

**REPORT OF PROCEEDINGS BEFORE**

**STANDING COMMITTEE ON STATE  
DEVELOPMENT**

**INQUIRY INTO THE USE AND MANAGEMENT OF PESTICIDES  
IN NEW SOUTH WALES**

---

**At Sydney on Monday 21 June 1999**

---

**The Committee met at 9.30 a.m.**

---

**PRESENT**

The Hon. A. B. Kelly (Chairman)

The Hon. I. Cohen, The Hon. J. R. Johnson, The Hon. I. M. Macdonald,  
The Hon. Dr B.P.V. Pezzutti

**CHAIR:** Evidence given before the Committee and any documents presented to the Committee that have not been tabled in Parliament may not, except with the permission of the Committee, be disclosed or published by any member of such Committee, or by any other person. Copies of the guidelines covering broadcasting of the proceedings are available from the Committee staff.

**Motion by the Hon. Dr B. P. V. Pezzutti agreed to:**

That in accordance with the resolution of the Legislative Council of 11 October 1994 the Committee authorises the sound broadcasting and television broadcasting of its public proceedings held today.

**JEFFREY SAMUEL ANGEL**, Director, Total Environment Centre, 2/362 Kent Street, Sydney, and

**JOANNA LIZA IMMIG**, Chemicals Campaigner, Total Environment Centre, 2/362 Kent Street, Sydney, affirmed and examined:

**CHAIR:** Did you each receive a summons issued under my hand in accordance with the provisions of the Parliamentary Evidence Act 1901?

**Mr ANGEL:** Yes.

**Ms IMMIG:** Yes.

**CHAIR:** Are you each conversant with the terms of reference of this inquiry?

**Ms IMMIG:** Yes.

**Mr ANGEL:** Yes.

**CHAIR:** If you consider at any stage during your evidence that in the public interest certain evidence or documents that you may wish to present should be heard or seen only by the Committee, the Committee would be willing to accede to your request and resolve into a confidential Committee. However, if that becomes the case the Parliament has the right to override that decision and make any evidence public at a later stage. Jeff, would you like to make a statement?

**Mr ANGEL:** Jo and I will make a view brief statements. The Total Environment Centre [TEC] has been involved in the pesticides issue for many years. We have a long history of research, public consultation and public education activities and have been involved in assisting a wide range of rural groups which have been beset by pesticide load and chemical pesticide issues. As well, we run a public information service which is used daily when people suddenly discover a potentially hazardous chemical is being sprayed next door or in the house. We regard the Government response so far as ineffective and that the problems are getting worse. For example, attempts to mediate in areas such as Gunnedah and Middle Pocket have clearly failed.

**The Hon. J. R. JOHNSON:** Which Middle Pocket—on the North Coast?

**Mr ANGEL:** Yes.

**The Hon. Dr B. P. V. PEZZUTTI:** Near Billinudgel?

**Mr ANGEL:** Yes. There is increasing demand on TEC from the public in both rural and urban areas for information and assistance. In fact it is getting quite serious, particularly following the last couple of spraying seasons in the country so far as people's emotions in relation to this issue. In response to that community concern and the cost of dismissal by industry and some Government members and agencies, that pesticide problems were anecdotal and isolated, the TEC commissioned an Opinion Poll in 1998. Of those polled in city and country areas, 86 per cent were considered about the effects of pesticides on the environment; 92 per cent were in favour of increased regulation, increased controls, of pesticides. It was of note that the rural perceptions and attitudes were higher than the country attitudes in terms of being very concerned about the effects of pesticides.

**CHAIR:** The concerns of the rural community were higher than those of the city?

**Mr ANGEL:** Yes. The people outside Sydney were more concerned about the effects of this on the environment and were strongly in favour of improving controls on the use of pesticides. Not by a lot, but it was interesting that the convention was that country people were more tolerant of pesticides.

**The Hon. Dr B. P. V. PEZZUTTI:** Who compiled that report?

**Mr ANGEL:** Newspan, in May 1998. I table that document.

**Document tabled.**

The concerns about pesticides have led to the national strategy investigations. The National Strategy for the Management of Agriculture and Veterinary Chemicals acknowledges these problems and defines objectives to address them. The strategy identified reducing reliance on chemicals, risk reduction and use of chemicals as key objectives. It is essential that State legislation also embodies those objectives. The last spray season was a disaster; cattle from New South Wales were contaminated with endosulfen, which threatened exports and led to the national registration authority introducing tough new controls on all cotton industries. The town of Gunnedah was enveloped in a cloud of curacon, a cotton chemical. Community claims of illness were dismissed as psychosomatic.

Children in northern New South Wales were sprayed with pesticides while waiting for school buses. A plane crashed and spilled its load in Gunnedah. Contaminated pesticide containers are regularly dumped in local waste disposal facilities. Waterways, vegetation and wildlife were once again exposed to a cocktail of pesticides. These are the incidents we know about.

**CHAIR:** Do have information on those specific incidents?

**Mr ANGEL:** I can provide that. The question we ask is: Why was the last spray season another disaster after a history of industry, particularly the cotton industry, trying to sort itself out? We obtained a report by the Australian Cotton Foundation Ltd dated 8 November 1995 which stated in its covering letter that deteriorating public and government perceptions of the industry necessitated the commissioning of attitude research immediately. It stated "it is sobering reading when contemplating the task that is ahead of us if we are to recapture lost ground". The 1995 report further stated that the aim was to position cotton as a value commodity with broad-ranging community support and the cotton industry generally as a good environmental citizen within two years. That was 1997, two years after the report, and it failed. A lot of questions should be asked about why it failed.

One of the reasons that we believe that the cotton industry and other intensive users have failed is that they are incapable of controlling the cowboys in the industry. Unlike the views of New South Wales farmers and the cotton industry, we do not believe that there are a few cowboys; we believe there are a lot of cowboys, and that is symptomatic of the lack of best practice which the industry cannot adopt voluntarily. For that reason we have rejected the self-regulation policies of the New South Wales Farmers' Association and the cotton industry. We have examined the best management practices manual of the cotton industry which became public a few months ago. That manual espouses voluntary compliance with minimum standards for environment protection and management without real consultation with stakeholders about the standards. There is no vision for the industry to minimise reliance on pesticides in the future or even acknowledge that the pesticide load must be reduced.

Essentially the best practice manual, which the cotton industry claims is the most advanced available in agriculture, contains a self-assessment process, it has a system of questions from which people try to find out where they rank in pesticide use and potential impacts. It basically does nothing except to wait for the farmer to do something, without any particular prompting. There are a number of ranks, one, two, three and four; ranks three and four are absolutely appalling and should be banned or regulated out of existence rather than waiting for a patchy and slow evolution in the industry.

When the Carr Government came to power in 1995 it transferred the Pesticides Act to the Environment Protection Authority, and this was the first major move in improving regulation, because it separated regulation of pesticide use from the agricultural encourager or operator which was the Department of Agriculture and which previously held the Pesticides Act. However, there is a major task which has to now be done and that is to fix the Act so it can be brought up to modern standards to prevent chemical trespass and protect the environment and people's health in the urban and rural environments.

**Ms IMMIG:** It is fair to say that New South Wales pesticide legislation is out of step with international, national and other State trends to reduce risk of exposure to pesticides. The Environment Protection Authority[EPA] discussion paper "Improving Pesticide Management in New South Wales" identifies Queensland, South Australia, Victoria and Tasmania as having more stringent requirements in some areas of pesticide regulation than New South Wales. New South Wales is a significant user of pesticides, if not the greatest user of pesticides, although it is difficult to determine that accurately

because we do not collect any use data in this State. Therefore, I believe New South Wales should be leading the way with pesticide regulation and management. Instead, we have an Act that is more than 20 years old and it fails to protect the community and the environment from pesticide exposure.

Certain agricultural groups such as cotton and farmer associations have dominated the scene and community groups have been persecuted for raising their genuine concerns. The key issues for amending the Pesticides Act were contained in our submission so I will not reiterate them here. However, I would like to add some further comments to some recommendations that we believe may be controversial and difficult. The first of those is notification and community right to know. One of the fundamental complaints the Total Environment Centre receives from the community in both the rural and urban areas is about the lack of obligation of pesticide users to notify people of their intention to use pesticides. The notification period that is often discussed that would be helpful is 48 hours in advance. This would help people on both sides to take the necessary precautionary actions to protect themselves from exposure and to ensure the applicator is not applying pesticides on sensitive areas. The precautionary principle must be applied here because we keep finding out about serious unanticipated health and environmental impacts of pesticides.

Access to data about the volume and types of pesticides used in regions must also be made available to the community. It is dangerous not to know enough, and we have to guard against that. The Total Environment Centre frequently receives calls from members of the community in both the rural and urban areas. In the urban environment they go along the lines of, "I am at home with my baby. I have washing on the line and a vegetable patch out the back. The neighbours are spraying their house with chlorpyrifos. Is this dangerous? I have a bit of a headache, the chemical smell is filling my house. What should I do?" We also had a call from a child care centre in a state of panic. A bowling green directly next door was being treated heavily with pesticides while children were in the child care centre.

Another significant issue is the location of intensive pesticide-using agricultural industries. The nature of agriculture in New South Wales has changed dramatically from what it was 20 years ago. We now have many different types of crops next door to each other, and intensive crops such as cotton and rice, using large volumes of highly toxic chemicals, can be right up against something very sensitive such as an organic farm or livestock. The endosulfin beef residue crisis last year indicates this is a significant issue for trade as well as the environment and community health. There is documented scientific evidence that pesticides associated with cotton crops move off the crops and contaminate waterways. The Department of Land and Water Conservation's pesticides monitoring programs for 1995-96 and 1996-97 both indicate clearly that inland rivers in New South Wales are regularly inundated with pesticides every intensive pesticide-spraying season at levels that exceed the Australia and New Zealand Environment and Conservation Council guidelines.

A Commonwealth Scientific and Industrial Research Organisation investigation of endosulfin transport mechanisms in the riverine environment found that volitalisation of endosulfin from the cotton crop is a continuous process which eventually removes 70 per cent of the total endosulfin deposited during a spray. Basically, it goes up in the air and causes air pollution. I table that report as well.

**Document tabled.**

Intensive pesticide-using agricultural enterprises that pose significant risk to the environment and public health should be regulated through planning instruments. Why should an intensive pesticide-using crop be treated any differently to a polluting factory in the urban environment, where it is subject to a whole raft of development and planning controls? Why should a cotton crop, for example, be able to establish anywhere it likes and make life hell for neighbours and the natural environment as well? A current example of suitable planning processes is currently occurring in Dubbo, where the regional environment plan treats cotton farming as a separate type of intensive agricultural industry requiring a development application.

**CHAIR:** A local environment plan.

**Ms IMMIG:** Is it? The Dubbo community has expressed its significant concern over the potential siting of a cotton farm on the banks of the river and next to a sensitive aquifer recharge area. Lastly, I think the development of the pesticide reduction council is very important, because reducing pesticides is an ongoing and complex task. New information is constantly coming to light and the New South Wales Government must remain informed about these developments and set targets for risk reduction based on data about pesticide use in New South Wales. Currently, we do not know what is being used where and in what quantities, so how can we possibly be carrying out risk assessments without that fundamental layer of data?

Because this issue crosses so many jurisdictions—health, agriculture and local government—it is critical that the issue is tackled from all sides and involves all relevant ministries and representation from community and environment groups. The council should not be just an advisory council with a minimal impact. It should report to Parliament and assist the New South Wales Government to achieve the goal of reducing pesticide pollution in New South Wales so that we can lead the way with regulation and management of pesticides and not drag the chain as we currently are.

**The Hon. I. COHEN:** I am wondering about the experience in Europe, and I am particularly interested in aerial spraying. Could you enlighten the Committee as to whether you have any information on measures taken, targets set, in Europe, in relation to agvet chemical reduction and, in particular, the overseas experience, especially Great Britain's experience with aerial spraying?

**Ms IMMIG:** There are a number of international programs for pesticide risk reduction. Some are set in legislation, others take a different approach. The Netherlands, Switzerland, Denmark and Germany have excellent programs that either set targets or have pesticide risk reduction measures from all different aspects built into them. Yes indeed, some places such as the United Kingdom have certainly restricted aerial agricultural spraying in many places. I do not know whether they have banned it.

**The Hon. I. COHEN:** Has your organisation assessed the ability to do away with aerial spraying and whether we could have an effective regime that would function in the Australian environment, particularly in the cotton industry, with perhaps a

better form of delivery of what sprays had to be applied?

**Ms IMMIG:** It is a highly technical issue and certainly there are opportunities for other types of applications of pesticides through ground rig operations, and so on, and also a move away from applying pesticides to those crops ultimately. I think the 1990 Senate Select Committee into Agriculture identified that if all the social and environmental implications of aerial agriculture could not be accounted for then Australia should certainly look towards banning it. A lot of people in those areas, living with aerial spraying in their everyday lives, hope it is something we move away from, because it causes a great deal of pesticide drift.

**The Hon. I. COHEN:** Is that the position of the Total Environment Centre, to ban aerial spraying?

**Mr ANGEL:** Yes.

**The Hon. I. COHEN:** Jo, you mentioned consideration of planning measures. Could you give the Committee some indication of planning measures that may be effective to alleviate the conflict about pesticide use and application?

**Ms IMMIG:** I might ask Jeff to answer that.

**Mr ANGEL:** Essentially, the Environmental Planning and Assessment Act sets up different types of rigour of assessment for industries that are regarded as having different scales of environmental and social impact. There is no doubt that in the rural sector the intensive chemical-using developments have escaped sensible levels of environmental and planning assessment. It was a little bit of a surprise to find that Dubbo had brought in such planning.

**CHAIR:** It is a very progressive area.

**The Hon. I. COHEN:** It could be the influence of the Committee Chair; you never know.

**Mr ANGEL:** Possibly Dubbo wanted to escape the fate of Moree and Gunnedah. The treatment of the development application [DA] for the cotton farm near the river, near the aquifer and near the town, although not receiving the complete level of assessment that should be required, makes it quite obvious that the council is examining intensively the environmental, economic and health impacts. That is the sort of thing that should happen for such intensively chemical-using activities that chemically trespass.

Any major industrial development in an urban area from which pollution will escape outside its borders requires extra assessment. The health of people and the environment outside the border of that proposed farm are subsidising those activities through the environmental and social costs. We would prefer that intensive chemical-using industries in particular locations are made designated developments under the Environmental Planning and Assessment Act, which would bring them in concert with a whole range of other proven polluting activities in urban areas, mines, major roads or industrial and chemical processes.

On that scale people would be able to have a say. One of the reasons that people in the country are so angry about pesticides is that they do not get a say. No-one ever asks them whether their neighbour who is going to chemically trespass on them— whether through aerial spraying or tailing waters released into the stream that they use for stock and domestic purposes, or during flood times when sediment from the sprayed farm flows out over a whole range of other farms—should do it. The anger, the emotion and the polarisation of the debate in country areas is particularly progressed by this lack of consultation.

**The Hon. I. COHEN:** In your report to this Committee you mentioned that two people, one of whom is a Dr David Cook a local general practitioner in Gunnedah, stated that 500 people reported symptoms such as fatigue, headaches and gastro-intestinal upsets thought to be related to pesticides. The other person you mentioned was Mr Peter Clancy who reported that following aerial spraying on nearby cotton fields a large number of children suffered sores on exposed skin and were extremely fatigued and lacked concentration, and often had to be sent home. Has there been any further investigation into those specific matters? In the light of this type of information, which I understand has been repeated in many areas, do you have any opinion on how we should look at financial liability, and how we prove these types of issues?

**Ms IMMIG:** I am not aware of any further investigation into those specific incidences, although there may well be.

**Mr ANGEL:** In terms of social, financial and environmental liability, it is quite obvious that the current legislation fails to give people their due rights. The most notorious cases are when a person's cattle are contaminated and rejected by the abattoir. In the past 12 months or so the cotton industry has instituted some sort of compensation process, but there is no compensation process for people's rainwater tanks being contaminated; there is no compensation process for people's kids who are sprayed at a school bus stop.

The legislation and/or the ability of Government to protect those people has been sadly lacking. We are certainly concerned that pesticide legislation allows people to protect themselves by court action, if necessary, but one would hope that is a last resort because we want to reduce the number of those incidents. The threat of court action certainly helps to reduce those incidents and makes industry behave better. Bodies such as the Environment Protection Authority [EPA] should be given much more modern-day powers to prosecute.

At the moment the ability under the Pesticides Act to prosecute cowboys is 20 years behind the times. It is not even equivalent to the powers of the EPA under its existing pollution legislation. It is a fairly embarrassing situation for the EPA that it can be seen to be prosecuting polluters in the city, but out in the country it cannot touch them because the legislation is so prehistoric.

**The Hon. Dr B. P. V. PEZZUTTI:** There was a flurry of activity at Coffs Harbour associated with the spraying of bananas and cleft palate. It was aggressively followed up by the Department of Health as a major study. Could you tell me the result of that study?

**Ms IMMIG:** The study concluded that there was a cluster, but that it could not necessarily be associated with the chemical used on the banana crop. It found high levels of chlorpyrphos, which is a chemical frequently used in domestic pest control. But I do not think the study conclusively concluded that the cleft palates were not associated with agricultural chemicals.

**The Hon. Dr B. P. V. PEZZUTTI:** The buffer zones used to protect ecologically sensitive areas—children, public places and residents—go to the very heart of farming and farming practices. Do you think there should be a much stronger role for the Department of Urban Affairs and Planning to set aside areas for farming, rather than mixing farming with residences?

**Mr ANGEL:** In these days of intensive agriculture that is clearly a question that is asked more often than previously when we had generally benign or kinder impacts from just a bit of grazing, but in the country we have the onset of feedlots intensive chemical-using industries, which not only includes cotton but rice. Mudgee had a controversy about spraying for vineyards, which were close to town. There is no doubt that planning law and the skills resident in the planning agencies at a local and State level have not kept pace with the changes in agriculture.

One of the things that generally concerned us and many people is that because of the sterilising effects of the pollution from these intensive activities we are seeing a loss of environmental and economic diversity in rural areas. You end up having to rely more and more on cotton, for example, because grazing is being driven out. It is incredibly unhealthy for a country town to rely on a single or dominant income source because if the market goes into a deep downward spiral the town goes into a downward spiral as well. The ecological health of a place is fundamental to its economic diversity, and that is fundamental to its sustainability.

**The Hon. Dr B. P. V. PEZZUTTI:** Representatives from the Department of Agriculture will appear before the Committee today. New South Wales Farmers put out a document about the shrinking of agricultural resources. Would you support an increase in the funding for New South Wales Agriculture to provide both advice and a research base for the limitation and reduction of the impact of pesticide use?

