



Food Reality Check

Combine modern pesticides with regulation and you get safe food and a protected countryside, believes **Dr Anne Buckenham**

Pesticides help farmers to provide a reliable supply of safe, high quality, affordable food and are among the most rigorously regulated chemicals in the world.

It takes more than nine years to develop a new pesticide, at a cost of around £140 million. The vast majority of this cost is money spent on testing to ensure that the product can be used safely. These results are scrutinised by government regulators and independent scientists who only approve the product if they are sure that the health of users, consumers and the environment is fully protected.

Recent years have seen major changes in the pesticide industry, its regulation and

farm practice. For instance, in the UK, aerial spraying of crops stopped in the last century and organochlorine insecticides, such as DDT, have not been used for years.

“Perhaps the worst myth is that harmful residues from pesticide applications in the field persist to the food on our plates”

Yet, for many, the perception of pesticides is far from reality. Of the myths that linger on, perhaps the worst is that harmful residues persist from pesticide applications

in the field to the food on our plates.

Nothing is further from the truth. Independent surveys by the Pesticides Residues Committee show time and again that more than 70% of food tested is totally free from pesticides. Where residues are detected, they are well below safety limits.

Regulatory hurdles

Ensuring acceptable residues is one of the many regulatory hurdles a pesticide has to leap in its lengthy and costly process of development.

The Government's Pesticides Safety Directorate sets a maximum residue level, commonly called an MRL. This looks at a “worst case scenario” where the product is

used at the highest recommended dose on a target crop for the maximum permitted number of times at the shortest interval before harvest.

Step two looks at how much can be eaten safely. Researchers look at how much a person could safely eat, if they ate the product residue every day of their life. From this the acceptable daily intake (ADI) can be calculated.

Step three sees the “worst case” residues data applied to a range of diets, taking account of age, ethnicity and so on. This potential dietary intake is compared with the ADI. If the safety margin for human health is not deemed high enough, then either the dose or harvest interval of the product is changed to ensure consumer health is protected.



A well-regulated system of pesticide residue detection has been put in place

“The maximum residue levels are generally set well below safety limits. There are no safety concerns or we would take action”

Too often commentators portray MRLs as safety thresholds that must not be crossed. There are significant margins of safety, however, and much higher residue intakes would be needed before either chronic or acute effects occurred in anyone eating such food.

Dr Jon Bell, chief executive of the Food Standards Agency, sums up the situation neatly: “The maximum residue levels are generally set well below safety limits. There are no safety concerns or we would take action immediately.”

Continuous assessment

Even after a product reaches the market, the independent and rigorous scrutiny continues. The Advisory Committee on Pesticides, comprised of leading scientists, continually reviews research looking for any concerns. This committee can call for a review of any product at any time if new data emerge as science progresses.

In addition, the Pesticides Residues Committee constantly samples and analyses food for residues. With improving technology, scientists undertaking this work can detect minute traces of chemical – even one part in a billion. This is



Dr Anne Buckenham says myths about pesticide residues must be dispelled

equivalent to one day in 2,739 years.

As well as monitoring the food we eat, other monitoring goes on looking for residues in watercourses. Once again, recent years have seen residues declining, further reflecting the greater awareness and care that is taken in applying modern pesticides.

Much of this progress is thanks to the Voluntary Initiative (VI). The VI was established four years ago in the face of government proposals for a pesticide tax, and has prompted tremendous change in farm behaviour and practice. The majority of farmland in England is now treated with sprayers that have been ‘MOT’d’ by sprayer operators who have been trained to high standards and in accordance with professionally qualified advice.

Yet, opponents continue to campaign with scare stories. The facts are: the industry has changed dramatically, our regulation is tough, our standards are high, our health and welfare have never been better, and the countryside is witnessing significant environmental improvements. [E1](#)

Dr Anne Buckenham is director of policy at the Crop Protection Association – the trade body representing crop protection manufacturers in the UK.

What the regulator said

“None of the results in this quarter gave me any concern for consumer health. They show that the vast majority of our food is residue-free or contains residues at levels in accordance with guidelines.

“The results should reassure consumers that the food they eat continues to be safe and it is important to stress that the positive effects of eating fresh fruit and vegetables as part of a balanced, healthy diet far outweigh any concern about pesticide residues.”

Dr Ian Brown, chairman, Pesticide Residues Committee – June 2005

More information on food and crop protection products can be found at the European Crop Protection Association’s Field to Fork website: www.ecpa.be/field2fork/

For details of the Voluntary Initiative, visit: www.voluntaryinitiative.org.uk