

Are consumer concerns being addressed by industry and government?

Jason Alexandra, ACF Natural Resources Unit, 340 Gore Street Fitzroy Victoria 3065.

Introduction

It is now over 25 years since Rachel Carson wrote 'Silent Spring' which dramatically alerted us to the unintended consequences of agricultural chemicals.

The average consumer is very concerned by agricultural chemicals and has a lot of trouble differentiating between various classes of chemicals.

The Australian Consumers' Association produced in conjunction with organisations such as the ACF, "Towards a National Food Policy" in November 1991. Here it was noted that in a recent survey of 5,000 Victorians which looked, among other things, at attitudes, beliefs and behaviours, most concern was expressed about pesticides.

The CSIRO Institute of Animal Production also noted these concerns, "Chemicals are an important issue in the context of sustainable agriculture - in terms of community concern about environmental effects, related human health concerns, and the development of resistance in pests.

Most of the chemicals used in agriculture are used for purely economic reasons, and the presence of unwanted substances in our food needs to be viewed in light of both the risks and the benefits associated with the use of chemicals. Developing improved methods for risk assessment is a priority areas."

Consumer concerns about pesticides are rapt together in overall cloudy consciousness about what is happening to the planet, in the basket of environmental problems - eg: - greenhouse effect - ozone depletion - species extinction - industrial pollution - poverty and Third World debt - rainforest depletion and so on.

There is overall and general consensus about the deteriorating state of the global environment. This is justified and legitimate. Whether industry and government are addressing these concerns is really a matter of degree. The answer is both yes and no!

In Australia confidence in both industry and government has been seriously eroded by the organo-chlorines scandals of the late 80s when we nearly lost our export market. It was concern for these markets rather than consideration of the safety of our own citizens which led to the banning of the agricultural use of organo chlorines. This happened here some 15 years after they were banned in the industrial counties of the Northern hemisphere. this track record does nothing for consumer confidence in either industry or the supposedly responsible authorities.

The severity of OC contamination of meat in Australia was exposed as a result of United States tests on imported beef in 1987. The residues found were so high that the meat was condemned unfit for human consumption and destroyed. This exposure threatened Australia's export meat industry and resulted in a review of the quality control systems for export meat, the extensive recall of many organochlorines (OCs) and their banning for use in agriculture. Their use however is still permitted in termite eradication and prevention around buildings. Extremely high concentrations have been recorded in fish caught off Sydney reportedly resulting from urban runoff. (ABC 1988).

In response to problems such as this the CSIRO has called for the banning of all chemicals not registered for use in our export markets (CSIRO Australia's Natural Resources an Outlook 1990).

Chemical residues have, no doubt, been present in food products for years, but remained officially unrecognised until the export beef scandal hammered the fact home to producers, consumers and authorities. **It is now clear that it is not possible to release potent, persistent poisons into the environment without them returning to us through the food chain.**

According to groups such as The Australian Consumers' Association and

Parents for Safe Food, the imminent wave of consumerism concerns can be summed up in the following way.

The new consumer chooses products with a conscience. He or she is not simply concerned with value for money, but also with public health, environmental issues and the repercussion of their decision on the Third World.

The new consumer uses the following criteria to access a product.

1. Is the production process ethical.
2. Is it ecologically sound.
3. Is it equitable and necessary.
4. Does it satisfy a genuine need without diminishing the prospects of other societies in the present or the future.

Therefore to determine whether consumer concerns are being addressed, we need to use the same criteria. The food industry must be responsive to consumer demands.

"No consumer goes shopping for pesticides... These are not demanded by consumers and therefore should not be supplied by industry...The food industry really cannot demand deregulation and then object when consumers play 'by the new rules'. Consumers are demanding anew approach to food quality-one that includes the supply of food free from unnecessary additives, pesticides, food poisoning bacteria and other forms of adulteration and contamination..." Draft Food Policy Charter.