**Mr ANGEL:** No. We do not believe that the Department of Agriculture is the appropriate body. It has a vested interest in promoting intensive agriculture. At the moment it is actively engaged in promoting cotton in the Lachlan area, which has not had cotton before. In terms of the credibility and perception of the public, Agriculture should be kept right out of it and a more robust government agency should promote that sort of activity. That is why the Pesticides Act was moved to the EPA, that is why the Pesticides Risk Reduction Council that we are proposing should lie with the EPA and should report to Parliament.

**The Hon. Dr B. P. V. PEZZUTTI:** Do you propose that all people who handle pesticides should do an accredited course? Would this go further than occupational health and safety training? What extensive course would it be?

**Ms IMMIG:** Currently voluntary courses operate for safe use in farm chemicals. To some extent they involve occupational health and safety and also

environmental concerns. But examination of the material in those courses suggests to me that perhaps they do not go far enough and that certain levels or categories of chemicals require more stringent training. For example, schedule 7 chemicals should be restricted to certain people who have attained a certain level of training with those materials. That training should be mandatory, not voluntary as it is at the moment.

**The Hon. Dr B. P. V. PEZZUTTI:** Your other proposal is that the Act should provide for third party rights to uphold public duties and initiate prosecutions under the Act. If a child is under a spray drift, a pesticide invasion, or trespass, and that child develops symptoms, for example to organochlorides, and the child becomes very weak, common law rights to litigation are currently available for such people, are there not?

**Mr ANGEL:** You could argue that case with any other pollution law that we have passed in the last 20 years and the common law rights have been found to be wanting. One of the reasons is the necessity to have a precautionary approach because of the links between chemicals and health, and chemicals and environmental impact are such that they require an enormous level of resources to establish. If we are going to reduce that chemical load on the environment and on people, and you might say a person's rainwater tank is contaminated, why cannot that person sue the guy who has the nearest cotton farm?

The prevailing weather conditions would make that link. Unfortunately, the levels of evidence, like the tobacco industry, are continually thrown up to stop such cases. As with pollution law and the EPA the rules of evidence and the rules of the rights to prosecute have been expanded. As we know, there is a problem but the common law is such that it reduces the ability to make those links known and to prosecute those links.

**The Hon. Dr B. P. V. PEZZUTTI:** Agvet chemicals are commonly used by ordinary gardeners. Should they have to go through some sort of program or training, when one considers that there are many more gardeners than there are farmers?

**Ms IMMIG:** That is quite a complex issue that relates back to the scheduling of different chemicals and what should be available on the domestic market. Label directions and material safety data sheets may be enough material for the home gardener if only certain levels of chemical are available to them.

**The Hon. Dr B. P. V. PEZZUTTI:** You refer to statutory advisory committees. Do you expect similar committees to those thrown up by the Minister in relation to fishing?

**Mr ANGEL:** I would hope that the relationship between the Minister and committees, and those who are setting them up in Parliament would be much more friendly and efficient. Pesticides are such a significant issue that they need airing in Parliament and the community. For that reason we are supporting a Pesticides Reduction Council which can initiate its own investigations and report to Parliament. But it is also made up of a range of stakeholders who will be able to work together to improve the situation. I believe anyone you will be talking to today would reflect upon the polarisation of the issue and why we need to get cowboys under control. There are a lot of cowboys out there and they need a range of legal and planning hints to do the right thing. We still have a fairly major job to do in getting people to work alongside each other.

**The Hon. Dr B. P. V. PEZZUTTI:** This legislation was promised prior to the 1995 election and has not come forward yet. Are you hopeful that it will come forward in this particular session of the Carr Government?

**Mr ANGEL:** During the election this year we obtained a written commitment that—

**The Hon. Dr B. P. V. PEZZUTTI:** You got that last time.

**Mr ANGEL:** Yes. Well, they failed in 1995 to 1999, absolutely. In the 1995 policy they said they would reform pesticide legislation as a package of reforms of all the environmental legislation under the Environment Protection Authority [EPA]. Under the 1999 election we obtained a written commitment that the new legislation to reform pesticide regulation would be introduced by July 1999. There was a clear reason for that: so that we could avoid another spraying season like the one we have just experienced. I fear for the people of rural New South Wales and for the EPA. The little old Total Environment Centre [TEC] is getting more calls in the summer spraying season from very worried people about incidents like whole towns and school buses being sprayed. We really have to stop it to get the debate back to some sensible level where we can get constructive issues of pesticide risk reduction on the ground. There is only so much that people can tolerate by being polluted completely and involuntarily from the skies.

**The Hon. J. R. JOHNSON:** Are there any bans, restrictions or protocols in countries of manufacture or development of certain pesticides but the product has continued to be sold to underdeveloped, developing and advanced countries?

**Ms IMMIG:** That situation certainly occurs. The United States of America has many chemicals that are not permitted for use there but are manufactured and exported to other countries for use.

**The Hon. J. R. JOHNSON:** What attitudes do Australian governments—State, Federal and territorial—have to that sort of product?

**Ms IMMIG:** Historically Australia has been slow to react to chemicals that have been internationally recognised as of concern and withdrawn in other countries. Organochlorines are the classic example. We were much further behind Europe and the United States of America in our withdrawal of organochlorines from the market here.

**The Hon. J. R. JOHNSON:** If you do not wish to answer any of my questions forthwith, I would be happy if you would let the Committee know your answer at a later stage. Is a protocol in place in one State, Territory or in the Commonwealth accepted in all other States and Territories?

**Mr ANGEL:** In Australia there is a distinction between the rules concerning which chemicals can be used and their application. This is done at a national level with the National Registration Authority [NRA], and Jo might say a bit more about that in a moment. Each State has different rules controlling the way they are applied and the standards to which they are applied, and the legal rights which affect that application process, as well as the planning issues. Each State has its own planning approach and buffer zones et cetera.

**The Hon. J. R. JOHNSON:** Is the short answer that a protocol in one State is not necessarily accepted in the others?

**Mr ANGEL:** No, not unless it is under a National Registration Authority label.

**The Hon. J. R. JOHNSON:** I can recall being in the United States of America when Gerry Brown was Governor of California and, of course, was thrown out of office because of his anti-pesticides attitudes. However, most propositions he put forward are now entrenched in the law. Perhaps he was a man before his time. Can you indicate if there is a model you think we should be aiming for?

**Ms IMMIG:** It is possible that we need to look at all existing programs and at what is good in them and what might be appropriate for Australia.

**The Hon. J. R. JOHNSON:** Has that been done?

**Ms IMMIG:** I do not believe so, to any great extent.

**The Hon. J. R. JOHNSON:** Is it mandatory to advise, say, the health department, local government authorities, doctors and neighbours, et cetera, of any contaminants that may be used in a process or are going to be used?

**Mr ANGEL:** The NRA in its new labelling for endosulfen after the last year's cattle contamination episode now requires certain notifications. I do not think we are aware of any other general rule that applies for any other chemical. There may be some local practices and there have been some attempts in Gunnedah for example to develop voluntary agreements between neighbours, but they essentially fell apart because the industry is unable to police those agreements.

**The Hon. J. R. JOHNSON:** Is labelling to the standard you would expect? I am more concerned with not only the content of a certain composition or compound but the treatment necessary for the effects from it.

**Ms IMMIG:** Labelling happens at the national level.

**The Hon. J. R. JOHNSON:** My question was were you happy with it?

**Ms IMMIG:** It is a vexed issue and, essentially, no, we are not. There are many reasons why. There are problems with labels to do with readability of the material for people from a non-English-speaking background.

**The Hon. I. M. MACDONALD:** And for those from an English background as well.

**The Hon. J. R. JOHNSON:** You need a magnifying glass to see it.

**Ms IMMIG:** You need a magnifying glass. It is a complex issue legally: who owns what is on the label and so on. There is a lot of room for improvement, which

has been discussed for many years. One of the other issues is a full list of ingredients. Currently we only get listed the active constituent. Many people want all the ingredients in a pesticide product on the label.

**The Hon. J. R. JOHNSON:** Has the TEC developed any protocols?

**Mr ANGEL:** Not especially. Some years ago we certainly attempted to improve.

**The Hon. J. R. JOHNSON:** If I rang the TEC today and asked can you send me something, can you?

**Mr ANGEL:** Yes. We have a web site and we also advise people to get proper materials.

**Ms IMMIG:** We generally advise people who ring us and ask us, "How do we find out more about this product", to ring the manufacturer and ask for a material safety data sheet.. On how web site we also have a toxin database with some of the most frequently used pesticides and chemicals with extensive data sheets on those chemicals.

**The Hon. Dr B. P. V. PEZZUTTI:** Have those data sheets been checked and approved by the Commonwealth department before they are released?

**Ms IMMIG:** The ones the manufacturers produce?

**The Hon. Dr B. P. V. PEZZUTTI:** Yes.

**Ms IMMIG:** They are not all checked. There is a code [the National Code of Practice for the Preparation of Material Safety Data Sheets] to which they are meant to adhere through NOSH [National Occupational Health and Safety Commission], but there are many examples of very ineffective materials safety data sheets that do not contain the relevant information.

**The Hon. J. R. JOHNSON:** Difficulties are faced under section 92 of the Constitution with containers that are used when a spraying contractor may be spraying in New South Wales but is based in Victoria, South Australia or Queensland. Anything New South Wales comes up with would have to have application by invitation or otherwise of the other States if the contractor is based outside the State. For example, in Albury, Goondiwindi and places just over the Queensland border where aerial spraying companies go into New South Wales and but the contractor does not put a foot down in New South Wales.

**Mr ANGEL:** You could say the same thing about pollution laws. If you are going to operate in the State and it has different pollution laws to another State, you should be required to follow those pollution laws. It is through that at the moment we do not have national pollution laws. We have a vague state. The National Environment Protection Council tried to produce some national approaches, but I believe we are many years from getting consistency between States with application practices. Certainly New South Wales cannot wait until some Federal approach comes to fruition. It is not going to happen under the current system.

**The Hon. J. R. JOHNSON:** Is there anything in place about decontamination, destruction, reuse or total ban of containers that had certain products that were toxic or otherwise?

**Ms IMMIG:** That is perhaps one of the areas where progress is currently being made. Agreement has been made between industry and government on a new container collection program that has elements of recycling where drums are returned and reused or recycled into other materials. That program is called Drum Muster. Another national program called ChemClear addresses the collection of unwanted chemicals and chemical containers that are currently out there.

**The Hon. I. M. MACDONALD:** Have you done any modelling on cost factors that would be involved if you adopted the measures you outlined in your submission upon, say, the cotton industry? You used the average benchmark figure of around \$145,000 per annum that is currently being spent on chemicals by cotton farmers. If your regime is put into effect, what impact would that have on the level of sustainability economically?

**Mr ANGEL:** We have not done any modelling. I understand that if new proposals for legislation came forward, the EPA would undertake some sort of impact statement in that regard and they may have some advice.

**The Hon. I. M. MACDONALD:** Should they not be doing that now?

**Mr ANGEL:** I guess you better ask them, but I hope they have. It is certainly my impression that, given the costs which the cotton industry, for example, has incurred trying to fight off the various controversies, including that now they are paying compensation to cattle farmers and what have you, inevitably it will be cheaper if they avoid the problem in the first place. They are obviously very worried about their reputation. It has not improved since their strategy paper of 1995 and they have tried self-regulation, mediation, public relations and a whole lot of local political stuff to try to improve their image and it is failing. Obviously, it would be a lot cheaper at this stage just to accept some robust regulation.

**Ms IMMIG:** I wish to add something to that. The cotton industry spent \$6 million determining that endosulfan goes into rivers from cotton farms. I was quite horrified when I found out that figure. That sort of money could actually go towards assisting cotton farmers and doing the sorts of changes that they need to do to adhere to the new regulatory approaches.

**Mr ANGEL:** One could say though—and this is perhaps partly implied by your question—that I do think there are some areas where cotton farming is not sustainable and should not be allowed. There are certain areas close to towns and close to environmentally sensitive areas or areas that incompatibly adjoin agricultural activities. In the case of Gunnedah, there is a particularly narrow valley that suffers from temperature inversions. I think there is a limit to where regulation can take you. The physical conditions in which a cotton farmer may wish to locate would negate against cotton farming continuing. They are issues that could have been worked out through the planning system.

It is not as though you get an oil refinery in every part of Sydney. Unlike the

city, what we are facing in country areas is that if a guy comes along and says, "I want to start an oil refinery", he can put it anywhere. He can buy a block of houses and say, "This is going to be an oil refinery." That is what the country is suffering at the moment. There are some areas where you would not ask the question: Can cotton farming be made sustainable by regulation? It is just not something that regulation can help. It is that the pollution cannot be prevented by the regulation because of the physical environment in which it would be located.

**The Hon. I. M. MACDONALD:** In the case study you have given in the Gunnedah document, it appears that two factors run through it: one is that the evidence seems to be inconclusive generally and the other is that you appear to be highly critical of the Environment Protection Authority [EPA]. What would you do in relation to improving the EPA's role in these areas? We can impose more regulation upon them but it is irrelevant if they are not doing their job now. Do they have enough field officers? What is going on? Why is it that you say all the way through that they appear to have inadequate monitoring, assessment and sampling protocols and what have you? I would have thought that in relation to the cotton industry in particular we would be up there and would be first class in relation to the EPA.

**The Hon. Dr B. P. V. PEZZUTTI:** This is point source pollution, and it is easy.

**Mr ANGEL:** Tell them that.

**Ms IMMIG:** Exactly. I think there have been many examples where we have felt the EPA has let the community down and has let the environment down in terms of investigating and monitoring pesticide issues. To some extent they have been hampered by their own legislation in that area. It is difficult to obtain prosecution even when there have been instances where there may well be evidence suggesting misapplication but they may have not proceeded with the prosecution because it is not likely that they are going to win the case. It is very difficult at the moment because under the current legislation they have to prove wilful intention and that is very difficult legally.

**Mr ANGEL:** In general, the EPA, I suppose, tries to be nice first. The evidence—particularly in country areas where they are not particularly well resourced and where they are trying to shift a lot of pollution control activity onto local government which obviously does not have the resources or skills available to cope with that—has led to a fairly bad reputation for the EPA in country areas. I think the urban places are much better served by the EPA than is the rural sector. Arguably there are some incredibly severe pollution problems in rural areas. From my understanding or my perception, the EPA has had a cultural, funding and legal problem in regard to upgrading its activities on pesticides.

When the Pesticides Act was given to them in 1995, one of the first questions we asked members of the EPA was: What resources are you going to devote to it? There was not any improvement. They were inheriting a bit of stuff from Agriculture and that was about it. They have been struggling ever since to come to grips with the problem. There has been a morale issue in that they do not believe they can prosecute the really outlandish cowboys who are out there, and that has affected their ability to protect the environment and health. It is our belief that if they were given very strong powers—and they do have an excellent legal group—the message to the cowboys out there would be given

very fast and their industry associations will help to sort it out after that if there are bad prosecutions affecting the industry as a whole.

**CHAIR:** We are nearly out of time.

**The Hon. I. M. MACDONALD:** I am a bit concerned about this third party rights issue because you point out quite clearly through this that there are communities in conflict. I am very concerned that if you add a further level of litigation in relation to it—one with possibly quite severe penalties—you would only aggravate the tensions in the area. What is the rationale for it? What are the limits to third party rights

**Mr ANGEL:** There are two types of third party rights. The first, which is more in general practice in this State's law, is that you can ensure that the processes of the Act are followed. That is generally directed at the regulators: Have they done it incompetently or have they negligently avoided important parts of the legislation? In that category, there have been very few cases each year. There might be one, two, or three a year if you are lucky on those sorts of issues because of the legal aid requirements that community groups are encumbered with. In the case of direct prosecutions, I agree that there is a lot of conflict out there. I think that, as we saw in the endosulfan contamination in the last spraying season with cattle, they were very close to being in court anyway; but the threat of that court action made the cotton industry come up with an expedient resolution for that year, which was some compensation.

The fundamental point of what you are asking is equality. The situation will not be equal until the victims have the same legal rights as the perpetrators. Chemical trespass is chemical trespass, and if they do not have a right to defend themselves, particularly if the government regulators are failing to act—and as I say, I hope that the new legislation will give the EPA the ability to strategically act to protect those people so that they will not feel the necessity of taking their neighbours to court—and if we cannot give people equal legal rights to protect themselves, we are basically institutionalising a system where we are saying that it is okay to pollute your neighbour to a severe level. I do not think that is acceptable in this day and age. I think that everyone has to have legal rights and then they can maturely work through it. But if you put people in a position of inequality, as we have in country towns, then I am afraid that those who are politically or economically dominant, as we have seen in Gunnedah, will not give those victims a chance. We tried everything in Gunnedah, including mediation and self-regulation.

**The Hon. I. M. MACDONALD:** Would this apply across the board to all chemicals, or are you only specifying this for certain industries?

**Mr ANGEL:** It would apply across the board for certain types of impact. It has to be a case of significant environmental harm or human harm. As we have said, the ability to prove those links in court is not actually easy. I do not think that you would have a flood of cases. You might have a few threats flying around, but I think that that would be the beginning of a more robust relationship between equals.

**CHAIR:** We are well and truly out of time.

**The Hon. I. M. MACDONALD:** Are there any proposed legislative amendments outlined in the EPA discussion paper unacceptable to the Total Environment

Centre [TEC]? I would ask you to take that on notice.

**CHAIR:** Are there any other questions to be taken on notice?

**The Hon. Dr B. P. V. PEZZUTTI:** I refer to page 5 of the report by Ms Immig. Could you please give us your scientific background?

**Ms IMMIG:** I hold a Bachelor of Applied Science. I majored in environmental geography.

**The Hon. Dr B. P. V. PEZZUTTI:** On page 5, there is a reference to the scientific link between CSF and pesticides. Could you provide us with scientific evidence of that? On page 6, there appears a statement that there is a convincing number of anecdotal reports. I have read the comments in the appendix at the back. Is there any more information about the selected health impacts of pesticides?

**CHAIR:** We will give you a copy of these questions. Do not worry about answering them now.

**The Hon. Dr B. P. V. PEZZUTTI:** Could you confirm or clarify the impact on cattle? Was that from eating cotton stubble, or was that a direct impact?

**Ms IMMIG:** The helix issue was to do with eating contaminated cotton.

**The Hon. Dr B. P. V. PEZZUTTI:** Stubble?

**Ms IMMIG:** Trash.

**CHAIR:** If there are any other questions, we will write to you and ask you. We will give you a copy of the transcript and you can give us your responses from that.

**The Hon. I. COHEN:** In terms of transgenic cotton, the level of pesticide use at the present time, and potential dangers in how much pesticide will be used in the future, how much damage can you foresee, or will there be any danger of damage that you can foresee?

