

H M TREASURY

**ISSUES RELATING TO THE DESIGN AND
IMPACT OF A POSSIBLE TAX OR CHARGE
ON PESTICIDES**

SUMMARY OF CONSULTATION RESPONSES

NOVEMBER 1999

Executive Summary

ECOTEC Research and Consulting were commissioned by the Department of Environment, Transport and the Regions to conduct research into the design of a tax on pesticides and to investigate its potential impacts on manufacturers, farmers and the environment. Their final report, "Design of a Tax or Charge Scheme for Pesticides" was published on 24 March 1999, and views were sought on the specific issues raised in the report. This consultative exercise closed on 24 June 1999 and this paper summarises the main issues raised in the consultation responses.

99 responses were received from a range of organisations and individuals. The largest number of responses came from farmers and agricultural organisations.

In broad terms, 17% of respondents were in favour of the idea of a tax and 72% were opposed, with the other 11% not expressing a view. Where respondents were in favour they tended to have a number of concerns relating to the design of the banding system.

The following represent the recurring themes to come out of the consultation:

The case for a tax

- C Views on whether the tax met the Government's criteria for a good environmental tax were mixed but generally unfavourable as a result of the perceived impact on employment and competitiveness.
- C Many respondents favoured action at EU level to avoid the perceived problem of other Member States gaining a competitive advantage.
- C Opinions differed as to whether the environmental damage arising from the use of pesticides is due to general use, or misuse.
- C Most respondents showed support for the complementary measures listed. Those against a tax stated that current regulation is already effective, and extending the regulatory system is the most appropriate course of action.
- C While supportive of complementary measures, many respondents thought that these should be instead of a tax.
- C A significant number of respondents felt that existing measures and practices had already adequately reduced pesticide usage.

Tax design

- C The majority of respondents were happy with the definition of pesticides as set out in the Control of Pesticides Regulations (1986) which implement the Food and Environmental Protection Act (1985), perhaps with extension to the Plant Products Protection Directive.
- C The majority of respondents thought that the best point at which to levy the

tax was the point of first sale or use, with the preferred tax base being weight of active ingredient, if accompanied by a hazard banding structure.

- C While favoured in principle, banding was considered difficult in practice, with many respondents suggesting that changes were needed to the methodology, such as ways to include the indirect effects of pesticides on wildlife.
- C The difficulties of defining an appropriate banding structure were highlighted due to the complex relationships between product hazard, price, breadth of effects, persistence of effects and the overall environmental risks. It was suggested that a banding system would have to tackle these issues in order to avoid perverse effects.
- C The application rate is seen as only one of a number of factors which affect the amount of environmental damage caused, with climate, season, location and soil type also being significant.

Impact on incomes and prices

- C The ECOTEC report uses data on farm incomes from 1996, and as such is seen to overestimate the ability of farmers to absorb a tax, as farm incomes have fallen significantly since then.
- C Some responses comments on ECOTEC's assessment of the price elasticity of demand for pesticides, with a few respondents believing that the evidence suggested a lower elasticity.
- C Most respondents agreed that a tax would be unlikely to impact on food prices faced by consumers.

Introduction

1. This paper summarises the main issues raised in the consultation responses.
2. The list of consultative questions is attached as Annex A.
3. A full list of respondents is attached as Annex B, while Table 1 provides a break down of respondents by type of organisation.
4. **Table 1: Respondents to consultation**

Sector	Number of respondents	As a Percentage
Agricultural organisations	16	16.2%
Farms	14	14.1%
Crop consultants	10	10.1%
Pesticides manufacturers/distributors	9	9.1%
Pesticides associations	2	2.0%
Chemical industry associations	2	2.0%
Environmental groups	9	9.1%
Academic institutions	3	3.0%
Public bodies	6	6.1%
Water Companies	4	4.0%
Other	24	24.2%
Total	99	100%

5. Further copies of this paper can be obtained from:

Public Enquiry Unit
Rm 88/2
HM Treasury
Parliament Street
LONDON SW1P 3AG

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Detail of Responses

Principle of a tax or charge

6. The first question asked if a potential pesticides tax could meet the Government's criteria for a good environmental tax as set out in the 1997 Statement of Intent on environmental taxation. Many respondents believed that the tax could not meet this criteria, citing:

- C adverse effects on farm employment;
- C perverse side effects;
- C high dead-weight compliance costs; and
- C an unfair burden on certain sectors, such as arable farms and the horticultural sector.