Consumer concerns are supported by the following statement;

"Many of the chemical agents introduced into the food supply, including pesticides, fertilisers, plant-growth regulators, and antibiotics can be harmful to humans at high doses or after prolonged exposure at lower doses. Although cancer-causing chemicals have attracted the most concern, agricultural chemicals can also have behavioural effects, alter immune system function, cause allergic reactions and

The two major problems facing policymakers attempting to regulate pesticides are the lack of data on the health hazards of pesticides and a lack of accurate exposure data. A National Research Council (NRC) panel estimated that data to conduct a complete assessment of health effects were publicly available for only 10 percent of the ingredients in pesticide products, mainly because of a lack of testing of older, widely used pesticides (National Research Council, 1984). Pesticide producers and the EPA held more confidential data at that time, however. And since 1984, more data have been generated on the chronic health effects of these compounds. To date, insecticides accounting for 30 percent, herbicides accounting for 50 percent, and fungicides accounting for 90 percent of all agricultural use have been found to cause tumours in laboratory animals. (National Research Council, 1987). There is still much scientific debate, however, over the extrapolation of the results of these studies to adverse effects in humans. Lack of accurate human exposure data further complicates the problem. A recent NRC report found little data on the actual levels of pesticides present in the human diet (National Research Council, 1987). Although residue studies are being conducted, a complete picture of residue patterns in the food supply is still lacking." National Research Council, 1989.

As I represent an environment organisation, let me largely concentrate the question of 'is it ecologically sound', Firstly I will examine some major questions in relation to extensive repeated herbicide use in agriculture, and I will conclude on some of the positive initiatives in Australia in bringing consumers, environmentalists and primary producers together to agree on a strategy for the overall reduction in pesticide use.

Let me briefly examine some of these impacts as they relate the environment. I will try to categorise them according to the area of impact, looking at impacts on soil, ground water and surface water catchments, crop and ecological processes. Impacts on native species and ecological processes are poorly understood and deserve much greater attention but it should be noted that due to the inherent complexity of ecological systems and the sheer number

of species and relationships involved these investigations are fraught with difficulty and uncertainty.. " Because *ecological interactions are extremely complicated and have generally not been studied by the EPA, the effect of pesticides on the environment is not well understood.*" National Research Council, 1989

Impacts on the economy

The CSIRO has identified that the reduction in the use of agricultural chemicals as important priority for Australia's Rural Industries. In 1988 **approximately \$850 million dollars was spent on agricultural chemicals in Australia.** The CSIRO identified the following major concerns associated with chemical use in agriculture -

- * threats to consumers,
- * threats to exports,
- * increasing pesticide resistance in target species, and
- * DAMAGE TO THE ENVIRONMENT.

It is a truism that in order to determine the long term effects of agricultural chemicals they need to have been in usage for a lengthy period. This attitude treats the population and the environment as a big laboratory. While trials are useful, the full effects of the chemicals on the environment and food consumers cannot be predetermined and therefore, a cautious approach to their registration for use and application techniques must be encouraged.

Australia needs to preserve its reputation overseas as a pollution-free continent. This reputation has been tarnished by chemical residues in our export crops. Regardless of whether this has resulted from greed, ignorance or bad management, we cannot, as a major food exporter, afford to lose our reputation. There is a huge market waiting to be supplied with 'pure' produce. This will require necessary controls and guarantees to be implemented so that consumers can be assured that they are not buying residues when they buy food.

A study commissioned by the UK Ministry of Environment recommended taxing of agrochemicals -

- 1) as a means of applying the polluter pays principle to chemical usage;
- 2) in recognition of the environmental costs of agrochemicals (Pearce report to Ridley, Minister for Environment).

Other commentators have noted that the costs of the health risks to both consumers eating and producers handling chemicals is a cost borne by the broader community.

There is widespread evidence that:

- 1) the extensive use of pesticides has in fact resulted in increased population of pests due to resistance and the reduction in predator populations;
- 2) that inadequate plant nutrition as a result of using soluble chemical fertilisers which provide major nutrients only renders crops more prone to pest and diseases;
- 3) crops can be grown with comparable yields, lower costs and significantly reduced environmental impacts through the application of "alternative methods" which reduce chemical usage.

A recent US study undertaken at Cornell University, revealed that a reduction in use of pesticides by 50%. would result in: - increase costs to American agriculture \$1 billion pa. - increase food prices by less than 1%. However the overall benefits to the American economy would be over \$2 Billion pa. in environmental and worker and consumer health benefits and other benefits accruing from reducing pesticide use, these include the impact on honey bee production, it estimated at \$150 million pa.

The US National Research Council report into Alternative Agriculture not only supports this view on honey bees but on benefits to reduction in pesticide use by the intelligent use of alternative agricultural practices.

