PESTICIDE USE IN AUSTRALIA

A detailed report has recently been published by the Australian Academy of Technological Sciences and Engineering. The following are a few of the statistics quoted and recommendations made

Usage trends

The Australian crop protection market expanded from just over A$1100 million in 1996 to just under A$1600 in 1999. The herbicide market in 1999 was just over A$800 million (principally glyphosate, atrazine and simazine). The insecticide market in 1999 was A$500 million (principally organophosphates and carbamates). The fungicide market in 1999 was A$200 million (principally mancozeb and captan). The growth regulator market in 1999 was A$60 million (principally ethephon).

'Softer' pesticides

The trends in pest management of the past decade towards use of 'soft' pesticides (these target just one species of pest or weed as opposed to 'hard' chemicals that kill all insects or plants) with specific modes of action, and IPM techniques which can allow reductions in pesticide use, should be further encouraged.

An example of this trend is the use by apple and pear growers of the 'softer' more target-specific insecticides fenoxycarb, chlorpyriphos, pirimicarb and sex pheromone traps instead of the broader-spectrum generally more toxic azinphos-methyl and methidathion.

It was admitted, however, that soft chemicals are, unfortunately, more expensive.

Impact on human health

Consideration should be given to developing a system of formal reporting of workers' exposure to pesticides, including the establishment of an Adverse Health Effects Register that records all acute health effects definitively shown to arise from pesticide use.

The food safety monitoring programs in place in Australia are impressive by international standards, and compare favourably with similar studies undertaken in the United States of America and the European Union. However, to provide continuing assurance to Australian food consumers and export customers, monitoring must be maintained of chemical residues that can enter the food chain.

Impact on the environment

More information is required on the effects of pesticides on Australian species in their natural habitats and on the effects of newer pesticides on birds and termites in their natural range. More emphasis needs to be given to monitoring the biological effects of pesticides on organisms and entire ecosystems.

A comprehensive integrated national environmental monitoring program should be implemented. The recommended National Adverse Health Effects register should be broadened to become a National Adverse Pesticide Effects Register, recording acute incidents where pesticides have had an adverse impact on the natural environment.

Regulation

The National Registration Authority for Agricultural and Veterinary Chemicals (NRA) and the Agricultural and Veterinary Chemicals Policy Committee (AVCPC) should be reviewed.

In the next 5 years, as the number of pest protected or herbicide tolerant crops increases, it is recommended that the newly-appointed Gene Technology Regulator and the Chief Executive of the NRA jointly increase awareness of the respective roles and responsibilities of each organisation so that their roles and their methods of risk assessment are transparently evident to plant breeders, industry organisations, pesticide companies and produce users alike.

Potential impact of GM technologies

About 30% of Australia's cotton crop is currently sown with varieties containing a single gene for insect pest protection, and on these areas, insecticide use has been reduced by nearly half. Cotton with 2 insect protection genes, anticipated by 2003, may allow a 70–80% reduction in insecticide use on such crops. Crops with naturally-bred herbicide tolerance are already in use, notably canola, and GM varieties are in the pipeline.

The National Strategy

The National Strategy for Agricultural and Veterinary Chemicals endorsed in 1998 with the intent to "maximise the benefits from the use of agvet chemicals while minimising the risks of undesirable side-effects", should be progressed forthwith to ensure a consistent national approach to the risk management of agricultural and veterinary chemicals.

The full report can be accessed and downloaded from http://www.atse.org.au/publications/reports/pesticide1.htm

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