**CHAIR:** We are out of time and unfortunately we will not have the chance to take that answer now.

**Ms IMMIG:** That would be a long answer.

**CHAIR:** Thank you for your time today.

**(The witnesses withdrew)**

**RICHARD FREDERICK SHELDRAKE**, Deputy Director-General, New South Wales Agriculture, 161 Kite Street, Orange, and

**RICHARD ALAN SPURWAY**, Program Manager, New South Wales Agriculture, 161 Kite Street, Orange, and

**ROGER BRUNO TOFFOLON**, Program Leader—Agricultural and Veterinary Chemicals, New South Wales Agriculture, 55 Green Lane West, Orange, and

**JOHN DAVID WILLIAMS**, Regional Director of Agriculture—North Coast, New South Wales Agriculture, 351 Gap Road, Alstonville, sworn and examined:

**CHAIR:** Did you receive a summons issued under my hand in accordance with the Parliamentary Evidence Act 1901?

**Dr SHELDRAKE:** Yes.

**Dr SPURWAY:** Yes.

**Mr TOFFOLON:** Yes.

**Mr J. WILLIAMS:** Yes.

**CHAIR:** Are you conversant with the terms of reference of this inquiry?

**Dr SHELDRAKE:** Yes.

**Dr SPURWAY:** Yes.

**Mr TOFFOLON:** Yes.

**Mr J. WILLIAMS:** Yes.

**Dr SHELDRAKE:** I would like to make a brief statement that will set the scene for New South Wales Agriculture. Before beginning this presentation I take this opportunity to thank the Committee for allowing us to appear before it at this early stage. Today my presentation will highlight some of New South Wales Agriculture's research, extension, diagnostic and regulatory activities associated with improving the efficiency of pesticides and reducing the risks associated with their use. A more comprehensive picture of the department's activities is included in the written submission which has already been provided to the Committee.

New South Wales Agriculture is a major provider of knowledge and services to the food and fibre industries. In partnership with the private sector and other government agencies, New South Wales Agriculture is working to enhance the domestic and international competitiveness of our food and fibre industries, and thereby contribute to the economy and prosperity of New South Wales. New South Wales Agriculture is also the major vehicle for

delivery of the Government's commitment to more sustainable agricultural systems, which conserve the natural resource base and protect the environment. An important component of this is reducing the risks associated with pesticide use.

What is the rationale for pesticide use? Pesticides and other farm chemicals make a vital contribution to achieving an internationally competitive and sustainable agricultural sector. The use of agricultural pesticides has enabled the reliable supply of quality food and fibre products which, in turn, contribute to the health and well being of the entire community. There is no doubt that pesticides contribute to higher yields and greater economic productivity in agriculture. In the absence of pesticides more land would need to be converted to agriculture in order to achieve the same output. This would place increasing pressure on the remaining areas of native vegetation, and the wildlife which depends upon them.

Pesticides are also important in producing quality products which meet market requirements for colour, appearance, size and taste. In addition to substantially increasing agricultural productivity and quality, pesticides can provide significant environmental benefits through the effective control of weeds, feral pests, disease vectors such as mosquitoes, and by reducing soil erosion through minimum tillage systems which are based on herbicide usage. Pesticides are also important in relieving the pain and stress that insects and other parasites inflict on livestock, and are therefore a valuable tool in managing the care and welfare of animals.

The Committee should not conclude from what I have said so far that there is no substitute for pesticides in high-yield farming, only that alternative practices need to be measured against current standards for yield and quality. What is New South Wales Agriculture's role? New South Wales Agriculture continues to play a major role in the development and introduction of pest, weed and disease management strategies which utilise biological control, cultural practices and other non-chemical control techniques.

Our current estimate is that the department commits the full-time equivalent of approximately 86 professional officers and 125 regulatory officers to programs which can be broadly categorised as pesticide risk reduction and which include reducing pesticide use and more efficient pesticide use. New South Wales Agriculture's expenditure on these programs is approximately \$25 million per year, or 11.4 per cent of the department's total expenditure. A few examples at this time may illustrate the point that I am trying to make.

The introduction of improved pest management practices for vertebrate pests such as foxes and wild dogs has reduced the use of the poison 1080 by more than 80 per cent since the 1980s. The unit is currently exploring the possibility of using contraceptive vaccines as a novel way of controlling foxes and replacing the use of poisons. With regard to horticulture, New South Wales Agriculture has worked closely with the New South Wales pome fruit industry over many years developing low-chemical input pest control strategies using predatory insects and mites along with other pest management techniques.

In recent years, that has resulted in a reduction of approximately 25 per cent in pesticide usage. Significant reductions in pesticide use have also been achieved in the citrus and wine grape industry where New South Wales Agriculture has developed pest management techniques which rely on less chemical inputs and a transition to softer low-toxic chemicals. New South Wales Agriculture's tropical fruit research station at Alstonville continues to improve pest management practices in bananas to the extent that the use of insecticides to

control the primary pest, banana weevil borer, has been reduced by 90 per cent.

New South Wales Agriculture research has led to a better understanding of the biology of weed species and how they are affected by changing environmental conditions. This in turn has allowed the rates of herbicides to be reduced under some conditions with a greater emphasis on alternative weed management techniques such as strategic grazing, use of competitive plant species and the introduction of biological control agents. New South Wales Agriculture's biological control program for weeds is currently targeting 48 agricultural, aquatic and environmental weeds with 32 established biological control agents. The reduction in herbicide use already achieved through this program and the prospect for future reductions is significant.

New South Wales Agriculture develops and provides information and advice on organic and biodynamic farming systems by drawing on an extensive network of expertise within the department which is co-ordinated through a dedicated alternative farming systems officer. The department has also established an alternative farming systems demonstration farm at Yanco in the Riverina as a means of instructing farmers on practical methods of non-chemical pest, disease and weed management. This educational initiative is complemented by a home study training package on organic farming also developed by the department and delivered through the department's Tocal College in the Hunter Valley.

New South Wales Agriculture is working closely with farmers to identify new markets for organic and biodynamic products and to improve access to existing markets. In recent years, New South Wales Agriculture has organised and funded two conferences on the marketing of organic and biodynamic products. I am pleased to provide the Committee with a copy of both the organic farming home study program and the proceedings of the Market Organic and Bio-dynamic Products Conference.

#### **Documents tabled.**

With regard to environment and contamination, New South Wales Agriculture's Centre of Excellence for the Environment at Wollongbar is involved in groundbreaking research into the degradation of waste chemicals and the remediation of contaminated land. Technologies developed by New South Wales Agriculture have already been applied to the remediation of cattle dip sites containing the insecticide amitraz. The centre is also researching other technologies which will degrade DDT and other organochlorines in contaminated soils.

Altered requirements for the chemical treatment of livestock, along with the implementation of eradication strategies and better training of staff, has significantly decreased the risks associated with the control of cattle ticks in northern New South Wales. This has also resulted in a reduction in the use of chemical treatments of more than 50 per cent over the past 10 years, and further significant reductions in pesticide usage are anticipated over the next two to three years.

New South Wales Agriculture has had a long involvement in developing more efficient pest management techniques in cotton, utilising strategies such as pest threshold levels, the enhancement of beneficial species, the introduction of resistant varieties, the introduction of biological control agents and the adoption of resistance management techniques. For example, the use of insecticides for early season pest control can be reduced

by up to 47 per cent through the adoption of recommended pest threshold levels.

The introduction of transgenic or Ingard cotton has provided additional savings in the use of insecticides. Over the past two years, the total number of insecticide applications to Ingard cotton crops were on average 46 per cent less than on conventional cotton crops. Early use of endosulfan has been reduced by 83 per cent on Ingard cotton crops. The examples I have outlined are only a subset of many initiatives in which New South Wales Agriculture is involved in reducing the risks associated with pesticide use.

With regard to managing pesticide use in New South Wales, the community has a quite reasonable expectation that agricultural pesticides can be used safely, and that persons who misuse these chemicals and place others at risk can be dealt with. All agricultural and veterinary chemicals entering the Australian market are subject to a rigorous, scientific assessment by the National Registration Authority to ensure that they meet high standards of safety and effectiveness. The scheme is comparable in scope and rigour to the best assessment and registration processes in the world.

Once these pesticide products have been assessed and approved by the National Registration Authority, they are available to producers who must use them strictly according to the approved instruction. The Pesticides Act 1978, administered by the Environment Protection Authority is the primary legislation controlling the use of pesticides in New South Wales. The reforms to the Pesticides Act proposed by the Environment Protection Authority in their discussion paper, "Improving Pesticide Management in New South Wales" are clearly aimed at improving the effectiveness of this legislation in dealing with the misuse of pesticides.

New South Wales Agriculture supports the broad thrust of the proposed reforms and particularly those that will enhance the EPA's ability to prosecute those who, because of their own negligence, cause injury or harm to persons, property or to the environment. However, in providing more effective controls on the use of pesticides, the regulators must ensure that they do not impose unnecessary and costly restrictions which will adversely impact on the domestic and international competitiveness of the agricultural industries of this State. To this end, New South Wales Agriculture looks forward to continuing involvement in the development of proposals to reform the Pesticides Act.

In conclusion, New South Wales Agriculture considers that the competitiveness of the State's agricultural industries will remain dependent upon appropriately used pesticides for the foreseeable future. New South Wales Agriculture, in collaboration with the food and fibre industries, will continue its research, extension and educational activities aimed at reducing reliance on the use of pesticides and in reducing the risks associated with pesticide use. Thank you for your attention and the opportunity to present this summary to you.

It may assist the Committee if I introduce the other panel members representing New South Wales Agriculture. Mr Roger Toffolon is the department's program leader, agricultural and veterinary chemicals and his primary role is to provide technical and policy support on farm chemical issues to the rest of the department. Mr Toffolon also provides the first contact point on farm chemical issues for the regulatory agencies such as the National Registration Authority and the Environment Protection Authority. Dr Richard Spurway is program manager, fibres, oils and specialty crops and has responsibility for the delivery of research and advisory services to broadacre cropping industries such as cotton, canola and soy

beans. Dr Spurway is also responsible for the department's education and training program. Finally, Mr John Williams, a veterinarian, is the Regional Director of Agriculture for the department's North Coast region based in Wollongbar. Mr Williams also leads the department's group involved in improving the management of tick control chemicals, including the control of contaminated cattle tick dip sites.

**The Hon. Dr B. P. V. PEZZUTTI:** It was heartening to hear the Total Environment Centre speak glowingly of low impact grazing as being less injurious to the environment. As I understand it, we are trying to move away from cattle into agriculture for feeding the world. Which agricultural pursuit has the most impact on the environment and which the least? Have you prepared a list of the impact of the environmental degradation of various agricultural pursuits?

**Dr SHELDRAKE:** The short answer to that question is that there is no list that we have prepared but I think you would need to be very careful—it is quite a complex issue—in that different industries will have different impacts on the environment. The way in which one industry will impact on the environment will depend on, for example, whether pesticides are used and whether they are not, how the land is managed and so on. You are asking quite a broad question.

**The Hon. Dr B. P. V. PEZZUTTI:** But low-impact grazing is seen to be a no-risk venture?

**Dr SHELDRAKE:** No, it would not be a no-risk venture. There are always risks associated with whatever form of farming you are in. The risks will be either to the environment or to the individual.

**The Hon. Dr B. P. V. PEZZUTTI:** Has New South Wales Agriculture seen a copy of "Shrinking Agricultural Resources" by New South Wales Farmers? Have you provided a critique of that document for the Minister?

**Dr SHELDRAKE:** No, I do not recall—

**The Hon. Dr B. P. V. PEZZUTTI:** Is it possible as a question on notice for you to provide us with a critique of that document?

**Dr SHELDRAKE:** Certainly.

**The Hon. J. R. JOHNSON:** That came only last week, did it not?

**The Hon. Dr B. P. V. PEZZUTTI:** Yes. Given that in previous inquiries the head of the department, Dr Sheridan, was quite critical of the reduction in resources the department has had, would you say that you are happy with the level of resourcing that you have now to provide for the needs of the department?

**Dr SHELDRAKE:** We are. New South Wales Agriculture has the resources it requires to provide the services which it is currently providing.

**The Hon. Dr B. P. V. PEZZUTTI:** Do you believe that it is one of your core resources to provide research and development in the area of agriculture, and do you think that

should be handed over to another department?

**Dr SHELDRAKE:** In terms of pesticide usage or in agriculture broadly?

**The Hon. Dr B. P. V. PEZZUTTI:** Pesticides, disease control, regulation, research and development.

**Dr SHELDRAKE:** New South Wales Agriculture clearly has a responsibility to undertake research and development extension and education in a broad range of areas including those that you have just covered.

**The Hon. Dr B. P. V. PEZZUTTI:** TEC talks about pesticide reduction, you talk about pesticide risk reduction. Is there a great deal of difference between the two?

**Mr TOFFOLON:** Yes and no. Pesticide use reduction is a subset of pesticide risk reduction. Use reduction is one way in which you can reduce risks. Certainly some countries have chosen to highlight use reduction but within the OECD at the moment the push is towards developing broad performance indicators for reducing risk. One of the performance indicators is use reduction, but it is not the only one. A transfer from a highly toxic chemical to a low-toxicity chemical is significant reduction in risk but might not involve a reduction in use.

**The Hon. Dr B. P. V. PEZZUTTI:** Or the method of use or the timing of use and things like that?

**Mr TOFFOLON:** All those sorts of things as well.

**The Hon. Dr B. P. V. PEZZUTTI:** You indicated that you have 86 full-time people doing the work. How many people did you have doing the work in 1988?

**Dr SHELDRAKE:** I do not have the answer to that. That is a question I would be happy to put on notice.

**The Hon. Dr B. P. V. PEZZUTTI:** It seems that every month in the *Government Gazette* I get something from the Department of Agriculture about use of pesticides or various approved mechanisms for the use of pesticides, which are really quite detailed. How possible is it for a farmer to keep up with all the regulations and all the ministerial statements and all the changes to the law that impact upon farming? I read those documents. Three or four times a year there are about 48 pages of very detailed information about the use of a pesticide or a weedicide.

**Dr SHELDRAKE:** Keep in mind that not all farmers would be required to have a knowledge of all products; they would need to have an understanding and knowledge of those products that relate to their business.

**The Hon. Dr B. P. V. PEZZUTTI:** I am particularly drawn to the issue of whether there should be changes to the Act to permit the use of pesticides at a lower rate than appears on the label. In other words what is regulated by the Minister comes from the label, or the label comes from what is regulated by the Minister, and now you are proposing that

people should be able to use lower rates than is recommended and regulated by the Minister.

**Mr TOFFOLON:** I am not sure what document you are reading from so I do not know who wrote this. It would perhaps be easier to answer the question if I knew what the document was.

**The Hon. Dr B. P. V. PEZZUTTI:** This is a summary by our Committee officer—the provision which would permit the use of pesticides at lower rates than would appear on the label.

**Mr TOFFOLON:** Yes, we have supported that type of proposal.

**The Hon. Dr B. P. V. PEZZUTTI:** And yet your regulations have very specific rates of application on them. When I read them I am amazed that anybody without a degree could understand them.

**Mr TOFFOLON:** They are not our regulations. Certainly, at the moment you are required to follow the label or the directions on the label but with the development of new weed management techniques there are opportunities to reduce the volume of herbicides that you are using on more susceptible weeds or at times when the weeds might be more easily controlled, for example. So the opportunity for a grower to make a decision to reduce his use of pesticides for that purpose is very much consistent with the broader goal of pesticide risk reduction—in this case pesticide use reduction.

**The Hon. J. R. JOHNSON:** Gentlemen, what is your major area of concern with pesticides?

**Mr TOFFOLON:** It would be easier to promote the sorts of practices that we are looking to promote and which I think the agricultural industries are responsive to in terms of more effective pesticide use and more risk reduction in pesticide use if we could deal with those people effectively who negligently misuse chemicals. Unfortunately, one bad example of a pesticide misuse often taints a whole industry or can turn consumers or the community against a particular industry or against a particular individual in some cases. If the legislation was effective and enabled the regulators to carry out the intent of the legislation, that would certainly assist us in our objectives.

**The Hon. J. R. JOHNSON:** Is the legislation not effective?

**Mr TOFFOLON:** It appears that in the enforcement of certain provisions of the legislation there are legal issues which have made it difficult to achieve prosecutions. That was the case when the Department of Agriculture had the legislation and it is the reason why prior to the election in 1995 we had a bill before the House seeking certain amendments to the legislation. That is still the case now: Those difficulties in prosecutions still exist.

**The Hon. J. R. JOHNSON:** Was the bill dealt with?

**Mr TOFFOLON:** No, it was not. The House—

**The Hon. J. R. JOHNSON:** Subsequently?

**Mr TOFFOLON:** No.

**The Hon. J. R. JOHNSON:** Has it been advanced by the department again?

**Mr TOFFOLON:** It is not the department's responsibility, sir; it is the Environment Protection Authority's responsibility now.

**The Hon. J. R. JOHNSON:** If the department comes across something that is of concern and was of concern perhaps there could be some prompting to your sister department. That may be of some help without stirring the possum in the other department.

**Mr TOFFOLON:** We have certainly made submissions to the Environment Protection Authority on these sorts of reforms, which we have been discussing for some time.

**The Hon. J. R. JOHNSON:** You mentioned contaminated tick sites. How advanced is that problem in being totally dealt with?

**Mr WILLIAMS:** We are about half of the way, if you want a quick response. We have worked out how to destroy the chemicals that are used currently as a tickicide. What we have not resolved yet is the process for removal of the persistent chemicals that are in the soil from past practices, particularly the arsenic and the DDT.

**The Hon. J. R. JOHNSON:** Have you heard of a company in Queensland called Wanless Metals, or one of its subsidiaries—Mr Wanless used to be a motor car racer—which imported a machine along the lines of a bitumen spreader, where the flame is going, the bitumen is being melted, the aggregate et cetera are being mixed together and spread on the road and rolled in one operation. Apparently, this machine was purchased in the United States for some astronomical amount of money but on its way to Australia dropped off in Hawaii to treat contaminated soils there. It picks up the soils at the front, treats them and the soil then comes out "purified"—I do not know whether I do it justice or injustice by using that term. Have you heard of that?