"Widespread and heavy use of pesticides in this country has severely stressed some animals, including honeybee and wild bee populations (Brown,

1978). Honeybees and wild bees are vital to the production of about \$20 billion worth of fruits, vegetables, and forage crops. The large number of honeybees killed by pesticides resulted in the Bee Indemnity Act of 1970 to compensate apiarists for such losses. The act was repealed in 1980. But honeybees killed by pesticide use, loss of honey, and reduced crop yields account for at least \$135 million in losses each year (Pimentel et al, 1980)

Well-managed alternative farming systems nearly always use less synthetic chemical pesticides, fertilisers, and antibiotics per unit of production than comparable conventional farms. Reduced use of these inputs lowers production costs and lessens agriculture's potential for adverse environmental and health effects without necessarily decreasing - and in some cases increasing - per acre crop yields and the productivity of livestock management systems." US National Research Council 1989.

Impacts on soil

Professor Clinka, Director of the Leningrad Agricultural Institute wrote in 'Great Soil Groups of the World and their Development' that: "The soil has a very close connection to the organic life of the earth and exercise a reciprocating influence on it." Australia's best soil scientists, from both the Cooperative Research Centre into soils in Adelaide and from Csiro and Academic institutions tell me that they cannot say what the long term impact of repeated applications of herbicides is to the ecology of soil microbes. Further more many cropping farmers are concern and asking for this information.

They also inform me that resistance of target species, unintended impacts on the germination of subsequent crops is such as medics in certain soils and the inhibition of the uptake of trace elements are all unintended impacts of herbicides in cropping.

Left with all these unknowns and reported detrimental impact the industrial world's cropping soils have been subjected to another of the massive experiments of the 20th Century. The scale of this experiment is demonstrated by the following figures.

"The use of synthetic organic pesticides such as dichloro-diphenyl trichloroethane (DDT), benzene hexachloride (BHC), and (2,4-Dichlorophenoxy) acetic acid (2,4-D) began with great expectations in the 1940s. For the first time, satisfactory control of agricultural pests seemed possible.

The total pounds of pesticide active ingredients applied on farms increased 170 percent between 1964 and 1982, while total acres under cultivation remained relatively constant. Herbicide use led the way, from 210 million pounds in 1971 to a peak of 455 million pounds in 1982 (US Department of Agriculture, 1984) (Figure 1-19). In 1985, 95 percent of the corn and soybean acreage was treated with herbicides, compared to about 40 percent in 1970. As a percentage of total pesticide pounds applied, herbicides rose from 33 percent in 1966 to 90 percent in 1986 (US Department of Agriculture, 1970, 1986c; US Environmental Protection Agency, 1986b)." US National Research Council 1989.

Catchments - Impacts of herbicides

110 years ago Samuel Dixon warned in 1882, to the Royal Society of South Australia, that:

"The outlook for succeeding generations is indeed dismal should the destruction of the forests continue as in the past; our watersheds will become bare bald hills from which torrential floods will devastate the alluvial plains... the preservation of our indigenous flora, whilst looked upon as a fad by the ignorant and unthinking, is really in its cumulative effects, one of great national importance." Samuel Dixon in a paper presented to the Royal Society of South Australia in 1882.

Failing to hear the warning of the likes of Samuel Dixon has resulted in Australia's disastrous land degradation. One hundred years later, the future of much of our best farming land is dependent on the urgent reinstatement of

adequate tree cover. The massive salinity problems in the Murray Darling are testimony to the fact that Dixon was ignored and clearing proceeded unrestrained.

Yet as if these warning are not enough in Northern Australia aerial application of the arbourcide grassland has been used to clear vast areas of catchments there which if cleared the CSIRO warned would suffer the salinity consequences we now know so well in Southern Australia. Much greater areas are planned for clearing only being stopped by the current downturn in rural commodity prices.

Estimates of the areas involved indicate several billion trees could go, thus undoing the good work of the much acclaimed Billion trees program. This is war against nature not unlike the use of 2,4-D and 2,4,5-T in Vietnam.

Clearly technology is not neutral, These are powerful tools of destruction which can be used for warfare and the domination of nature. One could ask are consumer concerns considered in these uses of agricultural chemicals. I think not!

Impacts on Water.

Pesticide pollution.

"Water pollution is probably the most damaging and widespread environmental effect of agricultural production. Agriculture is the largest non-point source of water pollution ..."