In addition, it was suggested that there would be a trend towards larger farms, as small farms would not be able to cope with the cost rises. A minority felt that the tax would have to be substantial to have any impact on pesticide usage. A small number of respondents were also concerned that the aims of the tax were not clearly defined.

7. Several respondents, including the environmental groups, thought the tax would meet the criteria. They felt that a tax would provide farmers with the right price signals to encourage them to reduce pesticide usage. However, it was acknowledged that meeting the Government's criteria is dependent on careful design, minimisation of compliance costs and careful consideration of direct and indirect effects of pesticides.

8. The Water Companies, whilst favouring measures which reduce pesticides in the water supply, and hence reduce their costs in meeting the drinking water standards, were not generally in favour of the proposed tax. There were concerns that pollution of the water supplies caused by pesticides could actually increase following the introduction of a tax, as farmers and other users may withdraw their support from voluntary reduction schemes.

9. Concerns were also raised that, depending on the design of a tax, there may be a perverse incentive to switch to the use of cheaper and more damaging pesticides. In addition they point out that a reduction in the use of pesticides would not automatically lead to a reduction in water pollution since the amount of pesticide applied is only one of the factors affecting the environmental impact.

10. A minority of respondents thought that lower pesticide usage could have adverse effects on human health if food quality and safety declined.

Other approaches

11. The second question sought opinions as to whether measures other than a tax would be more effective, and whether we have any lessons to learn from other countries.
12. Those in favour of the tax typically felt that complementary measures such as advice and training should be used to enhance the effectiveness of the tax.
13. Respondents who were against the tax tended to be split between the response that measures already in place were likely to be the most effective, or that such measures needed to be extended. These respondents believed such measures should not be complementary, but instead of a tax. More coverage on these alternatives is given in the section on complementary measures.
14. The few respondents who commented on the lessons we could learn from other countries agreed that there was little evidence to suggest the introduction of taxes had led to reduced pesticide use.

Coverage of tax

15. Most of those responding to the question of a clear definition for pesticides thought that it should be based on the definition in the Control of Pesticides Regulations 1986 under the Food and Environmental Protection Act 1985. Few respondents expanded on this answer, although the Control of Pesticides Regulations are quite detailed. A significant number also suggested linking this definition with the European Plant Protection Products Directive. It was generally felt that to change the definition from that laid out in current legislation would be administratively difficult.
16. Opinion was much more divided as to the scope of a potential tax. Most respondents felt that commodity chemicals used for pesticidal purposes and pesticides used for domestic use (for example in gardens) should be included. A number felt coverage should be extended to include veterinary products such as sheep dips and louse controls. Others felt their inclusion should be subject to more careful consideration. However, it was acknowledged by a significant number of respondents that veterinary products cause similar environmental damage to other pesticides.

Imports

17. To address the problem of imports noted in the report, a large proportion of respondents called for EU-wide action on a pesticides tax. Other suggestions were that the tax be levied on all imports, that an extra VAT band be created to deal with the issue, or that the tax be levied at the application level. It was recognised that any such measures would be administratively difficult, and may not solve the problem.

Tax Point

18. As to which point in the supply chain the tax should be levied, most respondents favoured the first point of sale or use. A minority suggested levying the tax on the manufacturer. Some respondents noted that as some users cause more environmental damage than others in their use of pesticides, the tax should be levied on those causing “measurable pollution”.