**Mr WILLIAMS:** No, I have not. From what you describe I have some concerns about it in relation to the contaminants that we have. With any heat process, especially getting to high temperatures, when you have arsenic amongst your waste stream there is a potential to convert the arsenic metal to an arsenic gas, which is quite a poisonous material. You would need very special provisions to be able to handle—

**The Hon. J. R. JOHNSON:** I am not sure that it is by heat.

**Mr WILLIAMS:** I am not familiar with the Wanless Metals technology.

**The Hon. J. R. JOHNSON:** Could I suggest that it may be worth an inquiry?

**Mr WILLIAMS:** Yes, we can follow that up.

**The Hon. J. R. JOHNSON:** From looking at newspaper articles and listening to talkback radio from time to time, and from letters of complaint—the labelling of pesticides appears to leave much to be desired. There are very few chemicals in small bottles or other containers that are highly toxic for which a magnifying glass is not necessary to read the

directions. That surely needs very detailed legislation or regulation.

**Mr TOFFOLON:** The labelling of pesticides is controlled by the national registration authority, which you have already been advised of. We have made representations to it on a number of occasions and been involved in certain processes to help it come up with better labelling layouts. It has not really put those suggestions into force or into practice. The difficulty is the balance between those who want more information on the label, whether it is environmental or occupational health and safety information, and those who want it simplified. Simplification does not always mean less, but the more you have there the less likely it is that somebody will read the important information that you put there. So you are trying to achieve a balance. There are regulations in the State health Act, the Poisons Act and in the Commonwealth registration legislation that prescribe the size of lettering and the placement of information on the label. I can only agree that some labels utilise only the very minimum lettering size. They are very difficult to read.

For that reason the department often tries to assist that process by including information in publications targeted to a particular industry. For example, we produce a pest management guide for orchard industries and within that we repeat some of the information that people find on the label in what we think is a more readable form. Perhaps it is more easily understood by the broader range of people involved in agriculture.

**The Hon. J. R. JOHNSON:** I have received complaints about the colouring of labels from people who are colour blind. If text is emblazoned in red that means nothing to a colour-blind person, who would see it as brown. Where would you consider the greatest advantages in the control of pesticides has taken place, in Australia or overseas?

**Dr SHELDRAKE:** I have outlined some of the advances that have taken place, and to pinpoint it to one would be unfair. We are looking at changes in management practice, for example with the introduction of integrated pest management. Dr Spurway may comment on the impact that has had on the cotton industry. Another area is the genetically modified organisms, the Ingard cotton for example. To say that there is one answer to pesticide control is probably not appropriate; it will be the implementation of a range of strategies, all working together. One of those will be changing attitudes towards the use of chemicals.

**The Hon. J. R. JOHNSON:** No doubt Australia is up-to-date on the overseas models?

**Dr SPURWAY:** Yes, although some problems experienced overseas are slightly different from Australia. As a general conclusion I would have to agree with what Dr Sheldrake has said; the advance and implementation of general pesticide practice in Australia is probably on a par with the best in the world.

**The Hon. I. M. MACDONALD:** What role is the department playing in expansion of the cotton industry into the Lachlan Valley? What advice has it given and what is its attitude?

**Dr SPURWAY:** Most of the decisions made to expand cotton growing in the Lachlan Valley are made purely on a commercial basis by those wishing to invest. The advice from the department is basically that it is a high-risk situation, because the Lachlan Valley experiences shorter summers than growing areas further north. When cotton was first grown

in the modern era in the Murrumbidgee Irrigation Area we quickly found that the summers were far too short and the varieties required much longer seasons than we had. Therefore, cotton could not be grown. We are still basically in that same situation. The further south that cotton is grown the higher the risk for the crop.

**The Hon. I. M. MACDONALD:** What you are saying is high risk from commercial factors, not necessarily other factors?

**Dr SPURWAY:** Yes.

**The Hon. I. M. MACDONALD:** In your submission you say that New South Wales Agriculture works closely with local government, other government agencies and the community to avoid future land-use conflicts and where possible resolve existing conflicts. In the case of the cotton industry proposition for the Lachlan Valley where is the department working to avoid possible future land-use conflicts that mark the operation of the cotton industry around Warren and other places?

**Mr TOFFOLON:** We have been asked our advice on what sort of buffers might be applied to the edge of a cotton crop in order to reduce the potential impact of spray drift onto adjoining crops or land use. We have been asked for technical information on the sort of pesticides that might be appropriate in a low-risk or high-risk environment. That is the sort of input that we make and that is the level at which we work with other agencies who may have decision-making responsibilities for planning control or some other regulatory responsibility. We will provide whatever technical input we can to help the decision-makers.

**The Hon. I. M. MACDONALD:** Has the department publically stated the difficulties with the expansion of the cotton industry into the Lachlan Valley? Has it advised agencies dealing with the Lachlan Valley? Has it spoken with local government about the viability of the expansion of cotton industry into the Lachlan Valley?

**Dr SHELDRAKE:** Our role is primarily one of assisting and solving problems. We work on the problems through research and development and extension and make that information available to all of the cotton industries. The data that we provide to the northern cotton industry we make available also to those who wish to invest in the Lachlan Valley. That data is relevant to their decisions both from a business position and from its impact on the environment.

**The Hon. I. M. MACDONALD:** If people still want to go ahead you will not do anything about it?

**Dr SHELDRAKE:** It is not our position to make a decision to say that they should or should not farm there. Those are business decisions effectively within the constraints of local government and other agencies that have responsibility for planning issues. I am happy to take that question on notice.

**CHAIR:** The Committee will ask the planning department to become involved later.

**The Hon. I. M. MACDONALD:** In your submission, at page 12, you state

that you are playing a major role in the development and introduction of pest, weed and disease management strategies which utilise biological control cultural practices and other control techniques, et cetera. How are you doing that and what information are you able to give to the practitioner on the ground?

**Dr SHELDRAKE:** We have a significant weed research group in Orange. We are part of the national co-operative research centre for weed management systems which headquarterd in Adelaide, but its biggest unit is in the Department of Agriculture's research facility at Orange. We are doing that through research and development and then extending that through weeds officers and extension staff. Effectively our agronomists, who might be advising farmers on one hand on wheat varieties, will be able to give farmers the most appropriate and latest up-to-date information on the control of weeds.

**The Hon. I. M. MACDONALD:** My question applies also to the policies that you described on sustainable agriculture. I am intrigued as to how the very fine words that are listed there are translated on the ground. I have been concerned for some time about the increasing development of hired guns in the field of agricultural for various chemical companies, or with other companies in this field whose natural inclination, despite whatever scientific degree they have, is to promote the use of their products. I have worried about that for the past five or six years. How do you get independent advice through to farmers that is not tainted by commercial considerations?

**Dr SHELDRAKE:** That is a clear role for New South Wales Agriculture. Farmers see our extension officers as independent; they are well educated and up-to-date with the latest technology and they are not pushing a barrow for any corporation.

**The Hon. I. M. MACDONALD:** How many extension officers do you have in New South Wales?

**Dr SHELDRAKE:** I do not know the exact number, but I take that on notice.

**The Hon. I. M. MACDONALD:** Could you provide a comparison of the number of people in the field and what is happening with them over the past decade?

**Dr SHELDRAKE:** I would like to break it down into various categories, such as agronomists and livestock officers.

**The Hon. I. M. MACDONALD:** I would like to have the department give the Committee its thoughts on how the cotton industry is going, given the widespread conflicting nature of the issues involved.

**The Hon. I. COHEN:** Dr Sheldrake, you mentioned earlier the banana weevil borer incident had been reduced by 90 per cent. You also mentioned alternative weed techniques including grazing and biological control agencies. I have a real concern in the north of New South Wales with small banana plots that are still using aerial spraying. There is a huge concern in the local community about the continuation of aerial spraying. A report was given to the Committee by the Total Environment Centre about spray drift in the Gunnedah area being sighted up to five kilometres from the spray site. What is your department's position on aerial spraying? If you accept that chemical use is part of the international competitiveness, why are you not finding more effective and less lethal ways of dealing with that issue than aerial

spraying?

**Dr SHELDRAKE:** I will answer the last part of your question first. I said that if pesticides are used—and they will be in the foreseeable future—they should be used appropriately. Our research and development continues to focus on ways of reducing the use of pesticides and their impact and increasing the appropriateness of pesticide usage. Regarding cotton and spray drift, Mr Toffolon will answer that.

**Mr TOFFOLON:** I will first address the issue of what we are doing about general pesticide application versus aerial application. The Committee has asked whether we are encouraging people to move away from aerial application and my answer is that no, we are not. Where there is a problem, we are looking at more effective ways of delivering chemical application. With weeds, we have developed new types of sprayers that put out less chemicals and are more selective in that they spray only the weeds. In horticulture, direct air-assisted spraying techniques, low-volume techniques, are being promoted as economically sound. We do not have the power to prevent aerial agriculture being used in a particular area, that is a commercial decision of the contractor or person requiring the aerial spraying to operate within whatever regulations are set by the EPA. Where there are conflicts we try to provide scientifically research alternatives that people can adopt if the economics and regulations require them to adopt certain techniques.

**The Hon. I. COHEN:** You say it is between the contractor and the landowner. From your department's point of view, who should be responsible for the misuse of spray incurring health and ecological problems?

**Mr TOFFOLON:** That is a problem for the Environment Protection Authority [EPA], and I know it has put proposals in its discussion paper. At this stage those proposals are to be developed fully and we would reserve our judgment as to specifically who can legally be captured in the net of the Pesticides Act.

**The Hon. I. COHEN:** So you do not see your department as being responsible for the misuse of sprays, given that your department is critically involved with the use of these sprays in the agriculture sector? I cannot quite understand. I understand it is an EPA role. I do not quite understand how you can step out of responsibility for something like that.

**Dr SHELDRAKE:** I do not think we are stepping out. The fact that we are spending 11 per cent of our department's budget is a good indication that we take the issue very seriously. We are continuing to try to enhance and increase the export of agricultural products, as you heard from us at the previous inquiry. One of the key issues, of course, is trying to promote our agricultural products as clean and green. So, we are very aware of the sensitivity and importance of the use of pesticides.

**The Hon. I. COHEN:** But you did say, Dr Sheldrake, that your department looks at the safety issues and you believe that the transgressors are few and can be controlled. You said that today, if I understood you rightly. So, is that not a role of your department, and what are you doing effectively to control those transgressors? Would your department wear a ban on aerial spraying?

**Dr SHELDRAKE:** We are not the department that is responsible for policing

those transgressors. So, where we see those transgressions occur we are extremely disappointed, because it does impact negatively on our ability to market products. So, our responsibility is, effectively, research, development and extension, and that is where our effort is put in, trying to reduce those transgressions occurring.

**Mr J. WILLIAMS:** If I can just add one thing on the bananas example. With the banana weevil borer we were able to find an alternative to the use of chemicals by using a count and cut method which basically meant that we reduced the use of chemicals quite substantially.

**The Hon. I. COHEN:** That is on-the-ground application, is it?

**Mr J. WILLIAMS:** On the ground. The problem with the aerial application on bananas, as I understand it, is that it relates to leaf-borne diseases which require treatment with a miscible oil, and probably the most efficient and effective means of getting that treatment in place in the banana industry, especially in New South Wales on such steep slopes, is by aerial application. At this stage we have not been able to find a better method of treating those diseases. So, to be competitive, a grower needs to be able to control those leaf diseases. That is not to say we are endorsing poor practice in the application of those chemicals, by aerial or ground spraying, in any circumstances. But that is the difference. Where we can we will apply new technology to try to reduce the use of chemicals or, as Roger was describing earlier, reduce the risks that might be associated with the use of chemicals. If there is a problem for an industry such as the banana industry, we liaise with the industry because the industry wishes to keep access to technology such as aerial application because the threat to the industry if it were to lose that particular technology is quite substantial.

**The Hon. I. COHEN:** You are saying to the Committee that in those very small banana plots—I have seen them, I come from northern New South Wales—there is no economically viable alternative to the application of those leaf sprays, miscible oils? Are we dealing with anything in those products that is of the same reputation as the other issues?

**Mr J. WILLIAMS:** No, they are not. When they are applied they are generally a miscible oil, like a petroleum oil, and the only chemical I know that has ever been added is a chemical called Tilt, which is a propiconazole. Tilt is the registered trade name. Most of the applications are just with the miscible oil, like a white oil, and that is what is sprayed. It is not the same as people think with the cotton industry, where other insecticides are being used. This is to control leaf diseases.

**The Hon. Dr B. P. V. PEZZUTTI:** What is the risk to humans associated with the use of those things?

**Mr J. WILLIAMS:** It is a lower order of magnitude; there is always a risk.

**The Hon. I. COHEN:** So, none of the chemicals under debate is in those aerial sprays?

**Mr J. WILLIAMS:** That is correct.

**The Hon. I. COHEN:** You can guarantee it?

**Mr J. WILLIAMS:** Yes. It is either miscible oil or Tilt. They are the only chemicals used in aerial agriculture with bananas.

**The Hon. I. COHEN:** Just getting back to the spray drift involved in the Breeza Valley, Gunnedah area, has your department undertaken any specific investigation or analysis of the extent of that spray drift and problems involved with the distance the vapours travel and their impact on surrounding vegetation and other communities?

**Dr SPURWAY:** We have done no study at all.

**Mr TOFFOLON:** While we have not been involved in any monitoring or investigation of instances of spray drift, which is very much an EPA responsibility, we have participated in research funded by the Land and Water Research and Development Corporation, part of which was looking at issues such as how do chemicals get away from the farm. Obviously spray drift is one way. Movement in water and movement in soil are others. We have been involved in that type of research as part of a team that has involved universities, the Commonwealth Scientific and Industrial Research Organisation and the Department of Agriculture. So a considerable amount of research has gone into the mechanisms of drift, including how far chemicals drift off farms.

**CHAIR:** I would like to ask you a number of questions to take on notice and then other members of the Committee have a couple. First, the submission suggests the strategic land use planning will overcome some of the conflicts arising from pesticide use. Has New South Wales Agriculture considered how such a process might be implemented? Second, while strategic planning may assist in overcoming future conflicts, what can be done to deal with existing conflicts? Third, would New South Wales Agriculture comment on the possible introduction of right-to-farm legislation? How would this impact on current land owners in both the rural and urban environments? Next, are any of the proposed legislative amendments outlined in the EPA discussion paper unacceptable to New South Wales Agriculture? The submission highlights the economic benefits of pesticide use to the Australian agricultural industry. Has the department done any work to determine the long-term economic costs associated with pesticide use? Finally, if licensing were extended to agricultural pest and weed control contractors, which agency should take on this role?

**The Hon. J. R. JOHNSON:** Gentlemen, we had an answer that an agronomist may go into the field advising on wheat but then give advice on something else outside his field. Is he or the Department indemnified against giving wrong advice?

**Dr SHELDRAKE:** What I was trying to portray was that the agronomist who gave advice on wheat would have expertise and technical ability to give advice on the control of weeds and the appropriate use of herbicides. Our agronomists are familiar with the weeds that would be a problem, for example, in the wheat growing area. He would not be giving advice on the control of, perhaps, a weed on the North Coast that he would not be familiar with.

**The Hon. J. R. JOHNSON:** One more question, and the corollary, was the health of the bunchy-top inspectors that were for years readily available on the far and central North Coast monitored since they have left the Department?

**CHAIR:** Could we take that question on notice, and there are two or three

more.

**The Hon. Dr B. P. V. PEZZUTTI:** What concerns me about this debate, particularly the Total Environment Centre's [TEC] submission, which you should read, is the lack of science involved in the claims and counterclaims. What steps is the department taking to put the scientific evidence it has on the table, and those areas where there is a need for research clearly announced so those bits can be in contention and the other bits not in contention? I am particularly concerned that the TEC was very disparaging of the \$6 million spent by Cotton Australia to establish that there was endosulfin in rivers. That actually establishes a relationship between spraying and waterways, but they were disparaging of that as though they already knew it. What steps are you taking to make sure there is real science in the public domain so it can be used rather than the feel of the day?

**The Hon. I. COHEN:** My question concerns dip sites. I understand former Minister for Agriculture and Fisheries Jack Hallam is representing a group looking at a refraction process in terms of dip site remediation. Perhaps you could give the Committee your department's position on that—how effective, how safe, and is this the direction to go.

**CHAIR:** If anything else should occur to you, please send that information as well as the answers to the questions on notice.

**(The witnesses withdrew)**

**MICHAEL NICHOLLS**, Chairman, Agricultural Chemicals Committee, New South Wales Farmers' Association, 1 Bligh Street, Sydney, and

**BRADLEY JOHN WILLIAMS**, Director, Intensive Industries, New South Wales Farmers' Association, 1 Bligh Street, Sydney, sworn and examined:

**AMY CAROLINE TUCKER**, Assistant Director, Intensive Industries, New South Wales Farmers' Association, 1 Bligh Street, Sydney, affirmed and examined:

**CHAIR:** Did you receive a summons issued under my hand in accordance with the Parliamentary Evidence Act 1901?

**Mr NICHOLLS:** Yes.

**Mr B. WILLIAMS:** Yes.

**Ms TUCKER:** Yes.

**CHAIR:** Are you conversant with the terms of reference of this inquiry?

**Mr NICHOLLS:** Yes.

**Mr B. WILLIAMS:** Yes.

**Ms TUCKER:** Yes.

**CHAIR:** If any of you consider at any stage during your evidence that in the public interest certain evidence or documents you may wish to present should be heard or seen only by members of the Committee, the Committee will be willing to accede to your request, however I have to warn you that Parliament has the right to overturn that.

**Mr NICHOLLS:** First, let me apologise for Mr Mike Keogh, whose wife is giving birth this morning. The New South Wales Farmers' Association welcomes the opportunity to participate in this inquiry. We look forward to a frank and open discussion today. As we indicated in our submission and in our original response to the Environment Protection Authority [EPA] discussion paper in 1997, the New South Wales Farmers' Association wholeheartedly supports the concept of safe and responsible use of agricultural chemicals. At this point it may be appropriate for me to reiterate the Association's policy.

The Association will promote the right of farmers to use agricultural chemicals, provided they are used with due care and they are used in accordance with labelled directions and industry best practice; they are used in a manner that recognises responsibility towards their neighbours, the environment, consumers, employees and themselves; and supports the right to aerial spraying in accordance with industry best practice. It needs to be stated that agricultural industries are taking great strides in making progress in their efforts to reduce the pesticide load, particularly through the adoption of integrated pest management programs [IPM]. The adoption of IPM is well and advanced in many fruit and vegetable industries, and is being increasingly adopted in other broad-acre industries.

The apple industry is a good example. In 1998/99 the apple industry, through the Horticultural Research and Development Corporation, spent some \$817,000 on research and development of integrated pest management programs. This, out of a total industry levy of \$1.5 million, is obviously a significant investment. The grains industry is another case in point. Since 1994 the Grains Research and Development Corporation has invested more than \$7 million of industry levy funds in research and development on stored grain pest management, invertebrate pest management and weeds management. Government, environmental groups, farmers and the public have very similar goals when it comes to reducing the unwanted impact of agricultural chemicals. In fact, I think it is safe to say that we have more in common than we have different.