"The highest concentration of pesticides are related to agricultural run off into streams and lakes ... A number of widely used corn and soybean herbicides have been detected in rivers, many of which are used as drinking water. In humid areas, where groundwater contributes the major proportion of stream flow, some herbicides may be delivered to surface water, via groundwater". US National Research Council 1989.

Residues of both herbicides and pesticides have been found extensively in both ground and surface waters in the United States. Concern for both the ecological consequences and the health effects on human communities relying on these waters has been raised. The following quotes from the US National Research Council indicate the extent of the groundwater pollution problem.

"Between 450 million and 500 million pounds of pesticides are applied to row crops each year. The majority of these are herbicides, most of which are applied before planting, and many of which are incorporated into the soil. Probably less than 5 percent of all pesticides applied reach a body of water (Phipps and Crosson, 1986). The highest concentrations of pesticides are related to agricultural runoff into streams and lakes. In intensively farmed states, such as Iowa, Minnesota and Ohio, a number of the widely used corn and soybean herbicides have been detected in rivers, many of which serve as drinking water sources. In humid areas where groundwater contributes a major proportion of streams flow, some herbicides may be delivered to surface water via groundwater (Hallberg, 1987).

It appears that many of these herbicides are not effectively removed from drinking water by conventional treatment or more sophisticated carbon filtration systems Pesticides have been detected in the groundwater of 26 states as a result of normal agricultural practices (Williams et al, 1988). The most commonly detected compounds are the herbicide atrazine and the insecticide aldicarb.

The USDA calculates that 1,437 counties, or 46 percent of all US counties, contain groundwater susceptible to contamination from agricultural pesticides or fertilizers (Figure 2-10). An estimated 54 million people living in these counties rely on underground sources of drinking water. The costs or benefits of decontaminating this water are not currently quantifiable. It is likely, however, that contamination in certain regions will persist for many years after remedial actions are taken (Nielsen and Lee, 1987). Several states (including California, Florida, Iowa, New York, and Wisconsin) have developed strategies for dealing with agriculturally induced groundwater contamination.

But changes in agricultural practices to reduce groundwater contamination are not widespread." US National Research Council.

Many of the agricultural chemicals recorded in water are in common usage in both Australia and the USA. The CSIRO has recommended that all agricultural chemicals which are banned in our major export markets should be banned in Australia.

The increased dependence on the use of chemicals in agriculture have major implications for water quality. Further concern is that we may in fact be polluting the entire hydrological cycle. There is evidence of pesticides in rain water. The US Environmental Protection Agency (EPA1987) reports that pesticides, notably the herbicide alachlor, have been detected at up to 6.59 ppb in rainwater.

The disturbing trend of frog dying out all over the world, particularly at altitudes over 3000 foot even in regions remote from agriculture and industrial development is possibly due to the overall contamination of the hydrological cycle.

The unknown impacts on fisheries and coral reefs is also disturbing. Coral is dying in many areas and may be attributable to many causes. Of course whatever pollutes rivers ends up in the estuarine systems and this evidenced by, *"High rates of pesticide runoff (greater than 30 percent above the average of all coastal states) were found in 21 estuary systems. High nutrient and pesticide runoffs were found in 15 systems"*. (US Department of Agriculture, 1988 in NRC 1989.)

The Future of Alternative Farming

Farmers are changing for their own reasons. Surveys undertaken by our department of Agriculture in Victoria indicate that a majority are interested in getting better information about organic techniques, and that they understood the benefits of reducing chemical use. The same trends are evident in America.

"Current scientific, technological, economic, social, and environmental trends are causing farmers to reconsider their practices and look for alternatives. Many farmers are turning to farming practices that reduce purchased off-farm input costs and the potential for environmental damage through more intensive management and efficient use of natural and biological resources.

The success of some of these farmers indicates that these alternative farming practices hold promise for many other farmers and potentially significant benefits for the nation. How fast and how far this transformation of US agriculture will go depends on economic opportunities and incentives, which are shaped by farm policies, market forces, research priorities, and the importance society places on achieving environmental goals.