Base of the instrument

19. The most popular base for a possible tax was the weight of active ingredient, with many respondents stating that banding would be required to make this option effective. A small number believed that the dose base was a better option in terms of environmental impact, particularly if the tax was not banded.
20. A number of respondents believed that none of the options were ideal, since there are over 450 active ingredients, and over 3000 crop protection products in existence. A few respondents thought that the actual amount used was just one of a number of factors that should be considered. The method of application, location and packaging are also factors which determine how environmentally damaging the use of the pesticide is.
21. Some respondents thought a tax might encourage the use of more harmful substances as these are often cheaper. It was also felt that if the tax was weight-based it could lead to more harmful low-dose-rate products being used. In addition, it was stated that application rates can differ up to 1000-fold for products with similar environmental effects.
22. A concern raised with a dose-based tax was that lower than recommended dose rates may be used, so that use would become ineffective, and increased pest and disease attacks would result. A small number were also concerned that this would cause resistance to pests and diseases to build up in crops in the long run.
23. On administration, few respondents commented. Of those who did, it was generally agreed that a tax would mean extra paperwork for farmers and other bodies, and that the tax would be hard to administer, due in part to the complex banding issues.
24. Where mixtures of different active ingredients were present it was generally felt these should be treated as the sum of the parts.

Illustration of a banded tax

25. The majority of respondents did consider that there was a case for structuring a tax so that pesticides with a higher hazard are liable for a higher rate of tax. However,

whilst the principle of banding was agreed, a significant number of respondents felt that this would cause practical difficulties.

26. Many respondents, largely those from non-environmental groups felt that ranking ought to reflect risk in addition to hazard, as these are different issues, and not always highly correlated.
27. The vast majority of respondents did not consider there to be a consistent and robust methodology with which to calculate a hazard or risk ranking. The general consensus was that more work is needed to devise a workable methodology that includes all relevant factors.
28. Most respondents did not consider ECOTEC's banding mechanism to be appropriate or practical. A number of respondents, particularly those from environmental groups, were concerned that it did not account for many of the indirect effects that pesticides have, for example on wildlife. Most felt that the mechanism needed modifying to account for such indirect effects, including factors such as the selectivity of the pesticides.

The impact of a tax or charge

29. Most respondents did not think that farmers had much flexibility to alter their use of pesticides, or thought this ability was constrained by a lack of advice and information, and quality and performance considerations. In certain cases there are few substitutes available. Farmers are generally risk averse, and would not wish to risk a lower quality of crop by reducing pesticide usage.
30. Some respondents felt that the impact of reduced pesticide use on the quality of crops had not been properly considered in ECOTEC's report. Pesticide use has a significant impact on the quantity and quality of a farmers crop, and a small fall in quality can mean the loss of a buyer for the crop.
31. A small number felt that altering usage was possible through improvements in technology, Integrated Crop Management (ICM), switching to organic farming, pest forecasting and other methods.
32. Views were mixed on the role of retailers. Some felt that retailers do have a role in influencing pesticide use through specifications for products, others felt they could exert more influence, whilst some thought their role was limited or non-existent. Tesco's Nature's Choice scheme was given as an example of a retailer influencing farmers' decisions on the use of pesticides. Other retailers operate similar schemes.
33. Most respondents felt that ECOTEC's analysis of the impact of a tax on farmers was inaccurate. In most cases this was because the analysis was based on data from 1996, when farmers' incomes were at a peak. Farm incomes have

subsequently declined, so most respondents felt that the impact of a tax on farmers would be significantly greater than estimated.

34. Most respondents believed that the possible tax would have an adverse impact on international competitiveness, since the cost of pesticides is already high in the UK. A number of respondents thought small and medium-sized farms, fruit and vegetable growers, and arable sectors would be particularly hard-hit. A few respondents noted that competitiveness did not seem to have been affected in Belgium where a tax had been introduced. However the Belgian tax excludes agricultural pesticides.
35. Food processing industries, pesticides producers, machinery suppliers, and businesses in rural communities were cited as potentially being adversely affected by a pesticides tax. However, the organic sector, and industries involved in reducing the impact of pesticides (for example the UK's embryonic biological control industry, and pesticide application engineering industry) may stand to gain from the implementation of a tax according to some respondents.
36. Most respondents thought that the impact on food prices would be negligible, as farmers are price takers, and would therefore have to bear the burden of the tax.