It is perhaps in the mechanics of achieving this outcome where the greatest difference lies. A regulatory approach is never going to eliminate the cowboy operators who cut corners and take unnecessary risks to save a few dollars; nor, might I say, is the approach we are advocating of industry self-regulation. However, a regulatory approach can undermine the process of industry striving to continually improve application methods and levels of protection for the community and environment. There is no doubt that there are risks and costs associated with chemical use, but by the same token there are also a great many benefits, and it is critical that we strike an equitable balance in dealing with the use and management of agricultural chemicals. In conclusion I would like to quote an extract from a publication of the Consumers Union of the United States of America entitled "Pest Management at the Crossroads":

Nearly 25 years of Federal pesticide regulation have not notably reduced the aggregate public health and ecological risks of pesticide use and regulatory grid lock in the effort to control pesticides has spawned frustration and distrust of government on all sides.

I hope that we can avoid similar mistakes in New South Wales.

**The Hon. J. R. JOHNSON:** Comment was made of industry best practice, but nothing of total adherence to the regulations. Do I take it that industry best practice is based on the regulations plus other knowledge?

**Mr NICHOLLS:** Industry best practice strives to ensure that as an absolute minimum the regulations are adhered to, and, as knowledge becomes available, it seeks to lift the level of performance and application and use of agricultural chemicals.

**The Hon. J. R. JOHNSON:** What is your area of major concern?

**Mr NICHOLLS:** The prospect that additional regulation will be seen as a solution to the wider community concern about the use of chemicals in the food production chain, because the community may develop a false sense of assurance. I do not believe that regulation will deliver that outcome.

**The Hon. I. M. MACDONALD:** A lot of comment has been made to us about the cotton industry specifically. The cotton industry seems to have considerably bad public relations in regard to these issues. Will you tell us the discussions within the New South Wales Farmers' Association about the continuing expansion of cotton in, say, the Lachlan valley, and the widespread use in the cotton industry of a range of highly toxic chemicals applied at rates up to 8 and eleven times per annum?

**Mr NICHOLLS:** I am not here to defend the cotton industry. I would take exception to your "highly toxic" chemicals. I do not believe that is a fair assessment. Going back to the original import of your question, the Association is torn by producers across the full range of agriculture, and I take comfort in the way in which the Association tries to resolve the conflicts and the Association's policy on the use of agricultural chemicals go to the heart of it. I and the Association believe very clearly that the application of chemicals should be done in such a way as to minimise their impact on others. That is not always easily done. Our understanding of how things work is improving all the time and the ultimate obligation on users of chemicals is to use them in accordance with the label and in accordance, or I would argue from a farmers perspective, in a way that minimises their impact on other members of the community either at the time of application or as a consequence on the product that is produced.

**The Hon. I. M. MACDONALD:** Do you think members of the New South Wales Farmers' Association in the cattle industry have been adequately compensated for the chemical scare last year?

**Mr NICHOLLS:** I am not close enough to that issue to give you a clear answer, although I understand the Association's cattle committee was and has been very much involved in the process of resolving that issue. I think there may be individuals who may believe they have not been adequately compensated. The Association's perspective is that the package developed between the cattle industry and the cotton industry to address that was reasonably equitable.

**The Hon. I. M. MACDONALD:** What was the level of compensation?

**Mr NICHOLLS:** I understand that varied upon the circumstances that each producer found himself in.

**The Hon. I. M. MACDONALD:** And you have a number of members who still feel aggrieved?

**Mr B. WILLIAMS:** I think it is safe to say that there are people who were not comfortable with the outcomes, but I think it is also safe to say that that is always going to be the case in any circumstances: 100 per cent of the people will not be satisfied with the outcomes. From my standing in the organisation, there was a great deal of dialogue about that compensation package and its outcomes. There was also more to it, which you can perhaps discuss with Cotton Australia later on in terms of claims of discrimination in buying, et cetera, through the so-called E list that was developed, which also caused some particular angst, and was removed from actual impact of chemicals as well.

**Mr NICHOLLS:** To complement it from a generic perspective, it causes the Association enormous concern when chemicals have been used that impact on other producers.

**The Hon. I. M. MACDONALD:** Do you have a cotton division within New South Wales Farmers?

**Mr NICHOLLS:** No.

**The Hon. I. M. MACDONALD:** So that issues relating to cotton are handled

through the intensive industries group or committee?

**Mr B. WILLIAMS:** Just to clarify the structure of the organisation: Cotton Australia is the representative organisation for cotton producers. We have a number of members who are producers of cotton, but who are also producers of other products as well. They tend to be dealt with within the broader association.

**The Hon. I. M. MACDONALD:** So that New South Wales Farmers would have very few Cotton Australia members?

**Mr B. WILLIAMS:** No, not necessarily.

**The Hon. Dr B. P. V. Pezzutti:** There are 1,200.

**The Hon. I. M. MACDONALD:** Do you have 1,200 members who are in the cotton industry?

**Mr B. WILLIAMS:** I cannot confirm that. New South Wales Farmers has more than 15,000 members. I cannot confirm those numbers, but I will say that members who produce cotton tend to go to Cotton Australia to deal with cotton-specific issues.

**The Hon. I. M. MACDONALD:** Are you satisfied that the regime put in place last year following these incidents, and remember the cotton industry has a long history of these sorts of incidents, is satisfactory and will protect in every instance cattle farmers in adjacent areas?

**Mr NICHOLLS:** It will protect anybody, and no amount of regulation, whether it is industry best practice, self-regulation, or statutory regulation, will prevent incidents from occurring when people do not follow and carry out their responsibilities in the way in which they ought to. Yes, I believe the processes put in place ought to improve the situation. Am I convinced that they will prevent a recurrence? No, I am not.

**The Hon. I. M. MACDONALD:** What do you think we should do to enhance our ability to control malpractice within the cotton industry in terms of its application to chemicals? For instance, the concept of third party rights has been put to us, and the concept of increasing penalties for malpractice, whether you could sue, for instance, the various parties involved in the application of chemicals, whether they be the pilots, the companies, the farmers themselves or whoever?

**CHAIR:** If you want to take any of these questions on notice or give a supplementary answer, please let us know.

**Mr NICHOLLS:** The harder question is how do we as a community manage an issue that my quote indicated government regulation per se will not deliver the outcome. I think it is a blend of education, industry self-regulation and government statutory legislation. It is how we do that. I take enormous heart from the fact that 26,000 farmers in this State have undertaken the farm chemical user training program. I believe there is enormous goodwill on the part of the vast majority of producers to use agricultural chemicals responsibly. I can assure you that no producer uses agricultural chemicals other than as a result of necessity. They are too expensive today to use lightly. I suspect there is support by the Association to strengthen

some areas and focus energy a little more clearly in some areas of the present Pesticides Act, which has been under government review for a number of years and which has still not produced any change. We would continue to support that approach. We believe that ensuring a balance at the end of the day is going to deliver the best outcome for the broader community.

**The Hon. I. COHEN:** Could you give the Committee an example where self-regulation has clearly worked in a specific primary industry?

**Mr NICHOLLS:** I believe it has worked because we use less chemicals today.

**The Hon. I. COHEN:** What industry? Perhaps that is a general statement to make, but give me an example of an industry where you are seeing self-regulation effectively working.

**Mr B. WILLIAMS:** It is important to acknowledge that most agricultural industries have now introduced their own quality assurance programs. Cattlecare is an example. Flockcare is another example of industry-developed programs that address chemical residue issues. The grains industry is now looking at quality assurance programs. Fruit and vegetable industries have also addressed this issue through the development of quality assurance programs such as Freshcare and SQF2000. Some industries have gone down the path of ISO [International Standards Organisation] accreditation. I think it is safe to say this is an example of industry self-regulation which is driven by commercial reality. They are examples where it is working. Those programs are still being developed and refined. It is a relatively new process for agriculture to go down this path, but it is in response to commercial reality. To complement those fruit and vegetable programs, Sydney Markets has chemical residue testing and monitoring to ensure that the product going into the marketplace to the consumer is free of chemical residues that breach MRLs. So, they are probably examples of industries taking those approaches.

**Mr NICHOLLS:** I had a mental block earlier, but the wool industry, for example, is moving to control, monitor and reduce the residues in wool, driven by commercial reality. Certainly Europeans do not want chemicals coming out in the scours.

**The Hon. I. COHEN:** Is commercial reality the driving force between your association assisting members to overcome differences? Obviously, you have members that are at odds; one industry is impacted upon by another industry that you represent. How are you dealing with that?

**Mr NICHOLLS:** I think commercial reality is a part of that. The association's general counsel strives to understand the issues when it is developing policy. It reverts back to sort of overarching policy such as those I outlined at the beginning, and it strives to find balances. It is looking to maximise the return to agriculture in this State. To do that we have to recognise that consumer needs are changing and that we enable our members and producers to produce products that are required by the marketplace, and that we operate in an environment that imposes some limitations on the progress and speed of moving forward.

**The Hon. I. COHEN:** Apart from the way you see your organisation perceives dealing with this problem, do you accept that there is a persistent and systemic problem and danger of agricultural chemicals as presently used, particularly towards people

living in proximity?

**Mr NICHOLLS:** I do not know that I would accept that it is a systemic problem. As people desire to move away from some of the problems of urban living and seek to move to, shall we say, a different rural environment, they carry with them expectations that are sometimes inconsistent with the expectations of those who have lived in rural areas. I do not believe that that means that some of those who have lived there for a long time do not have similar concerns, but they have learnt to accept and balance some of those issues in making some of their lifestyle decisions. Towns impacted on by agricultural activities in close proximity to them, just as we all make choices and decisions, so too they have to make some as well.

**The Hon. I. COHEN:** Who do you think should be responsible for things like significant spray drift and problems with aerial spraying? Should it be the operator or the land owner, and why?

**Mr NICHOLLS:** I think both are. Everybody in the chain is responsible. The producer who certainly determines to run a particular enterprise has responsibilities to ensure that he can manage that enterprise appropriately during the whole of its life, whether it is a crop short term or a grazing operation over the long term. The people he employs to deliver that outcome are responsible to do as they are directed. There is a responsibility with the manufacturers of chemicals to be continually looking for more tightly focused and targeted and less toxic chemicals. There are responsibilities on the part of government to ensure that there is appropriate extension services and resources. Finally, there are responsibilities with people like us, as the association, to try to inform our members of their general responsibilities. The regulatory environment has responsibilities, for example, with labels. I heard discussion earlier about labels. Users want a single source of information that is targeted to their needs in the use of chemicals. Those who government put in charge of ensuring that regulations are adhered to need to have adequate resources to follow through. I do not think you can single out any one particular sector.

**The Hon. I. COHEN:** You said earlier that your organisation was not happy with an increased regulatory environment.

**Mr NICHOLLS:** I would ask you to turn to pages five and six of our submission. There are 24 different pieces of legislation. You cannot say agricultural chemicals are not regulated in this country. I would totally refute any suggestion along those lines. There is an absolute raft of Acts and regulations that go to the heart and use of agricultural chemicals.

**The Hon. I. COHEN:** Is that succeeding in guaranteeing public safety at this stage?

**Mr NICHOLLS:** No. I said to you that no amount of statutory regulation will guarantee anything, other than that people will break the law because eventually they will be found to be at fault. What you need is a combination of statute industry self-regulation and consumer awareness to get a balance that is appropriate and right and delivers the outcomes that society is looking for. We would not need courts and a police force if we did not have them.

**The Hon. Dr B. P. V. PEZZUTTI:** I ask that the submission by the Total

Environment Centre be sent to New South Wales Farmers for its comment. We heard Dr Sheldrake or Dr Williams say that there are no pesticides used on bananas. Yet, a statement in this document says, "Children actually being exposed to pesticide spray drift while they wait for school buses." That sort of inaccurate statement, according to the department—

**The Hon. I. COHEN:** No, they said tilt.

**The Hon. Dr B. P. V. PEZZUTTI:** Tilt is a fungicide. The other issue is the statement that the growing number of local conflicts occurring throughout New South Wales signals a fundamental failure of New South Wales pesticide laws to adequately protect the public.

**Mr NICHOLLS:** Do they provide statistics to underpin that assertion?

**The Hon. Dr B. P. V. PEZZUTTI:** No. I am just wondering whether your association's scientists would give the Committee a critique of that document.

**CHAIR:** In order to do that you will have to move that the document be made public.

**The Hon. Dr B. P. V. PEZZUTTI:** I move that the submission of the Total Environment Centre be made public and be transmitted to New South Wales Farmers for its assessment.

**The Hon. I. M. MACDONALD:** I second that.

**The Hon. Dr B. P. V. PEZZUTTI:** I received your document "Primary Report" about agriculture resources. Were you present when Dr Sheldrake indicated that he is happy with the amount of resources New South Wales Agriculture is receiving from the New South Wales Government?

**Mr NICHOLLS:** I did hear that, yes.

**The Hon. Dr B. P. V. PEZZUTTI:** It is interesting that you comment:

The current real taxpayer contributions to New South Wales Agriculture are lower than they have ever been for the last 25 years.

Is that a true and accurate statement from your document?

**Mr NICHOLLS:** I do not have the document in front of me. If you are reading it correctly, I can only assume that it is an accurate statement.

**The Hon. Dr B. P. V. PEZZUTTI:** I move that this document be forwarded to each member of the Committee. Would you be happy for that document to become part of your evidence?

**Mr NICHOLLS:** Yes. The author of that document is Mr Keogh, who would have been more than happy to take questions on it. I am not as familiar with it as I probably ought to be.

**The Hon. Dr B. P. V. PEZZUTTI:** I make the comment only that that is the amount of resourcing the department receives. He makes the clear comment also:

In terms of the precautionary principle, the decisions about future funding of the public sector to Agriculture should apply.

In other words, they should not take away money until they are certain that they do not need money.

**Mr NICHOLLS:** I would certainly support that contention.

**The Hon. Dr B. P. V. PEZZUTTI:** He comments also that agriculture research and development funding in New South Wales, which goes to this issue of pesticide use, proper use, research and the like, is already below the international OECD benchmark of 2.4 per cent agriculture gross domestic product [GDP]. Is the association concerned about that?

**Mr NICHOLLS:** The association has been concerned for some time about the resources available to New South Wales Agriculture. I am not sure whether the OECD benchmark also includes the investigation and—

**The Hon. Dr B. P. V. PEZZUTTI:** Private sector sourcing?

**Mr NICHOLLS:** No. I am thinking of actually implementing regulation. The role the EPA has in New South Wales in relation to the pesticides Act, I do not know whether that was looked at in that context.

**The Hon. Dr B. P. V. PEZZUTTI:** The other issue raised in this document is that a survey was conducted in mid-1988 about farmer satisfaction with services provided by New South Wales Farmers. Not only are there smaller numbers of advisers, but the satisfaction level with those advisers seems to have dropped. Is that your appreciation of the situation?

**Mr NICHOLLS:** On a personal level, that is not the case. I value the extension and advisory officers I have access to in relation to my property and the management of it.

**The Hon. Dr B. P. V. PEZZUTTI:** I stand corrected, the statements says, "the perception of the availability of resources" has dropped.

**Mr NICHOLLS:** Generally speaking, I believe producers value enormously the extension services of the department. It was of enormous concern to them a few years ago when the heart was wrenched out of the advisory services and some were subsequently reinstated.

**The Hon. Dr B. P. V. PEZZUTTI:** At that stage Dr Sheridan commented to the Committee that he did not recommend that 23 per cent cut in the budget and was most unhappy about his resource levels. Has the association a proposed model for right to farm legislation, given your comments about people moving into areas of otherwise traditional farm

land for occupation?

**Mr B. WILLIAMS:** The association certainly has been concerned about this issue and is currently in the process of developing that said model. We have looked at a number of pieces of legislation in Australia and overseas at what might be the most appropriate way to develop a model for New South Wales legislation. It is an issue of concern and has become increasingly of concern in issues raised today. We are certainly progressing down the path. As an interim measure, we have sought from the local government level that councils include, as they have in Kempsey with their section 149 certificate, a notice indicating existing land use and requiring an awareness in purchasing land. That is the process we have adopted as an interim step to developing a model.

**The Hon. Dr B. P. V. PEZZUTTI:** I am not suggesting that there should be a free go for people to do anything they like, but with SEPP46 and its brothers, sisters and cousins, plus the 27 pieces of legislation, the huge numbers of departments involved and the regulations relating to pesticides alone, one would almost need a PhD to get one's head around some of that stuff.

**Mr NICHOLLS:** Can I make two quick comments? The association did not support the administration of the regulations moving from New South Wales Agriculture to the Environment Protection Authority. It added another level of potential confusion for people. I also reiterate the point I made to The Hon. I. Cohen that the label is the most critical piece of communication to a producer. He wants to be able to pick up a tin or a container and read what he needs to know to be able to use that product appropriately, safely and effectively. The more information we put on the label the more we compromise that outcome because the practical reality is that they will try to find the few bits they want and they will not read every single word on the label. We need to focus our energies on ensuring that the key messages are delivered and not the peripheral ones.

**CHAIR:** We have five questions that I will not read out. I will ask for them to be incorporated in *Hansard*. You can take them on notice and give us your answers to them.

- 
1. Has the Association given any consideration to planning measures that could be introduced to alleviate conflict about pesticide use and application?
  2. How has the Association helped its members to overcome differences in relation to use of pesticides for intensive agriculture? Can common ground be found between different sectors of the agricultural industry?
  3. Would the Association like to comment on the possible introduction of right-to-farm legislation? How would this impact on current landowners in both the rural and urban environments?
  4. In its 1997 submission to the EPA, the Association indicated it does not support licensing of ground rig operators, but that it does support training and industry accreditation. How does the Association see this working?
  5. What steps has the Association taken to promote the reduction of pesticide use by agricultural producers? Does the Association support the introduction of genetically modified crops to combat the pesticide problem?

**CHAIR:** Earlier references made to container dumps and to the new Drum

Muster or ChemClear processes.

**The Hon. Dr B. P. V. PEZZUTTI:** That is paid for by the end user.

**CHAIR:** Do you have any thoughts as to how local government should get involved in providing for the safe return or dumping of chemical drums?

**Mr NICHOLLS:** Drum Muster as the collection of clean containers is very much a local government responsibility. They are paid as part of the Drum Muster Program to be involved and to facilitate the collection of empty or clean containers.

**Mr B. WILLIAMS:** And are signatories to the agreement, I might add, with the National Farmers Federation.

**CHAIR:** When will that start?

**Mr B. WILLIAMS:** It has started.

**Mr NICHOLLS:** As producers, we are already paying.

**Mr B. WILLIAMS:** The first collection started in Gunnedah two weeks ago.

**Mr NICHOLLS:** I think there is a lot of ignorance still among local governments as to their role, and that is of concern to the association.