Ultimately, farmers will be the ones to decide. However, significant adoption of alternative practices will not occur until economic incentives change. This change will require fundamental reforms in agricultural programs and policies. Regulatory policy may play a role, particularly in raising the cost of conventional practices to reflect more closely their full social and environmental costs. Today's alternative farming practices could become tomorrow's conventional practices, with significant benefits for farmers, the economy, and the environment." US National Research Council

Lack of Support for Alternative Farming Practices

There has generally been an absence of governmental support or encouragement of farming systems based on no or reduced levels of synthetic chemicals including fertilisers. Generally pesticide, herbicide and fertiliser recommendations are based on the primary objective of ensuring maximum short term yields from pastures and crops. While there is increasing evidence that water-way protection considerations are being incorporated into its chemical advisory services current farming practices based on low levels of synthetic

chemical input, have in the past been consistently ridiculed and denigrated by Government and industry when it is farming systems such as these which are sustainable and provide the opportunity to reduce pollution and, protect the environment.

"Research and extension program funds to study, develop and promote alternative farming practices are inadequate. It is unrealistic to expect more rapid progress in developing and transferring alternative practices to farmers without increased funding.

There is inadequate scientific knowledge of economic, environmental, and social costs and thresholds for pest damage, soil erosion, water contamination, and other environmental consequences of agricultural practices. Such knowledge is needed to inform farm managers of the trade-offs between on-farm practices and off-farm consequences.

Research at private and public institutions should give higher priority to development and use of biological and genetic resources to reduce the use of chemicals, particularly those that threaten human health and the environment.

Financial incentives exist for the development of crop cultivars that produce higher yields. But there is less incentive and more risk for private industry to produce cultivars designed to reduce input use and make various alternative farming practices more feasible and profitable. Thus, the federal government must increase its support for this type of research.

Greater support for research on biological controls and improved plant nutrition is also needed. Research on and implementation of biological control lags far behind total support for other pest control methods, even though several important pests remain difficult or costly to control by current methods. Better understanding of the role of plant nutrition and health in resisting pests, utilising available soil nutrients and improving yields could be of great benefit to farmers. Greater public support is needed, however, to support research designed specifically to achieve these goals and reduce input costs and the environmental consequences of current practices." US National Research Council 1989.

Weeds as Indicators

It is important that we attempt to understand weeds as indicators of important ecological processes rather than simply something to be exterminated as expediently as possible. While it is recognised that developing control strategies is important, understanding the root environmental cause of the dominance of particular weeds can give us valuable insights into fundamental ecological processes.

The following case study describes this clearly. This based on the work of David Holmgren, a consultant in land management who specialises in teaching people about reading the landscape.

A perspective of Patterson's Curse/Salvation Jane (*Echium plantagineum*)

"Salvation Jane is a common weed of improved clover based pastures over wide areas inland of the Great Divide in eastern Australia. It can compete strongly with more palatable pasture species and reduces stock carrying capacity.

On the other hand it is a valuable source of nectar for apiarists, particularly in areas where tree decline has reduced the number of trees and yields of the preferred bee forage, Yellow Box.

The plant regenerates very vigorously on bare ground following the autumn break and quickly forms a spreading rosette which outcompetes clovers and other desired pasture species. A spike taproot allows the plant to tap subsoil moisture well into the summer when it forms a large prolifically flowering top. Like many weed species attraction of bees ensures abundant seed set.

The main factors leading to an abundance of Salvation Jane and similar weed such as Thistles and Cape Weed are as follows;

- * The absence of drought resistant perennial grasses forming a ground cover

at the end of summer.

- * Abundant soluble nitrogen from a predominance of clover followed by high stocking rates and abundant animal manure.

This situation is widespread on pastoral properties where clover based annual pastures, simulated with phosphate fertilisers and grazed under set stocking regimes have been the dominant strategy for increasing productivity.

Drought conditions exacerbate the bare ground and nitrogen accumulation and following the breaking of the 82/83 drought a massive increase in Salvation Jane and similar weeds was noted. Around Young, it was noted that drier upper slopes which had been retained in native pasture dominated by Kangaroo grass was not severely affected by the drought and had few weeds as did the creek flats, mostly sown to lucerne and with a long history of arable use. On the other hand the extensive mid slopes which had been converted to improved pastures following

WWII collapsed completely with extensive wind and sheet erosion and massive blooms of weeds the following season including Salvation Jane.

The ecological role of species such as Salvation Jane is to soak up soluble nitrogen before it can be leached and convert it to organic matter.

Maintenance of pastures in a perpetual pioneer stage dominated by clovers is bound to lead to nutrient losses, land degradation and/or weed invasion in the long term. The abundance of a weed such as Salvation Jane should be taken as a warning sign of unsound land use practices. In this case the characteristics of the weed indicate the need to more efficiently use nitrogen. Strategies to avoid the loss of nitrogen and weed invasion include: * Low stocking rates.