Complementary measures

37. Many respondents agreed with the need for some complementary measures although they differed over whether these should complement an economic instrument or be instead of one, Most felt that revenue from the tax should be recycled into measures such as:
 - C advice and training
 - C agri-environment schemes
 - C research into the impacts of pesticides
 - C research into improvements in technology
 - C stewardship schemes.
38. Many respondents believed that current initiatives such as the work of the Pesticides Safety Directorate, and schemes like Integrated Crop Management, should be encouraged and extended. A large proportion of these felt that there was considerable scope for enhancing the current system, for example by extending the regulatory process to take more account of the environmental impacts of pesticides.
39. Other suggestions for ways to reduce pesticide use included a further voluntary levy on pesticides sales, testing of pesticides application equipment, grants for investment in new technology, increased investment in training and education, a national pesticide reduction target, and increasing the number of health and safety inspectors.

Other comments

40. Many respondents felt that careful consideration should be given to monitoring the impact of a pesticides tax.
41. A few respondents thought any tax would need to be phased-in to minimise the potential impacts on farmers and pesticide producers in particular.
42. Many respondents thought that the implementation of a tax could harm efforts to reduce pesticide use through voluntary schemes, as producers will not bear the cost twice.

Questions asked in the consultation

The questions asked on issues relating to the design and impact of a possible tax or charge on pesticides were as follows:

Principle of a tax or charge

- a. Does an economic instrument, such as a tax on pesticides, meet the Government's criteria for a good environmental tax, as set out in the Statement of Intent on environmental taxation?
- b. Are there other factors or measures, such as those covered at question (q) below which would be more effective in reducing the environmental damage associated with pesticide use? What lessons can we learn from other countries' experience?

Coverage of tax

- c. Pesticide is a term often used in broad or undefined way. However, for the purposes of a tax or charge it would be necessary to establish a clear definition of the substances to be covered. What would need to be included in the coverage of a possible tax on pesticides? How could a definition be framed in legislation? Are there any existing definitions which might be adapted for a tax?
- d. Would a possible tax on pesticides need to apply to:
 - commodity chemicals, such as sulphuric acid, where they are used for pesticidal purposes?
 - veterinary medicines, such as sheep dip and louse control, which contain the same active ingredients as certain pesticides?
 - pesticides used for non-agricultural purposes (e.g. home and garden use)?

Would there be any difficulties in the scope as suggested above? What would be the impact on the environment, and on pesticides users, of excluding such products from the scope of any tax?

- e. The ECOTEC report notes that the problem of imports is one which needs to be addressed in order for a tax to have the intended environmental impact. How best could this be done?

- f. In light of the points above, at what point in the supply chain should a tax be levied?

Base of the instrument

g. Any instrument should seek to reflect, in some manner, two factors that are relevant to the risk posed by the substance concerned:

- hazard - the intrinsic harmful properties of a substance;
- probability of harm arising from exposure to people and the environment during, or resulting from, use.

Which would be the most effective or practical option on which to base possible tax on pesticides:

- the weight of the active ingredient;
- the dose;
- or an ad valorem tax?

h. Would any of these options have significant adverse environmental or administrative implications? How might mixtures of different active ingredients be addressed?

Illustration of banded tax

i. A banding system would be intended to reflect the intrinsic properties of the chemicals concerned, and hence the environmental hazard associated with their use. This might encourage reductions in the use of the most hazardous products, and could avoid perverse switching to more hazardous pesticides in response to a tax. Do you consider that there is a case for structuring a tax so that pesticides with a higher hazard or risk are liable for a higher rate of tax?

j. Do you consider that there is a consistent and robust methodology with which to calculate a hazard ranking for pesticides?

k. Do you consider the banding mechanism suggested by ECOTEC to be appropriate or practical?