**CHAIR:** I asked the question because I used to be a general manager of a council and I have also had three irrigation properties. Every time it floods, I get a raft of chemical drums down the river and across my property.

**Mr NICHOLLS:** I had not thought of disposing of them in that way but I know the problem. There is a second issue in relation to the collection of unwanted chemicals and that issue is still being addressed by Federal and State Governments and industry to try to move towards a reconciliation and process of moving forward.

**CHAIR:** On notice, you might make some comments pertaining to the questions incorporated in the transcript in relation to possible changes to LEPs, particularly bearing in mind the situation in Dubbo with cotton farms. You probably cop it from both sides, or perhaps from one side more than the other.

**Mr NICHOLLS:** Yes.

**CHAIR:** You answered a question asked by the Hon. I. Cohen about who should accept responsibility. You answered the question by saying that everybody should accept responsibility. However, I am not quite sure whether his question went to the extent of a situation such as in Narromine where a pilot sprayed a school bus. Should the farmer be responsible in that situation? I agree with the comment that you made to start with, but I wondered about a specific instance.

**Mr NICHOLLS:** It depends on the facts and I am not familiar with the facts. If the instructions were clear from the farmer to the pilot and the pilot failed to fulfil those

instructions, then I do not believe that the farmer can be held accountable. If the instructions are ambiguous and equivocal, such as, "Just spray the crop which is over there", then I think there is a responsibility. You need to go to the facts of the issue but I do not believe and I would not accept the premise that the person whose crop is being sprayed is necessarily liable for the outcome. It depends on the method of application.

**CHAIR:** Finally, how do you get over the problem in determining how big the responsibility is that the sprayer has in relation to the drift? There have been a lot of comments about the spray drift from planes over cotton fields. Obviously, that spray can drift a fair way, and then we come down to the use of Roundup along fence lines or near electric fences where it might spread for a distance of two feet into the next-door neighbour's property. How does one draw the line?

**Mr NICHOLLS:** I encourage my neighbour to spot-spray my weeds as he goes along the fence line, but that is a different issue.

**CHAIR:** But you might have a different farmer and the opposite situation.

**Mr NICHOLLS:** Fundamentally, I believe that, without the consent of neighbours, you have a responsibility to manage your operation, not his. The responsibility is on those who are applying the chemical to ensure that, to the best of their ability, it does not impact on other producers or on the community.

**CHAIR:** Thank you very much for that. We had better move on. We would like to ask those incorporated questions and we will give you a copy of *Hansard*. If you have any other thoughts, you could let us have those too.

**Mr NICHOLLS:** And the Hon. Dr B. P. V. Pezzutti asked questions, which will be in the transcript as well?

**CHAIR:** Yes.

**(The witnesses withdrew)**

**GARY FRANCIS PUNCH**, Chief Executive Officer, Cotton Australia, and Executive Director, Australian Cotton Industry Council, Level 2, 490 Crown Street, Surry Hills, Sydney, and

**MICHAEL JOHN LOGAN**, Farmer and Director, Cotton Australia, Oakville, Narrabri, sworn and examined:

**GARY PETER FITT**, Principal Research Scientist, CSIRO, and Chief Executive Officer, Australian Cotton CRC, Australian Cotton Research Institute, Post Office Box 59, Narrabri, affirmed and examined:

**CHAIR:** Did you receive a summons issued under my hand in accordance with the provisions of the Parliamentary Evidence Act 1901?

**The Hon. G. PUNCH:** Yes.

**Mr FITT:** Yes.

**Mr LOGAN:** Yes.

**CHAIR:** Are you conversant with the terms of reference of this inquiry?

**The Hon. G. PUNCH:** Yes.

**Mr FITT:** Yes.

**Mr LOGAN:** Yes.

**CHAIR:** If any of you should consider at any stage during your evidence that in the public interest certain evidence or documents that you present should be heard or seen only by the Committee, then the Committee would be willing to accede to your request and resolve itself into a confidential session. However, I warn you that Parliament may override that decision. I invite you to make a statement and then we will have a round of questions. It may happen that we will direct some questions to you on notice and you can provide answers later.

**The Hon. G. PUNCH:** Chair and members of the Committee, this is a great opportunity for the Australian cotton industry to appear before you to address particularly the terms of reference of your inquiry. Briefly, your terms of reference encapsulate all the issues. The reality is that if Australia is to remain a first world economy providing food and fibre to great portions of the world and pressing home its natural advantages, it must do two things: (1) it must continue to use chemicals in the foreseeable future; (2) it needs to be wiser, if you like, in how it applies those chemicals.

The Australian cotton industry recognises both of those issues. It is, and has been for quite some time, working very hard to diminish its use of chemicals. Second, it is working now at what can only be described as breakneck speed, particularly across this closed season, to make sure that the application of chemicals in the cotton industry is far more exact and far more compliant with community expectations.

Essentially, we have five broad thrusts that we are undertaking as an industry. The first is that we have put to the National Registration Authority, which controls the use of chemicals, a more restricted formula for the use of endosulfan next summer. While the very finest details are being worked out between elements of the Australian Cotton Industry Council and the National Registration Authority, suffice to say there will be much greater restriction on the use and application and on the aspects of application—in other words, the environmental situation such as temperature, and climate and, to be more precise, the calendar and other aspects pertaining the exact conditions at the time when that chemical will be applied.

As part of that restricted label—I note the comments of the NSW Farmers Association on the importance of the label and we agree with that—we have formulated a spray and drift management plan which we are seeking to have included in the label provisions. My colleagues will take you through the spray and drift management plan in much greater detail later on, but in summary it is a three-way signing off document amounting, I think, to a contract between the farmer, the spray applicator and the cotton consultant who advises when various chemical applications should be made and what sort of chemical applications should be made—the agronomist, in other words. It is a three-way document which makes transparent the accountabilities and responsibilities for the spray application. We think that is a very important breakthrough and we are in the midst of rolling out that document in an education process right across our industry.

The second aspect is education. We need to continually educate people both in technologies and chemicals that they are using in the application process. The cotton industry has been doing that for quite some time. We are, if anything, stepping it up. At the same time that leads to the third aspect, that is, policing and sanctions. The cotton industry recognises that education itself is not enough. It has recognised that unanimously in its councils, its discussions and growers are recognising that at mass meetings. While there is some nervousness, we are yet to agree on a formal finite means of policing and sanctions.

Broadly speaking we are seeking to glean from State authorities in both New South Wales and Queensland delegated regulatory authority to allow us to better police ourselves as a supplementation to the Environment Protection Authority and other authorities—not in place of them—and delegated authority by an authorisation from the Australian Competition and Consumer Commission to impose real sanctions on transgressors. The reality is that in the bush one farmer will not dob in another farmer, even when they are doing the wrong thing. In the cattle endosulfan crisis that the cotton industry went through last summer there was not one tangible enough complaint from a beef producer against a transgressor from our industry that amounts, in effect, to something that can be legally taken up.

Recently the EPA informed us that there has not been one successful prosecution of a cotton farmer under the Pesticides Act. We must acknowledge that the black-letter law alone will not work, just as education alone will not work. To those of us who are born and bred in the city—Maroubra and Oatley—the bush culture is hard to understand. We are continuing to develop policing and sanctions. We have a workshop tentatively scheduled for Wednesday week when we will talk to various State and Federal authorities under one roof to try to hammer down how we will go about it.

I hasten to add that this should not be characterised as self-regulation because

it is no longer self-regulation; it is what I euphemistically recently referred to as co-regulation. We are seeking delegated powers to help police ourselves on the ground, not to the exclusion of existing provisions, but as a supplement to them. We recognise that one of the problems with the existing law is that there is just simply not enough bodies—not enough eyes and ears—to carry it through.

The fourth aspect is that we are attempting to work with the beef industry to refine the E-list. More than half of the controversy in the bush this summer was because the E-list was for the first time published prior to sale.

That meant that in the saleyards a lot of cattle producers were discriminated against not because there was anything wrong with their beef cattle or the cotton industry did anything to that cattle but because of their address. Those producers had an address near a cotton farm, or were a cotton farm, and therefore it is possible they could have been contaminated. They consequently suffered rife discrimination. Indeed, of the amounts that we have paid out (which we will not disclose publicly) a very small minority of the dollar payout of actual funds going out is to beef producers that have actually been damaged by the cotton industry.

**The Hon. J. R. JOHNSON:** Are there many claims outstanding?

**The Hon. G. PUNCH:** To the best of my knowledge the beef producers have all now been paid. I think the cheques went out last week or the week before. Claims from beef processors are subject to another meeting of the claims panel which, like the E-list, is voluntary that the cotton industry signed itself up for and pays for. We pay half the E-list costs although this summer we will be paying far more than half. In respect of the compensation, the claims tribunal chaired by Mr Dick Conti, QC, will be meeting again at the end of this week to finalise the beef processors' claims. Those claims were originally outside the guidelines for which we agreed to pay, as well as the national residue survey additional claims of monitoring about which there has been some discussion between ourselves and the beef industry.

We are looking to refine the E-list so that the public rancour that it indirectly caused is put to bed. The fifth aspect is that we are attempting to formulate a vision for the industry that says that we need to carve out a niche for Australian cotton on the world market as being the most environmentally sustainable in its growing practices, worldwide. We think there are very real market benefits both in the proportion of market and ultimately, hopefully, price that can be gleaned from that, particularly in first-world economies of Europe, et cetera. Our industry does not use child labour like many of our third-world competitors.

If you like, Australian cotton is politically far more correct than arguably any of our competitors around the world, with the possible exception of parts of the San Juan Valley in California. In order to do that we have to come to some greater level of understanding, indeed détente, with the stakeholders of the cotton industry, peak green organisations, the beer industry and others. We intend to go to the stakeholders when we have our policing and sanctions formula tied down, together with our best management practice documentation and effort rolling out, to give them far more input and say. The cotton industry has not been good at that in the past but it is something that we want to correct in the future.

The carrot to our membership is that, with that sort of criticism being turned

around through greater access, a greater understanding of the science behind our industry and what the science inputs are to our industry, then our product on a world market will be quite rightfully seen as being ecologically far more sustainable than a lot of our competitors, if not all, worldwide.

**The Hon. I. COHEN:** I hear from what you are saying that you accept that there has been some serious problems in the industry. Interestingly, you talk about child labour. The Committee has had evidence earlier today of schoolchildren being seriously affected by spray drip from cotton crops, et cetera. I hear that you are working to remedy the situation. What responsibility is your industry taking for quite serious health complaints, particularly about young children, in those cotton growing areas? Do you accept your mistakes, walk away and say that you will do better now or will you go back and adequately look at those issues?

**The Hon. G. PUNCH:** Firstly, I do not accept that those claims are founded on objective evidence. Not having seen the ones to which you specifically refer, I can only comment on those that have been alleged at us in the media in the past. Dr Fitt is far more qualified than I to answer this question. We, as a nation, which depends heavily on primary industries need to seriously look at the long-term effects of chemical exposure to the population. We have already signalled to the former Federal Minister for Agriculture, John Anderson, that we would be happy to be part of that process.

At the end of the day, I remind the Committee that the people most closely associated, geographically, physically and otherwise with chemical exposure are the farmers and their families. I know that in the mythology that is peddled by some quarters about the cotton industries it is popular to believe that the cotton industry has two heads, are generally devils and possibly could never have children. But most cotton farmers have kids. Those farmers are just as concerned about their children as anybody else. To paraphrase Sting, cotton farmers love their children too. We would be more than happy to be involved in that.

I have witnessed a number of wild and woolly allegations in the extreme in the 2½ years that I have been in this industry. In this country, and for that matter internationally, we are not overflowing with enough information about the health effects of long-term exposure to low levels of agricultural chemicals. We would be more than happy to support that and look into it. One of the problems of the cotton industry, and our polling suggests this very strongly, is that there are a lot of people in the bush from traditional, if you like, non-intensive agriculture who do not like the cotton industry—new guys on the block, big debts, big profits.

The criticism that one can make about the cotton industry is most easily the simplistic because when dealing with a fairly complicated production process, it is fairly easy to make a simple statement that may or may not stand up over 10 years of research scientifically and in some quarters it is fairly easy to get a run for it. The cotton industry has been a victim of that and there is no doubt that it has not been helped by the excesses of a minority of its members. That again comes back to the concept of policing and sanctions and why we want to do something about that with the authorities. We realise that these people give the whole industry a bad rap and make those sorts of claims all the more believable.

**The Hon. I. COHEN:** For example, do you accept from a total environment centre report entitled "A Multidisciplinary Analysis of Pesticide-Related Problems in New South Wales" a claim that in 1981 in Gunnedah and Breeza Valley over 500 people reported symptoms such as fatigue, headaches and gastro-intestinal upset thought to be related to

pesticides? That was stated by Dr David Cook, a local general practitioner from Gunnedah. Also in the 1984-85 spraying season the Breeza public school principal at the time, Mr Peter Clancy, reported that following aerial spraying of nearby cotton fields a large number of children suffered sores on exposed skin, were excessively fatigued, lacked concentration and often had to be sent home. Do you accept those reports from a principal and a doctor in the local community. Are they reasonable reports?

**The Hon. G. PUNCH:** I accept it, certainly, as being reasonable, but 1981 is a long time ago. Practices have changed dramatically since then, as has the science that underwrites those practices. That is the first point to take very great and careful note of. There would have been practices in farming generally in the 1970s that most people would shy away from now right across the board, not just in the cotton industry. Can I underline a couple of things you said there? I think the quote was "thought to be associated with". The other opinion was from a local GP. If we are going to take this issue seriously we have to rest on far more evidence than circumstantial and opinionated judgments such as that. I do not know of any cotton farmer who would like to be known in his community as causing that sort of distress, whether it be actual chemical distress, if that were proven to be the case, or some sort of underlying psychological distress arising from a perception from something that a child has read or heard.

I think it is a very good opportunity—this is why we are keen on the whole stakeholder consultation process that we want to go through when we get our act together on a number of other fronts—to sit down with the Greens and go through this. Hopefully, we may be able to come up with a combined approach to governments to get some sort of long-term assessment of these sorts of issues under way, because it is clearly needed. If the industry is affecting the public's health, albeit very small numbers of people at the margin, that means we have to change the way we do things. But let us have some objective foundation for it rather than opinions.

**The Hon. I. COHEN:** Do you or do you not or would your industry accept anything of a precautionary principle with issues that are so potentially adversely affecting the population?

**The Hon. G. PUNCH:** We do every day. A great deal of the rollout of what we are doing this winter in preparation for next summer is taking that to another level.

**The Hon. I. COHEN:** On that precautionary principle, is there any other option for your industry other than aerial spraying?

**The Hon. G. PUNCH:** Two options broadly come to mind but they are not solutions in themselves. First of all, a number of our farmers are working hard on developing ground rig application methodologies and techniques. Anecdotally, may I say that this summer we seem to have a far greater rollout of ground rigs. In some cases that was good; in other cases it was bad, because some farmers thought that by using ground rigs, trying to do the right thing, they were minimising the drift to the maximum extent possible. But the climatic circumstances were such that it exacerbated the problem because they did not understand the finer sciences of what they were doing. We believe as an industry that ground rigs ought to be regulated because at the moment any Tom, Dick or Harry can make one up or buy one and open a business and start applying chemicals. That flies in the face of the accreditation processes that the four As [Aerial Agricultural Association of Australia] are trying to get up

and running for aerial application. So we should not assume that helicopters or ground rigs are necessarily always better. That is certainly not the case.

The other area again is a case of horses for courses. It is hugely expensive in capital outlays and would be prohibitive to most industries other than some parts of our own, and I stress some parts. That is the use of underground drip feed type technology to apply chemical. A number of our farmers are doing that more on a trial basis than anything else but the capital outlay of that is huge. There is no encouragement by government from a taxation point of view for farmers to get into that, as near as I can see. It would be more correct to say that there is not enough encouragement. These are all things which the industry, because of its economic abilities, is starting to look at. But that does not for a moment deny the truth that aerial application of chemicals is with Australian agriculture to stay for a long time, not just cotton. It is a matter of actually making that aerial application far more effective and stopping chemical trespass. The message that we have had this summer from government, State and Federal, from the regulators, is that we must have zero chemical trespass. That is what we are going out to try to do next summer. You know as well as I do that that is going to be very hard, but that is the objective.

**The Hon. I. COHEN:** I have to say—you might like to comment on this; it is not necessarily a comment on your role—that your submission is a very political document. I refer to page 13. It is extremely short on fact and the way things are communicated here it sounds very nice but it leaves me wondering what you are going to do. Talking about chemical trespass, how are you going to guarantee it? Again, under the precautionary principle, one would expect a guarantee is needed both environmentally and socially. You say that this planning framework aims to provide a flexible process that will address the need to manage the natural resource base and also meet the producer's need. What do you actually mean by that.

**The Hon. G. PUNCH:** I will refer that question to Michael.

**Mr LOGAN:** That is talking about the education process under the best management practice program. What we had to come up with under that was something that the farmers got a benefit from. It is very difficult to put something to them that is all cost and no benefit. The idea is to come up with good environmental results. It is mainly educational: What is the best way to do this? We could also increase the farmer's ability to run his farm better by giving him a formal planning process. So in the BMP there is a planning process and there is an education aspect to it. That is what the paper is trying to say. There is a win-win here in that we are trying to get better environmental outcomes and better operational outcomes on the farms through the formal planning process.

**The Hon. Dr B. P. V. PEZZUTTI:** I take you back to page 5 of the Total Environment Centre Report, from Immig. The quote referred to by Ian Cohen concerned a survey done by a GP in 1981. It read on, "However, after some investigation the Department of Health at the time concluded the condition was one arising from neurosis, not pesticide exposure." I give that to give you the whole quote and also to tell you that ME/CFS is still a much misunderstood illness. Later in the same paper it says that there is some association, rather than scientific link, with organochlorine blood levels. They were widely used but are not used any more in the cotton industry.

**CHAIR:** What is the question?

**The Hon. Dr B. P. V. PEZZUTTI:** The question is: How likely is it that we will see not just a reduction in pesticide use but a reduction in the risk associated with pesticides used in the cotton industry?