- * Land class fencing and rotational grazing to ensure vigorous and deep rooting pastures in all seasons including droughts.

- * Inclusion of perennial summer active grasses as a major component of pastures.

- * Trees and shrubs as an integral component of the pastoral farming system.

Any elimination of the weed (including biological control) without developing a sustainable pastoral farming system is bound to result in invasion by some more noxious nitrogen stabilising weeds.

It appears these issues were not considered or dismissed in the scientific, economic and legal investigations of biological control.

Concurrent with these investigations, work on salinity and the more recently identified problem of acidification have shown that without deep rooted perennial grasses, pastoral farming in these parts of Australia is completely unsustainable.

The research on acidification is particularly damning. It shows the main cause in pastoral areas is leaching of soluble nitrogen which accumulates under clover dominated pastures with high set stocking rates. The leached nitrogen becomes a pollutant of groundwater and river systems while acidification of the soil caused by its leaching releases quantities of aluminium into the root zone which can be toxic in extreme cases and probably result in animal health problems long before.

Thus Salvation Jane can be seen as Nature's attempt to correct the acidification by invasion of a species capable of stabilising the nitrogen in an organic form which is then available for use by other plants. However the relationship between weeds and land degradation in the minds of most farmers, agricultural advisers, economists and scientists continues to be a simple equation; weeds equal land degradation.

Ironically Salvation Jane is relatively palatable and nutritious before it flowers. Most weed species are either unpalatable or spiny. Classification as a weed even from a limited pastoral productivity perspective seems questionable.

All terrestrial ecosystems tend to work to hold water and nutrients as high in catchment landscapes for as long as possible against the inexorable force of gravity which eventually takes everything to the sea and even degrades

the kinetic potential of elevation. Any human land use system which fails to perform these basic functions is unsustainable.

Pioneer and disturbed states of ecosystems can often provide large but general simple yields to humans. However, if the system is not allowed to cycle through to more mature states then degradation which reduces the total biological productivity of the system and eventually the yields to humans is the likely result.

Weed invasion is very frequently indicative of a disturbed or vacant niche resulting in less than optimal use of sunlight, water and nutrients.

Unused nutrients or energy become pollutants in some forms or other." Holmgren 1992.

Apple and Pear Growers agree to reduce pesticides

As a result of work undertaken by many organisations, but principally coordinated by the Australian Consumers Association the ACF has been involved in developing the Draft Pesticide Charter of the National Food Policy. Once this was coherent, producer organisations were asked to comment and if possible agree to the nominal targets for the reductions in the use of pesticides in their industry. Other than the fully organic (no synthetic pesticide user groups) the Australian Apple and Pear Growers Association joined the signatories to this charter.

The following is copy of the draft charter so you can get a clear idea of how consumers, producers and environmentalists can work together to improve the overall performance of agricultural systems.

PESTICIDES CHARTER

INTRODUCTION

The past 10 years have seen growing public concern about use of agrochemicals, particularly pesticides. This has often been presented as a conflict between the needs of the agriculture industry on the one side and the public on the other with both sides citing scientific evidence for and against health risks.

In reality, many farmers and growers have been systematically reducing their use of pesticides and are becoming more selective in those they use. Many have been developing alternative approaches to pest control.

Those who are concerned about the impacts of pesticide use welcome these developments. Many community, consumer, environmental, union and other organisations recognise that positive changes are taking place and also realise the problem faced by growers in adopting alternative methods at this time.

Recently a number of organisations representing groups from both sides of the debate have begun to seek common ground.

This draft charter is an attempt to define the basis for further discussion based on a recognition that no one wins if there is public confrontation over the issue of pesticides.

At the simplest level, No one goes shopping for pesticide residues and no one wants to contaminate the environment in which we live. Therefore, in the long term, all methods which can reduce residue contamination of food, soil and water are considered desirable.

Campaigns which increase public concern will damage the quality image of the food industry - particularly the foods such as fruit, vegetables and cereals that people are being encouraged to eat more of for a balanced diet. This has implications for exports as well as foods consumed in Australia.

The aim is therefore to explore the possibilities for cooperation between public interest groups and producers around the following six points are offered as a basis for further discussion:

SIX POINTS TOWARDS A CHARTER FOR AGRICULTURAL PESTICIDE USE IN AUSTRALIA

1. Reducing pesticide use is desirable

All parties agree that reducing the use of pesticides in food production is beneficial to consumers, growers and the environment.