The impact of a tax or charge

l. What ability do farmers have to alter their use of pesticides? Do food retailers have a role in influencing the use of pesticides?

m. Do you consider that ECOTEC's analysis of the impact of a potential tax upon farmers is accurate?

n. What impact would a tax have upon the international competitiveness of individual agricultural sectors?

o. What impact could it have on other industries and sectors?

p. Do you foresee that a possible tax could have any impact on food prices in the UK?

Complementary measures

q. The introduction of any tax on pesticides could form one element of the Government's policy for pesticide minimisation. The Government's aim is to seek ways in which that policy can best be pursued. A number of possibilities can be considered, some of which have already been identified in the Action Plan produced by the Pesticides Forum and aimed at encouraging responsible use of pesticide, which could enhance the environmental effectiveness of any instrument and reduce the costs to users of adjusting to its introduction. These include:

- advice and training and technology transfer of measures to reduce environmental risk from pesticide use;
- mechanisms to promote best practice (such as farm audits) and to achieve targeted reductions in impacts (such as buffer zones) as well as support for agri-environment schemes;
- development and refinement of regulatory controls, for example to cover risk assessments of the indirect effects of pesticides;
- further research into the environmental effects of pesticides and use for alternative techniques such as biological controls.

r. The Government would be grateful for views on these, or other, options and how these might best be used in conjunction with an economic instrument to enhance the overall environmental effectiveness of an instrument and discourage the use of those pesticides presenting greatest risk to the environment.

s. Are there other measures which could form part of a package of measures to minimise pesticide use and encourage a shift away from the most damaging pesticides?

List of respondents

ADAS
Advisory Committee on Pesticides
AgrEvo UK Limited
Agricultural Engineers Association
Agrochem South Limited
BASF
BASIS
Bedfordia Farms
Bournemouth & West Hampshire Water
British Agrochemicals Association Limited
British Association of Chemical Specialities
British Coatings Federation Limited
British Crop Protection Council
British Egg Industry Council
British Medical Association
British Pest Control Association
British Waterways
British Wood Preserving and Damp-proofing Association
J W Buckley
CBI
Chartered Institute of Taxation
Chemical Industries Association
Council For Nature Conservation & The Countryside
Council for the Protection of Rural England
Country Landowners Association
Countryside Alliance
CropWell consultancy
R S Cull
Curbridge Downs Farm
Dr K Dawson
Deloitte & Touche
Dow AgroSciences
Du Pont Agricultural Products
Edward Oatley & Sons Limited
English Nature
Environment Agency

C Evans
F Knife and Sons
J Fane
Fargro Limited
Farming and Wildlife Advisory Group
Fertiliser Manufacturers Association
Food and Drink Federation
Fresh Produce Consortium
Friends of the Earth
Game Conservancy Trust
R J & A E Godfrey
H Wiseman and Sons (Wimbish) Ltd
Health and Safety Commission
Geoffrey Hollis
Hortichem Limited
Horticultural Trades Association
Hutchinsons
I W Huxtable
Innovation Management
Institute of Fisheries Management
D G Jenner
K&S Fumigation Services Ltd
Killgerm Group Ltd
L G Maplethorpe Limited
Law Society
Robert E Littlewood
Luxan (UK) Ltd
Masstock Arable (UK) Limited
Morley Research Centre
National Association of Agricultural Contractors
National Farmers Union
National Office of Animal Health Limited
National Sheep Association
Northern Ireland Environment Link
Novartis Crop Protection UK Ltd
Parkers of Leicester Limited
R G Payne
PBI Agro Chemicals
Pesticides Trust
Potato Processors' Association

Profarma Limited
W P Reece
Rhone-Poulenc Agriculture Limited
Robert Picken & Son
Royal Agricultural Society of England
Royal Society for the Protection of Birds
Royal Welsh Agricultural Society Ltd
Scottish Agricultural College
Scottish Environment Protection Agency
Scottish Natural Heritage
Severn Trent Water
A J Sherriff
Soil Association
South Staffordshire Water Plc
Tenant Farmers Association
Thames Water
Trades Union Congress
UKASTA
University of Cambridge, Department of land Economy
Velcourt
Water UK
Women's Food and Farming Union
ZENECA Agrochemicals