**Mr FITT:** I can address that. Speaking from the point of view of the cotton CRC, our whole focus is on reducing the need to use pesticides. If we look at the current developments in the range of pesticides available and alternatives to pesticides we can see that we are achieving reductions in use. The major recent development that has achieved that is the introduction of genetically engineered cotton that has built-in proteins for control of the major pest in cotton, heliothis. Those cottons have achieved in their three years of commercial use 50 per cent to 60 per cent reductions in total pesticide applications on the crops. We should keep in mind that this is just the first generation of transgenic cottons. We have approaching commercialisation cottons that can achieve even more substantial reductions in pesticide use—somewhere in the vicinity of an 80 per cent reduction. With the first generation of plants the industry, working closely with the NRA, has restricted the use of the technology as growers become more familiar with managing it, and there is a cap on its use currently of 30 per cent of the area. But in the next five to 10 years we can expect that new generation transgenic plants will be released that will be grown over much wider areas and that can achieve significant reductions in pesticide use.

The other aspect of current pesticides in the industry is that many new pesticides are being introduced that are much more environmentally acceptable. They are much more selective compounds that control only specific pests and have minimal impact on other organisms. We have a much greater commitment to and understanding of the components of IPM, so we have a much better understanding of the capacity of the plant to accept damage from pests and so minimise the need to spray. Growers are developing a tremendous commitment as part of BMP but through their own initiatives in forming area-wide management groups a much greater commitment to IPM in the broad, which over the long term will also see reductions in the need for pesticides.

**The Hon. Dr B. P. V. PEZZUTTI:** You have commented that there is no organically grown cotton in Australia. Is that correct?

**Mr LOGAN:** That is correct. I actually tried organic. There is some difficulty with the practical production of organic. I had a market-driven exercise in which I tried to achieve the requirements of the market. We could not come up with a product that we could produce at a reasonable price a consumer would pay for it. We had to back away from it because the cost per kilogram of fibre was about three times what the consumer is currently paying. That is at the fibre level; it is obviously less as you get nearer the product, nearer the T-shirt, for example. But the reality is that all the organic producers in the country are now out of business. Unfortunately, it does not pay.

**The Hon. Dr B. P. V. PEZZUTTI:** On page 8 of your submission you refer to self-driven initiatives. There is a footnote explaining the difference between self-regulation, coregulation and regulation alone. Can you explain to me simply what you mean by self-directed initiatives rather than coregulation or self-regulation?

**Mr LOGAN:** Again, this document is referring specifically to the best management practice program. It is trying to encourage the farmer to come up with his own

solution given some information guidelines. One of the ways we could have done it was to say, "Here is what you must do." The farmers would have said, "You are not going to tell me how to run my bloody farm, mate." We say, "Here is what you can do. How are you going to do it on your farm?" Then they are trying to come up with something that they can work it out for themselves and draw their own conclusions given a base of information.

**The Hon. Dr B. P. V. PEZZUTTI:** I understand that but how does that get to the issue that Ian Cohen identified of protection of the consumer and neighbours from drift? I can understand how you might have an initiative to have a better farm practice but how does that go to the issue of everybody being a winner by reducing the risk of pesticide use?

**The Hon. G. PUNCH:** I think you are talking about two different concepts. As Mr Logan was just saying, this is about the education format, the roll out of best management practice. What we are talking about in terms of policing and sanctions we think is truly termed coregulatory because we are seeking to take delegated regulatory authority in the case of New South Wales from the Minister for the Environment, probably under section 7 of the pesticides Act, to enable the appointment of officials from our industry who will have the right of inspection. We have to discuss what other rights the State Government may or may not allow. In the context of Mr Cohen's comments, this should give the public greater surety that the industry is out there policing itself and banging a few heads together. That is in addition to existing governmental controls. It is important to understand that we are not trying to replace the EPA officials, but we acknowledge that there are not enough of them and the ethos of the bush is that they will not do in other farmers no matter what the complaint.

**The Hon. Dr B. P. V. PEZZUTTI:** In the best management guidelines have you tried to achieve an Australian standard so that a grower can say that he is producing cotton to an Australian standard like an ISO?

**Mr LOGAN:** That is the idea. My farm is the only one in the world to be accredited as ISO 14,000. That is an international standard for an environmental management system, signed off by 100 governments around the world, including the Australian government. It is the only standard or process that I am aware of that is applicable in this instance, and that is why I selected it. The BMP is loosely based on that standard and there is a proposal that it may over time become that standard. We are trying to set a benchmark and set it relatively high.

**The Hon. Dr B. P. V. PEZZUTTI:** Is the BMP to work to an Australian standard which is not only for growing quality but also for management of the environment generally?

**Mr LOGAN:** It is specifically for management of the environment, nothing to do with a quality of the cotton. It is not an ISO 9,000, which is a quality management system; it is focused wholly on environmental management.

**The Hon. G. PUNCH:** The best management practice roll out is being done in a series of modules and the first module is entitled "Pesticides in the Riverine Environment". It is the first cab off the rank in the practice that we are trying to change at a grassroots level, farm by farm.

**The Hon. J. R. JOHNSON:** Can you give any figures on the diminution in

the use of chemicals?

**Mr FITT:** We can send those figures.

**The Hon. I. M. MACDONALD:** The submission from the Department of Agriculture states that comprehensive testing of ground and surface waters in New South Wales, particularly the central and north-western rivers, and the southern irrigation areas, has identified significant levels of some pesticides. However, the ecological significance of this contamination has not been fully determined. In itself that is a problem, but in the light of that statement, which is of concern to me, why are we expanding the cotton industry into new areas such as the Lachlan Valley? If there is concern at the level of pesticides and assuming that has some relationship to the cotton industry studies, why is the industry continuing to assist expansion into other areas? Maybe you can take that on notice.

**The Hon. G. PUNCH:** I can give you a quick answer. Firstly, the industry does not make a decision as such to expand. With development of new areas for cotton you see one of two things: firstly, existing cotton farmers without reference to the industry decide to open a second, third or fourth farm in a new area, which is generally judged suitable by climatic conditions and water availability. Secondly, as has been seen this year in great preponderance, there is the conversion of some farms from beef, wheat, or whatever, to a property which is doing much better financially. We often do not find out about them becoming new cotton farm until the end of the season.

**The Hon. I. M. MACDONALD:** If these problems exist should we have some mechanism whereby farmers in new emerging areas are advised to wait because of the uncertainty about the cumulative impact of this expansion. They should be told to wait for some advice before they transfer into this new property.

**The Hon. G. PUNCH:** You are quite right, that takes us to the planning issue. We have no trouble with councils rezoning for the industries they do or do not want in their area as long as the bar is set evenly. In other words, cotton should be judged alongside a range of other intensive agricultural pursuits which often use the same chemicals but which often do not have the same degree of sophisticated industry education. By next summer, if we succeed in our other plans, we will have nowhere near the amount of monitoring in other industries that we have with ours. We should not be punished for putting in a bigger effort on an environmental front. Nor should we be punished because we have in the past put in a bigger effort. For example, about 43 crops use endosulfan, and we are the only ones with arrangements with the beef industry for a monitoring process such as the E-list. We should not be punished.

The Committee is seeing far more openly and transparently what is going on in the cotton industry and than what is going on in a great deal of other industries. With water reticulation we have an industry guide of practice which states that irrigation farms should be fully reticulated; in other words the water should not escape into the river. As with the application pesticides, the reality is that not everyone is doing that, but we think there is a high compliance rate, especially in comparison with other industries. We need power to inspect and make sure it is happening in 100 per cent of cases and that is what we are seeking from the Government. We want to round that off and make sure that it happens in conjunction with the EPA.

We get into trouble with other intensive agricultural industries when a flood or heavy rain occurs in excess of the EPA guidelines and water escapes into the environment. There is not a lot we can do about that. Cotton farmers are often better placed than other farmers, because of the large banks around cotton farms. If you are asking whether we can make a greater contribution to cleaner rivers, we say yes, give us the ability to do that and we will do it.

**The Hon. J. R. JOHNSON:** In your document you indicate that the Queensland Government has provided \$2.4 million additional funding over the next 40 years to help identify alternatives to conventional pesticides. Does the Commonwealth or other States provide funding?

**Mr FITT:** The Commonwealth has provided additional funding in the form of the CRC, at \$2 million a year for the next seven years and a large proportion of the CRC's role is to develop sustainable, environmentally acceptable management systems. That is an example of the Commonwealth input. I not where of other State governments making commitments of the magnitude of Queensland.

**The Hon. J. R. JOHNSON:** That is \$2.4 million additional funding, so I take it that they are already contributing some funding?

**Mr FITT:** Of course. The New South Wales Government is already funding significant research in cotton pest management.

**The Hon. G. PUNCH:** There is also the Cotton Research and Development Corporation, which acts as a clearing house for funding scientific projects which have a very strong environmental ethos for the most part. Most grants are matched dollar for dollar by the Commonwealth, and that has been in existence for 12 years.

**The Hon. J. R. JOHNSON:** Have there being any legal actions from local councils, State government departments, individuals or groups against the industry or selected people in the industry alleging some chemical trespass?

**The Hon. G. PUNCH:** Not to my knowledge.

**Mr LOGAN:** There was one case, *EPA v Axer*, which is an aerial operator out of Moree. My understanding is that the EPA did not win.

**The Hon. G. PUNCH:** We will take that on notice. Often there is a threat of legal action and there were substantial class actions against chemical companies some years ago in respect of Helix. There have been some EPA actions against various aerial operators. Recently I was informed that they have been no successful prosecutions under the Pesticides Act by the EPA of a cotton farmer. No-one in the industry could tell me any differently. One of the problems at the heart of Mr Johnson's question is evidence.

**The Hon. J. R. JOHNSON:** I am not interested in hearsay.

**The Hon. G. PUNCH:** One of the problems for authorities and members of the public who want to take action against any chemical applicator, whether in the cotton industry, the peanut industry or anywhere else, is evidence. This comes back to the notion of

policing and sanctions. We have to tighten up on that front. It is very much in the cotton industry's interests to do that because there is a number of people in the cotton industry, frankly the vast majority, trying to do the right thing, who would get hung, because the transgressors give the whole industry a bad name.

**The Hon. J. R. JOHNSON:** Is the health of cotton workers, managers and their families monitored?

**Mr LOGAN:** Yes, the Moree agricultural health unit has monitored that for years. I do not have any results with me, but they are available. It is a well-respected New South Wales Department of Health facility. I monitor the staff of 20 on my farm. We do it as part of the induction process. When they come on staff we monitor them, get a baseline level and review that every year. We also test blood, hearing, sight, backs, and a whole range of things. As an anecdote, one came to us from a horticultural industry with an anti-cholinesterase level so high that I thought he should be in hospital. We brought him down to below the community average in 18 months.

**(The witnesses withdrew)**

**(Luncheon adjournment)**

**PETER WEATHERSTONE**, Executive Officer, Aerial Agricultural Association of Australia Ltd, 15 Riversdale Avenue, Burradoo, New South Wales, and

**LINDSAY PATRICK KEENAN**, General Manager, Chief Pilot, representing the New South Wales Director of the Aerial Agricultural Association of Australia Ltd, "Lingrove" Kooroogamma Road, Moree, sworn and examined:

**CHAIR:** Did you receive a summons issued under my hand in accordance with the Parliamentary Evidence Act 1901?

**Mr WEATHERSTONE:** I did.

**Mr KEENAN:** Yes, I did.

**CHAIR:** Are you conversant with the terms of reference of this inquiry?

**Mr WEATHERSTONE:** Yes.

**Mr KEENAN:** Yes.

**CHAIR:** If you should consider at any stage during the giving of your evidence it is in the public interest that certain evidence or documents that you may want to present to the Committee should be heard or seen only by the Committee, the Committee will accede to your request, however I have to remind you that Parliament may override any decision we make and can make them public.

**Mr WEATHERSTONE:** The association has made a written submission to the Environment Protection Authority concerning amendments to the Pesticides Act and to the Standing Committee on State Development. Today we wish to refer briefly to those two issues, firstly, the Pesticides Act and, secondly, to just one portion of our submission to the standing committee.

As the audible and visible aspect of pesticide application and having borne the brunt of much uninformed criticism over 20 years, this association considers itself well qualified to comment on the wider issues involved. At present we are the only licensed and insured applicators of farm chemicals. Furthermore, the present Pesticides Act and regulations are almost totally focused on our activities. The agricultural pilot and his employer therefore tend to wear the mistakes of others involved. I refer to others as being the farmer, his consultant or adviser, and the pesticide reseller. Should a farmer insist on applications in unsuitable weather or give misleading advice concerning adjoining crops or dwellings, or if a reseller or advisor recommends off-label use, it is the pilot and his employer who is responsible for contravening the regulations. We believe the answer is to share the responsibility, including any compulsory liability insurance that may be deemed necessary, amongst all parties involved. A signed order form giving directions for application and advice on adjoining crops, neighbours and hazards should be mandatory. It is already in use by the more progressive operators in our industry.

The enormity of the penalties under the present environmental and pesticides legislation is of concern. Along with the proposal to introduce penalty notices issued by the EPA inspector or even an officer of another authority, our industry could be said to be

regulated in the extreme. In all that has been stated or written about the need to strengthen the laws relating to pesticide use we have observed little about the need for the education of the parties involved, including members of the non-farming rural community. Penalties will never replace education as a means of pesticide management reform and alone will not result in safer application. The association believes that if the enforcement of stricter regulations and stiffer penalties become the order of the day, responsible aircraft operators and pilots will leave the industry and those who are left will be the risk-takers, quite the reverse of our aims and what we believe the aims of the regulating bodies should be.

This association has a self-administration program known as Operation Spraysafe which in part involves examining pilots on our manual, and this is the only up-to-date text on aerial application of pesticides available in this country. This exam is accepted by the New South Wales EPA for licensing purposes. Operation Spraysafe also requires the aircraft operator to meet a standard for his aircraft, the application equipment and the storage, mixing and loading facilities. The aircraft operator's facility is audited under this program, which we believe achieves a higher standard than anywhere else in the world. I would like to leave with you copies of information relevant to our Operation Spraysafe program.

#### **Document tabled.**

I refer to another section of our submission to the standing committee concerning right-to-farm legislation. We believe that pivotal to the sustainability of pesticides, and the social and environmental concerns of the community, is the enactment of sensitive right-to-farm legislation. In reality, urban development cannot co-exist with most commercial-style agricultural and horticultural pursuits. Hobby farm and even leisure resort development in the midst of intensive cropping such as vegetables, fruit, cotton and vines invites disputation to the detriment of both the farming and non-rural community interests. A recent proposal that wording be placed in the contract of sale or lease to the effect that would-be purchasers or lessees accept that neighbouring farming activities may invoke noise, odour and so on should be proceeded with immediately by State and local government. In conclusion, I would like to say that right-to-farm legislation is long overdue in this State.

**The Hon. I. COHEN:** Mr Weatherstone, what is your organisation doing regarding safer application and, given the rather poor reputation of many in the industry because of overspray and spray trespass, has your organisation changed its methods in recent times?

**Mr WEATHERSTONE:** The Operation Spraysafe program that we have introduced is aimed at achieving just this. Like any industry, we are possibly judged by our poorest performers.

**The Hon. I. COHEN:** What do you do to your poorest performers?

**Mr WEATHERSTONE:** We have in place an accreditation program but I must be honest with you that it lacks teeth in that we do not have any legislative back-up to enforce the terms of the accreditation program, nor are we legally able to impose sanctions ourselves.

**The Hon. I. COHEN:** On the small-area banana farms in the far North Coast of New South Wales near the Queensland border, where are those flyers coming from? Do they

come from Queensland, and does that have an impact with the different regulatory provisions between Queensland and New South Wales?

**Mr WEATHERSTONE:** To the best of my knowledge, the banana farms on the far North Coast are sprayed by aircraft operators who are resident in New South Wales, not in Queensland.

**The Hon. I. COHEN:** What is your organisation's position on complaints against aerial spraying? You have stated quite strongly your concerns about other land-use development, be it residential or tourist, et cetera. What is your position regarding public complaints? Do you have a mechanism for dealing with public complaints on these issues?

**Mr WEATHERSTONE:** Yes, although the way the EPA in New South Wales handles complaints, I would say 99 per cent of them go direct to the EPA rather than to our association. The individual operators, of course, are responsible for keeping the peace, so to speak, in their own area. Maybe Lindsay would like to elaborate on what happens in Moree, for example.

**Mr KEENAN:** Our complaint numbers have dropped through education, public understanding and awareness of what we are doing. As operators we tend to complaints promptly. A lot of the time it is an odour complaint, which is where our major problems come from. A lot of the time they just want to know. We find that the situation is improving as we go down the track with more education and understanding about our industry and what we are trying to achieve in relation to high-yield agriculture and the need to use an aeroplane as opposed to another medium to apply. As Peter said earlier, a lot of our complaints used to go to the Environment Protection Authority [EPA] and still do.

**The Hon. I. COHEN:** Does your organisation have any information about the prevalence of aerial spraying in other countries, such as the United States of America and Canada, and what directions are being undertaken in those countries?

**Mr WEATHERSTONE:** Yes. We are on very close terms with the industry in the United States. Our aircraft come from over there and the application equipment on the aircraft is also sourced from the United States. We keep in very close touch with what is happening over there. It is probably the only place in which of what I would call basic research into aircraft application techniques is occurring. There is little, if any, done in this country. We rely on the United States for this information.

**The Hon. I. COHEN:** Perhaps you could relate to any information coming from the United States or Canada, as well as New South Wales, in relation to spray trespass, which is an ongoing complaint from communities living in proximity to aerial spraying. Who is responsible? What position does your organisation take?

**Mr KEENAN:** Currently, the way we understand the regulation, the applicator is responsible. This is an area in which we have trouble defining. Currently we understand "drift " to mean any measurable amount across the fence. We would like to see it as being any amount over and above which environmental or economic damage is caused. To explain that further, for example, quite often we use products such as Bt, and the name is about that long, which is used in the waterways around Sydney for mosquito control. We use those products on the cotton, but we cannot have any trespass of that chemical, which is not causing

environmental or economic loss. Auckland city in New Zealand was sprayed with the chemical and no precautions were taken to move the people out. It has been used on the Gold Coast in waterways. We need to be able to use these tools which, even though they may be causing trespass, are causing no damage, and this would result in a lesser use of stronger chemicals on the environment.

**The Hon. I. COHEN:** I hear what you are saying, but perhaps we need to judge what the city councils do at another time. How often would that Bt be used on dry land cotton crop in a season?

**Mr KEENAN:** Probably twice.

**The Hon. I. COHEN:** Can you not see the validity of minimising trespass or keeping it in situ on the product it is aimed at, regardless of what method is used?

**Mr KEENAN:** Yes. We are contending with that. Our aim is to maintain all products on the property. So that we do not complete the job on the one day; we have to wait for wind changes. If an easterly wind is blowing, the western part of the farm may not get sprayed that day until there is a wind change.

**The Hon. Dr B. P. V. PEZZUTTI:** Shared responsibility is a vexed issue. The farmer contracts you to spray a particular paddock with a particular item, and you accept that contract. Why should the farmer pay any of the compensation should there be drift?

