to introduce no-spray zones should be seen as an opportunity to provide a more healthy, productive and profitable farming industry, one that the current conventional farming system cannot deliver, rather than looking at it with a negative bias. As previously stated there are other countries that have had no choice but to cease reliance on pesticides for food production and not only have they been able to continue farming, but the alternative methods adopted have actually resulted in an increase in yields, whilst cutting overall costs of production. (*Eg. Cuba's agricultural system. See Appendix 1 for this and other examples*).

8. Key Points and Recommendations

8.1. Proposal: To introduce no-spray buffer zones around residential properties in England and Wales

- The introduction of mandatory no-spray zones within a certain distance of homes, schools, workplaces and any other places of human habitation are essential and an urgent priority
- The mandatory no-spray zones, would have to be of a considerable distance to be effective, as a small buffer zone is not going to be adequate or in anyway acceptable to protect people from the high level of risk inherent in the spraying of agricultural chemicals. I cannot see any justification for it being any less than 1 mile
- This could also be far more advantageous for farmers, as a small buffer zone will have little, if any, productive use, whereas a much larger area could still be farmed using sustainable non-chemical management practices
- A number of alternative uses of the land could be combined together. For example, there is a certain percentage of an arable farmer's land set-aside from food crop production. Therefore one suggestion would be to move set-aside into the areas immediately surrounding residential properties and then the rest of the land in the mandatory no-spray zones could still be farmed using sustainable non-chemical and natural farming methods.* (***NB. Obviously the set-aside in the no-spray zones would not be sprayed.***) This combining method could result in a number of different productive uses for the land, natural wildlife habitats and species could be restored and pesticide-free food and other crops could also be produced, whilst all the time reducing the risk to rural residents, wildlife and the wider environment from repeated exposure to toxic chemicals. (**Non-chemical and natural farming methods would include, for example, rotation, physical and mechanical control and natural predator management.*)
- **The Government should provide financial assistance where needed**

8.2. *Legislation*

- The statutory conditions of use in the approval for **all** pesticides should contain detailed requirements for the mandatory no-spray zones, as well as mandatory notification and provision of notices and access to information as per my response to the *Consultation on Plans for Greater Access to Information about Crop-spraying* on 15th September 2003 – See Appendix 3)
- The *Green Code for the Safe Use of Pesticides on Farms and Holdings* should have legal status, with amendments as required to incorporate all the necessary changes following the outcome of both Consultations' (mandatory no-spray zones, notification and access to information) and any further input from Stakeholders

8.3. *Education*

- People need to be informed about the *true* dangers and risks associated with pesticides and their use, as members of the public have a fundamental right to know the information necessary to make informed and knowledgeable decisions to protect their own health. (*See 5.71*) It should not be down to a few scientists to decide what is “*acceptable*” for the wider society
- The Government must invest resources in research, development and extension services that help farmers/growers and other pesticide users’ move away from chemical dependency to sustainable non-chemical and natural farming methods. Independent farm advisors (not linked to industry) could support farmers/growers in the production of healthy, sustainable, locally produced profitable food

8.4. *General Recommendations*

- The EU and UK Government and their advisors must recognise and admit the effects that pesticides have on human health, as prevention of pesticide poisoning is the only way to protect people from pesticide related ill-health
- There needs to be a recognition and acknowledgement of relevant exposure scenarios in exposure assessments, as the current system relies on inadequate and unrealistic risk assessments
- All aggregate and cumulative exposures to mixtures of pesticides from all possible sources must be taken into account, including exposures to food, drinking water, indoor and outdoor air, contaminated dust, pollen, soil and any other source of exposure that may be relevant. This must apply to both high and lower levels of exposure over both the short and long-term and include all routes of contamination, oral, dermal and inhalation
- There must be recognition by the EU and the UK Government of the Human Rights aspect and implications of chemical exposure
- The application by the EU and UK Government (including all scientific advisors and regulatory authorities) of the Precautionary Principle in Chemical Policy
- There needs to be more information and training for GP’s and other medical professionals regarding the diagnosis and treatment of chemical poisoning
- Real-life cases of pesticide poisoning and related ill-health need to be studied in order to assist in the risk assessment process for the potential toxicity in humans, based on clear exposure history/chemicals involved and health effects etc.
- The Government must recognise the condition Multiple Chemical Sensitivity (MCS) as a direct result of chemical exposure

- The move away from chemical dependency can only be encouraged and authorised by the EU and UK Government
- The EU and UK Government must promote the use/development and implementation of sustainable non-chemical and natural alternatives to chemical pest control (*as there are non-toxic alternatives for almost anything*)
- The Government must accept that it has a financial responsibility for the risks imposed and the damage caused as a direct result of Government Policy

8.5. As stated earlier I continue to receive responses daily from people all over the country reporting acute and chronic long-term ill-health effects following exposure(s) to pesticides. These include clusters of cancers, leukaemia's, neurological conditions including M.E. and various other medical problems in communities surrounded by regularly sprayed fields. Appendix 2 contains sections from just a few of the emails/letters that I have been receiving with all names, addresses and other personal details removed to highlight the comments that are being made by others who also have the direct experience of this situation.

8.6. Appendix 1 as stated earlier, includes quotes taken from various Government and industry documentation spanning decades, in relation to the dangers of pesticides; notification and public access to information; and sections taken from various other documentation in relation to airborne pesticides; distances pesticides have been shown to travel; mixtures; acute and chronic ill-health effects following exposure(s) and other information relevant to this submission

8.7. Appendix 3 contains for reference my submission to the first *Consultation on Plans for Greater Access to Information about Crop-spraying*.

8.8. The paper that was presented for the ACP Open Meeting on July 10th 2002 entitled "*Why the "bystander risk assessment" does not equate to real-life exposure scenarios*" referred to in this submission can be found at:-

http://www.pesticides.gov.uk/uploadedfiles/Web_Assets/ACP/ACP_Bystander1.pdf

The video that I am including as part of my submission will follow shortly.

I look forward to hearing from you in due course.

Kindest regards,

Georgina Downs.