2. Alternatives are being developed and used

Alternative methods of pest control are being used successfully in Australia and abroad.

Alternatives include:

- * Integrated pest management methods and techniques such as
 - farmer/grower participation and education;
 - ecological studies on the crop and associated organisms;
 - cultural practices;
 - population monitoring by inspection and/or lures;
 - rotation and inter-planting of crops;
 - biological control using predators and parasites;
 - encouraging natural predation;
 - intervention control methods, both chemical and physical;
 - pheromone controls;
 - system management through computer models.

* Limited use of selected pesticides where no viable alternative has yet been developed;

* Improving application techniques to reduce pesticide use;

* Non pesticidal crop and grain storage methods;

* Organic and biodynamic approaches (which include some of the above.)

These alternatives show potential for maintenance of economic yields, reduction of costs to growers and reduced long-term contamination of food, soil and water supplies. They can also help reduce other undesirable impacts of pesticide use such as increased resistance in pest species and effects on non target species and flora.

Above all, these are desired by consumers, particularly the growing body of environmentally conscious consumers, and those who work in food production.

Coordinated action is needed to overcome growers' problems

There exist very real problems in the short term for some growers in making the transition from current practices. These problems require coordinated action by government, consumers and the industry at community, State and Federal levels.

Market forces often discriminate against growers making the transition from high levels of pesticides input to integrated pest management methods. Coordinated action is needed on four fronts:

3.1 Dissemination of information on successful ventures and viable alternative methods.

3.2 Further research and demonstration projects using alternative methods.

3.3. Government fiscal measures to encourage use of viable alternatives and discourage continuing high use of agrochemical pesticides.

3.4 Education of consumers and the food marketing/retailing/distribution industries about the efforts being made. These might include:

- * labelling and marketing systems to identify the products grown within schemes working towards national targets for lower agrochemical inputs.
- * promotion schemes such as "food with character" highlighting different aspects of quality, variety of taste and size etc. rather than the current tendency to uniformity of products and the emphasis on appearance.

Targets need to be set for reducing pesticide use by the year 2000

All parties agree that definite and attainable targets for overall reduction of pesticide use should be established and a national program to implement such targets be developed at local level with due allowance for regional and local variations.

As a starting point, all parties agree to explore the possibilities for achieving the following reductions in overall pesticide usage:

- i) A 25% reduction within three years.
- ii) A 50% reduction within five years.
- iii) A 75% reduction by year 2000.

Agreed steps to achieving the targets

Priorities for achieving the above targets include:

5.1 Rapid progress towards deregistration, prohibition or restriction of use in Australia of all pesticides currently un-used or unnecessary for agricultural production.

5.2 Identification and review of pesticides for which better alternatives exist and a timetable for phasing out of these in Australia by prohibition, deregulation and/or restriction of use.

5.3 Identification of chemicals whose effect is largely cosmetic and phasing out of these in tandem with efforts to promote a different image of quality to consumers.

5.4 Identification of the various alternative approaches being practised and developed in Australia and a national discussion between all interested parties; government; producers; consumers; environmentalists; workers and researchers about how to extend their use and the appropriateness of different approaches to local and regional situations.

5.5 Discussion among all interested parties about redundant stocks of pesticides to ensure safe disposal and prevent illicit use and marketing abroad.

5.6 Creation of a national working group representing the above interests to develop forward plans including additional research, on-farm trials, public education and fiscal measures for achieving - the target reduction by the year 2000.

6. Starting the dialogue

The five points above are accepted as a basis for further dialogue by the following individuals and organisations who have initialled this draft.

Australian Consumers' Association
 Australian Conservation Foundation
 Greenpeace Australia
 Total Environment Centre
 Systems Pest Management
 Action for World Development
 Centre for Human Aspects of Science & Technology

Summary

In summary its worth pointing out that reductions in pesticide use is good for just about everybody, farmers, consumers, and the environment the only interests which suffer are the manufacturers and marketers of chemicals. Therefore the market challenges them to produce the safest and most environmentally and consumer benign weed control strategies and products possible.

References

US National research Council Alternative Agriculture 1989
 Draft Food policy and Draft Pesticide Charter Australian Consumers Ass.
 CSIRO Australia's Natural Resources and Environment 1989
 Acres Australia Issue 5