

Minimising the impact of pesticides on the UK environment

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The problem with pesticides in the UK

Around 28 thousand tonnes of pesticides are used every year in the UK and the market is worth over €600 million.

Pesticides can bring benefits to producers and consumers alike. However, pesticides harm the environment in several ways. They contaminate rivers, reservoirs and groundwater leading to the need for expensive treatment of water using for drinking. This costs the water industry over €150 million a year. Under the Water Framework Directive (WFD), initial work on river basin characterisation indicates that current pesticide use, such as in intensive fruit production and in field vegetables, places some water bodies at risk of failing WFD objectives of achieving good ecological status. Pesticides have been a major factor in the decline of a number of bird species including the grey partridge (*Perdix perdix*), corn bunting (*Miliaria calandra*) and yellowhammer (*Emberiza citrinella*) through reducing the insect food supply for chicks. Every year, through accidents or negligence, pesticides cause major pollution incidents in rivers and streams resulting in death of fish and invertebrates. Pesticides are also used illegally to deliberately poison birds of prey and other animals.

The history of pesticide policy in the UK

In 1991, the UK Government introduced its pesticide minimisation policy to limit pesticide use to the minimum necessary for the effective control of pests compatible with the protection of health and the environment. However, there was little co-ordinated activity to implement this policy until a stakeholder body, the Pesticides Forum, was established in 1996. The Pesticides Forum is made up of representatives from the agrochemical industry, farmer groups and environmental organisations (including the Environment Agency). Its objectives are:

- To bring together the views of those concerned with the use and effects of pesticides,
- to identify their common interests,
- to assist in the effective dissemination of best practice, advances in technology and research and development results, and
- to advise Government on the development, promotion and implementation of its policy relating to the responsible use of pesticides.

While the work of the Pesticides Forum continues, the Government has been looking at other ways of minimising the impact of pesticides on the environment. In the late 1990's work was undertaken to consider using economic instruments. A tax was proposed for pesticides. This would be banded so that those pesticides that posed the highest risk to the environment would attract the highest level of tax and relatively benign compounds would not be taxed.

This proposal for a tax was met with stiff opposition from pesticide manufacturers and the farming unions. As an alternative, the industry put forward a suggested five-year programme of voluntary measures to reduce the environmental impact of pesticides. The package was projected to cost the agrochemical industry €3 million a year and farmers €16 million a year. Following two redrafts of the proposal and extensive stakeholder consultation the package was accepted by Government and its implementation as the "Voluntary Initiative" started in April 2001.

The Voluntary Initiative

The Voluntary Initiative (VI) consists of 23 projects. The three main farmer elements of the VI are to:

- Get spray machinery tested on an annual basis to ensure it is well-maintained and calibrated
- Ensure that operators are trained and undertake Continuous Professional Development to keep their knowledge up-to-date
- Undertake an environmental self-audit called a "Crop Protection Management Plan" that identifies key areas for improvement.

Initial uptake by farmers was slow. However, the three main farmer elements of the VI have now been made recommendations or requirements of national food assurance schemes. For many farmers this means they have choice of either implementing the VI measures or losing the market for their produce. Consequently uptake has improved dramatically, although it does bring into question whether the VI can still be considered a voluntary instrument.

A series of targets have been set for the VI covering completion of projects, uptake of measures and environmental improvement. In the main these have been achieved to date, although some targets have come into criticism for being too weak. These include the target for undertaking Crop Protection Management Plans (30% of arable area by April 2006) and the target for reducing pesticide levels in water (30% by April 2006).

Environment Agency monitoring data shows that there was little change in the overall level of pesticide contamination in the period prior to the effective start of the VI (1998 – 2002). In 2003, the first effective year of the VI, contamination levels are 23% lower. Further year's data will be needed to determine whether this is a consistent improvement that is attributable to the effect of the VI or related to weather patterns or changes in which pesticides are being used.

The apparent progress in reducing water contamination is a good step forward. However, there are still unacceptably high concentrations of pesticides in our rivers.

The target of a 30% reduction by 2006 in such pollution does not go anywhere near far enough to address this problem and the VI should not be considered a success if it only managed this level of reduction. The VI needs to set something much more challenging that will lead to a substantial reduction in the cost of treating water used for drinking.

A further area of concern is the extent to which the VI measures are taken up outside of its main area of influence; arable farming. The VI seems to have had much less impact on other users, such as the livestock sector and non-agricultural users such as local authorities.

Environmental monitoring provides some support for this concern. For some pesticides e.g. simazine, isoproturon used widely in arable agriculture levels in rivers appear to be declining, while for diuron, only used in the amenity sector, the levels are unchanged. Much greater effort needs to be made by the VI to gain more involvement and uptake by sectors outside of arable farming.

Beyond the Voluntary Initiative

The VI is currently due to end in April 2006. Discussions have yet to be held on whether the VI continues beyond this and, if so, in what form. It may be that we will need to use additional policy instruments to tackle those who do not voluntarily improve practice. Targeted regulatory and financial (including market-based approaches) measures, plus improved advice, need to be considered as part of a package of measures.

The National Pesticides Strategy

Following criticism from a committee of Members of the UK Parliament and in response to the proposed EU Thematic Strategy on Pesticides, the Government is currently developing a National Pesticides Strategy (NPS). This should set out the Government's future approach in this area and how the VI fits in with other policy initiatives such as those for agriculture. The NPS presents an opportunity to undertake a comprehensive review of the costs and benefits of available options so that the best mixture of voluntary, regulatory and fiscal approaches can be identified.

The Environment Agency would like to see this review consider the following policy options:

- Further inducements or legislation to ensure all users other than domestic users hold a certificate of competence in the safe use of pesticides
- Further inducements or legislation so that all professional spray machines are inspected and tested once a year to ensure that they are suitably maintained and operating satisfactorily
- Fiscal instruments targeted to the worst offenders and pesticides with a rebate system for users who adhere to more stringent environmental guidance

- Introduction of Comparative Risk Assessment into the pesticide approvals process to allow for more hazardous substances to be substituted with lower hazard products.
- Greater emphasis placed on manufacturers to undertake post-approval monitoring of pesticides posing risks to the environment.
- Further action on the major water contaminants such as the introduction of a programme of targeted **use** reduction
- Extending legislation shortly to be introduced in Scotland to the rest of the UK that makes it illegal for anyone to possess a pesticide for which they do not have a justifiable need.
- Promotion of alternative control methods such as biological control and pheromones.

Conclusion

The development of policy and measures to reduce the environmental impacts of pesticides in the UK stretches back to 1991. The current Voluntary Initiative is making encouraging progress. However, in order to achieve accelerated environmental benefits and to reach those who will not voluntarily improve the way they use pesticides, targeted fiscal or regulatory measures may be needed in the future.