**Mr KEENAN:** As operators we get a lot of pressure from farmers to apply in conditions that we do not think are suitable.

**The Hon. Dr B. P. V. PEZZUTTI:** If you accept the contract to provide that spray on that paddock are you not accepting its conditions?

**Mr KEENAN:** That is right, but still they are getting pressure from the farmer to go outside that contract because he can stand back from it after the job is done and leave it with the operator to carry the responsibility.

**Mr WEATHERSTONE:** Perhaps if I could give another example: the legislation contains a requirement to get written permission from the occupier of a dwelling within 150 metres of an area to be sprayed. We have had incidents when farmers have said to the operators, "There is no-one in that house", or "No-one in that house will object", or, "I have written permission" and it has not been followed through and on at least two occasions that I know of the aircraft operator and pilot have been prosecuted for accepting misleading advice.

**The Hon. Dr B. P. V. PEZZUTTI:** Could this matter be dealt with by written contract between the operator and the farmer?

**Mr WEATHERSTONE:** We are working that way at the present time, yes. We would very much like to see a written contract as a regulatory requirement.

**The Hon. Dr B. P. V. PEZZUTTI:** But, surely, that written contract could not expect the farmer to take responsibility for drift?

**Mr WEATHERSTONE:** Not responsibility for drift, but I submit that they should take responsibility for information relating to adjoining crops and occupiers of dwelling on adjoining properties.

**The Hon. J. R. JOHNSON:** Do you ever run into a frustrated contract and its consequences: you may spray half the property and because of changed wind conditions you cannot do the other half and whatever is in that half comes back and infects the unsprayed half? Are you responsible to spray all of it again?

**Mr KEENAN:** No. We continually come up against that problem. We are not responsible for any lack of application due to environmental or other means, but that is a problem with reinfestation. We have buffer zones and that buffer zone may miss out on perhaps two applications in the course of that crop and suffer economic loss. But that is just a part of growing that crop in this day and age, so, yes, sometimes it is missed out, it does get reinfested and reinfests the crop that has been treated.

**The Hon. J. R. JOHNSON:** Do the spray croppers or spray applicators at Goondiwindi and Dalby do much work in New South Wales?

**Mr KEENAN:** Goondiwindi, yes, they are on the border. One of our companies is based in Goondiwindi, and 70 per cent of its work takes place in New South Wales. I know that operators in Dalby have other bases in New South Wales, but as to what extent they come from one to the other, I can only talk about our case and we are licensed in both States.

**The Hon. J. R. JOHNSON:** Do you run into difficulty with section 92 of the Constitution when a Queensland-based company does not land in New South Wales, gets its supplies from Queensland, comes over the border and goes back to Queensland?

**Mr KEENAN:** No, not as such as we know it. If they are working that close to the border they are generally aware of the legislation on both sides of the border.

**Mr WEATHERSTONE:** It is my understanding that if an aircraft operator actually applies product in New South Wales he has to be licensed in New South Wales, whether he is based in Queensland or not.

**The Hon. J. R. JOHNSON:** On page two of the document you submitted, on the third line in the centre of the first paragraph you say, "At present we are the only licensed and insured applicators of pesticides." Do you mean that you are the only licensed and insured applicators of pesticides in New South Wales?

**Mr WEATHERSTONE:** When I referred to that paragraph in my earlier comments I rephrased it to read, "farm chemicals" as I understand that industrial and household pest controllers are licensed.

**The Hon. J. R. JOHNSON:** How long have those policies been in place?

**Mr WEATHERSTONE:** Since 1987 in New South Wales.

**The Hon. J. R. JOHNSON:** Have there been many claims on those policies?

**Mr WEATHERSTONE:** Yes, although the details are not known to me. The insurance industry usually keeps details of insurance claims fairly confidential.

**The Hon. J. R. JOHNSON:** Do you have any idea of the magnitude?

**Mr WEATHERSTONE:** In terms of numbers of claims?

**The Hon. J. R. JOHNSON:** Yes.

**Mr WEATHERSTONE:** They could amount to at least five or six a year, I would say.

**The Hon. J. R. JOHNSON:** Are the majority of claims successful?

**Mr WEATHERSTONE:** It is my understanding that the insurance companies would normally pay a claim if they felt that it was legitimate, yes.

**The Hon. J. R. JOHNSON:** Have any of them gone to the courts for resolution?

**Mr WEATHERSTONE:** I understand so, yes.

**The Hon. J. R. JOHNSON:** Many?

**Mr WEATHERSTONE:** No. Just not on insurance. Probably 80 per cent of the chemical liability insurance, which is what it is called, is written by one company called the Australian Aviation Underwriting Pool.

**The Hon. J. R. JOHNSON:** In the second last line of that same paragraph you use the words "and a reseller/adviser recommends off-label use." Do you mean by that contrary to what is being advised?

**Mr WEATHERSTONE:** Yes. It is fair to say that the practice is becoming less and less as surveillance is stepped up. It was quite common in years gone by for resellers of chemicals to give off-label recommendations, but it is not so much the case now.

**The Hon. J. R. JOHNSON:** I presume that off-label use would be breaking the law, so how could a person be a successful litigant against an insurance company if you cannot break the law to benefit by the law? It would be an interesting court case to sit in on.

**Mr WEATHERSTONE:** Sure, yes.

**The Hon. I. COHEN:** In northern New South Wales there have been consistent complaints over a period of time with school buses, that at 8.00 a.m. there is no onshore breeze and that is the time to spray and buses are travelling on small country roads on their way to school being inundated with spray. How does your organisation deal with that?

**Mr KEENAN:** We know the area you are referring to. I do not know it personally as I have never been there, but we are quite disappointed that that is happening and it is still getting in the media. We thought that had been taken care of. But, like Peter said earlier, we have no teeth as an association to enforce or restrict that person's trading operation.

**The Hon. I. COHEN:** Do you take an interest in that particular issue?

**Mr KEENAN:** We talk to them.

**The Hon. I. COHEN:** Have you confronted the operator?

**Mr KEENAN:** Yes.

**The Hon. I. COHEN:** What has been the reaction?

**Mr KEENAN:** It is always a conflicting story, but I think there has been a breakdown in communication a bit. For example, we asked him to find out bus timetables and know the area and make a change to his operation. And also with the farmers, the operators he is working with, and share the responsibility of not requesting a spray at those times. This is part of the responsibility from the farmers. We need that shared responsibility to continue.

**Mr WEATHERSTONE:** That sort of publicity does not do us any good whatsoever.

**The Hon. J. R. JOHNSON:** How many members of your association are there, active and dormant? Is membership by licence of the Aerial Agricultural Association to not only the applicant but the contractor's employees?

**Mr WEATHERSTONE:** It is a trade association of operators of agricultural aircraft. We have a category for pilot membership but, strictly speaking, it is an employer organisation because we have some industrial responsibilities.

**The Hon. J. R. JOHNSON:** How many members?

**Mr WEATHERSTONE:** Just speaking of New South Wales, numerically the membership is in the order of 75 per cent to 80 per cent.

**The Hon. J. R. JOHNSON:** How many, not percentages?

**Mr WEATHERSTONE:** I am used to working in national figures.

**CHAIR:** Perhaps you could take that question on notice and send the details to the Committee.

**Mr WEATHERSTONE:** Sure. I will certainly supply you with that.

**CHAIR:** The Hon. I. Cohen mentioned a bus situation at Narromine just before Christmas in November or December when somebody spraying cotton accidentally sprayed a school bus. The Committee will get evidence about it later but it is my understanding that Narromine council has an agreement with local operators that they know bus timetables

and that normally there should not be a problem. In this particular case, even though the bus and the plane had two-way radios, I understand the pilot said the plane came three minutes early. Have you any comment on that particular situation in Narromine and also about buffer zones? You mentioned also that your association has not got teeth; what teeth do you want?

**Mr KEENAN:** I do not know how to answer what sort of teeth we want. I am not specifically aware of the incident at Narromine. The fact he turned up three minutes too early in my opinion is cutting it far too fine. A responsible operator should know. Where we can run into problems like that is if you have local operators working the area and other pilots are brought into the area to work the season and have not been fully briefed as to the environmental needs of the area. Whether that was the case with this incident, I am not sure, but we have standard operating procedures in place—and they should be in place—and it is laid down. Bus routes are all marked on a map, timetables are on a map and the responsibility is that the pilot can almost brief himself. He knows where he is going, he has to look at the farm on a map. He has to know the dangers associated with that, whether it be on a school bus route, waterway or whatever. I do not know why people would cut it so fine. That is just ludicrous.

**CHAIR:** There should be a bit of a buffer zone between the road and the field?

**Mr KEENAN:** Generally, and, with the wind, in a direction away from the school bus.

**CHAIR:** Do you not want to comment about the teeth the association needs?

**Mr WEATHERSTONE:** I could comment on that. After 10 years of having an accreditation program in place and finding that we can threaten to withdraw accreditation, all we can rely on at the present time is to encourage farmers to only use accredited operators. Like anybody else in the community, the farmer is often attracted by a little less in the cost of the operation. That has not been entirely successful, as far as we are concerned. We would like the ability to impose sanctions without fear of legal liability. This can be done probably in two ways. We really do not have anything we can withdraw from our members. We are not suppliers of chemicals or anything like that. So, we cannot say to them, "If you do not comply, we will chop off your supply of chemicals." Therefore, we can only think of the legislative route to follow.

**CHAIR:** You mentioned accreditation, and I presume you mean your accreditation?

**Mr WEATHERSTONE:** Yes.

**CHAIR:** Is there any other government regulation or licence they go through? Is it purely through accreditation so that, in other words, 20 per cent of operators may not have accreditation?

**Mr WEATHERSTONE:** Operators have to be licensed by the Civil Aviation Safety Authority to carry out flying activities. In New South Wales they have to be licensed by the Environment Protection Authority to carry out their spraying activities. Our accreditation program is separate and distinct from that and is aimed at improving the work the industry does.

**CHAIR:** Over and above the minimum standard the EPA requires?

**Mr WEATHERSTONE:** Like to not spray any school buses.

**CHAIR:** What about land-base sprays; they are not licensed?

**Mr WEATHERSTONE:** No. I would estimate that in this State 70 per cent to 75 per cent of all pesticides are applied by ground either by ground contractors or by individual farmers.

**CHAIR:** Again, I was not referring to the household.

**Mr WEATHERSTONE:** No, the broad acre contractors or individual farmers.

**The Hon. J. R. JOHNSON:** Would you be looking for the authority to police your own industry, to bring prosecutions against those that transgress, with an inspectorial staff and possibly to fund that with moiety from the courts?

**Mr WEATHERSTONE:** We would probably need flak jackets at the same time.

**The Hon. J. R. JOHNSON:** It is amazing what a piece of paper with a crown on top can do.

**Mr WEATHERSTONE:** That is right. That is probably going a little further than we envisaged because we feel that the responsibilities are such that the EPA, for example, does not have inspectorial staff on the ground to look at just what aircraft operators are doing. We feel that we know our own industry and the people in it better than anybody else. So, we are just looking for some little bit of extra assistance to enforce our accreditation program.

**The Hon. J. R. JOHNSON:** Some years ago, and I am not sure whether it applies today, both the Real Estate Employers Federation and the Real Estate Association had prosecution rights if they found that one of their members was transgressing. Indeed, it applied in the retail industry where, if the law was being transgressed, either the employer or employee associations could bring the prosecutions and they were remunerated by moiety from the courts, meaning that if the fine was \$1000, half of the moiety went to the prosecuting authorities, plus an agent's fee and court costs.

**Mr WEATHERSTONE:** But in the case of the real estate industry, I think it was doing its own licensing. What I referred to a minute ago is that our operators are licensed by the Civil Aviation Safety Authority and the EPA. We are accredited. We can withdraw accreditation, but that does not stop them from operating because they are licensed.

**CHAIR:** Has the association a view about the Civil Aviation Safety Authority [CASA] having to approve aircraft used for pesticide spraying?

**Mr KEENAN:** Only that it is a stringent inspection to get aircraft on type. If someone designs a new aircraft and somebody in Australia imports that aircraft from overseas,

it has to undergo a stringent set of guidelines to ensure its safe operation and suitability.

**CHAIR:** So, have you a problem with that?

**Mr KEENAN:** No.

**CHAIR:** Can you give any consideration to planning measures that could be introduced to alleviate conflict? You may be aware that Dubbo council's local environment plan [LEP] makes cotton farming a designated development that must go through a particular approval process?

**Mr KEENAN:** Our airstrip is based well out of town away from everywhere.

**CHAIR:** This is in Moree?

**Mr KEENAN:** That is right. Our council agreed with piggery operators that if they closed their piggeries they would subdivide the piggery into 80 dwellings, an area for 80 one-acre dwellings, basically to create a new village. This is without any consideration for farming operations in the area. At the moment the council has rescinded its approval and I think it will end up in the Land and Environment Court. However, this is a situation where there was no consultation. The only consultation with interested parties in the area was on the understanding that they were going to be 10-acre blocks, which would have meant eight blocks. We could have lived with that, but in the meantime they never went back for consultation or the fact that now there is going to be 80 blocks of one acre each. This sort of consultation does not seem to be happening. Are we just going to march on in and cause a major conflict? It was going to be a headache for all. They saw the short-term method of getting rid of the odour from the piggeries and then a huge impact on the farming operation.

**CHAIR:** Is that about 20 kilometres out of town?

**Mr KEENAN:** Yes.

**CHAIR:** What is the basis for your view expressed in the submission that restrictive legislation will lead to responsible pilots exiting the industry?

**Mr WEATHERSTONE:** It is the enormity of the penalties that are published.

**The Hon. J. R. JOHNSON:** That are published or in force?

**Mr WEATHERSTONE:** I am sorry, in force. The pilot reads that he is up for a \$30,000 or \$40,000 fine if he does the wrong thing. So, at the present more than a few of them, I think, are considering is it worth it.

**CHAIR:** What is your suggestion? If there were not more strict regulations, what is the other way of getting round it to stop the few?

**Mr WEATHERSTONE:** What I was saying is that the penalties at the present time are high enough without having to take them any higher. I believe that the deterrent exists in the size of the penalties at the present time. As an industry, we are very conscious of the fact that it is hard to get pilots. Not many people come into the industry each

year. If we start losing them, it will not only make life tough for the industry itself or for employers in the industry but also, as I mentioned in the submission somewhere, I think, it tends to leave only the risk-takers.

**CHAIR:** Thank you very much for your time. We do not necessarily propose to travel to Moree in this round of discussions on pesticides but we will be going there for some agricultural hearings in Gunnedah later in the year. I would be interested to see what has happened and what has changed particularly because people write to me about that situation.

**Mr KEENAN:** It is a major issue there.

**CHAIR:** Yes.

**(The witnesses withdrew)**

**NEIL CRAIG SHEPHERD**, Director-General, Environment Protection Authority, 48 Richmond Avenue, St Ives, and

**MARK RUSSELL GORTA**, Manager—Chemicals Policy, Environment Protection Authority, 298 Glebe Point Road, Glebe, and

**SUSAN ELIZABETH DAWSON**, Acting Assistant Director-General, Environment Protection Authority, 19 Gartfern Avenue, Five Dock, affirmed and examined:

**CHAIR:** Did you receive a summons issued under my hand in accordance with the provisions of the Parliamentary Evidence Act 1901?

**Dr SHEPHERD:** Yes.

**Mr GORTA:** Yes.

**Ms DAWSON:** Yes.

**CHAIR:** Are you conversant with the terms of reference of this inquiry?

**Dr SHEPHERD:** Yes.

**Mr GORTA:** Yes.

**Ms DAWSON:** Yes.

**CHAIR:** If any of you consider at any stage during your evidence that in the public interest certain evidence or documents that you may wish to present to the Committee should be heard or seen only by members of the Committee, the Committee will be willing to accede to your request and resolve into confidential session. The problem, however, would be that the Parliament has the authority to override our decision. I invite comments to start with, and then we will embark on a process of asking questions.

**Dr SHEPHERD:** I will make some general comments and then we will be happy to take questions either now—if they can be answered now—or on notice, if we cannot answer them immediately.

**CHAIR:** If we run out of time, we might put some questions on notice as well. It is up to you how you answer them.

**Dr SHEPHERD:** By way of introduction, I will look at the issues of availability of pesticides and then briefly at the perhaps contentious issues surrounding pesticides. Then I will look at what we might need to do to limit the adverse impact of pesticides. If we look at availability, there are some 3,800 pesticides currently available in New South Wales. They have very different toxicities and very different modes of action. Essentially, they are all toxic chemicals.

**The Hon. Dr B. P. V. PEZZUTTI:** These are the ones that are regulated and

approved for use in New South Wales.

**Dr SHEPHERD:** These are registered.

**The Hon. Dr B. P. V. PEZZUTTI:** There are many other poisons available in New South Wales which are not regulated.

**Dr SHEPHERD:** These are the registered pesticides. Obviously, there is a wide variety of uses for these things, a wide variety of users for them, and a wide variety of application methods extending from on-ground baiting to aerial application of the pesticides. The National Registration Authority is responsible for the assessment of the chemicals that are to be registered as pesticides. It actually registers the pesticides. The States have some input into that process but it is the National Registration Authority that registers the pesticides and determines the conditions of use. Those conditions of use are prescribed on the label or in some other document that is attached to the container in which the pesticide comes.

The potential for harm arising out of that availability comes where the label directions are not followed, or where the label directions are followed but some other circumstances intervene which were problematic for the use of that pesticide under those particular conditions. The contentious nature of pesticides appears to arise out of a number of things. The first is land use conflicts. What we are seeing is a substantial change in the proximity of some kinds of activities to others, and substantial changes in the nature or use of chemicals in some of those changed activities. In New South Wales, that has led to a boil-over on pesticides issues in a number of areas, particularly in the cotton-growing areas in the north west but also on the North Coast. More recently, the issues extended south with the gradual extension of cotton into the south.

The second thing that is causing significant contention is the increase in knowledge of pesticides and the impact of pesticides. We know a lot more about their impact on health, both the acute and chronic impacts, and we know a lot more about their effects on the environment than we knew a few years ago. Two decades ago we knew that DDT was highly toxic to many species of birds and some other forms of life. Now we know a lot more about the more subtle effects of substances such as endosulfan and their impact on aquatic ecosystems and so forth.

The third thing that creates contention in the use of pesticides is a direct effect on the amenity of people. That arises particularly in relation to odour. Some pesticides have very strong odours, and the use of those pesticides will cause amenity impacts on neighbouring properties if wind directions and so on are not right. The final matter is chemicals or pesticides affecting trade, particularly through the impact of chemical residues in livestock but also in other forms of produce such as vegetables. That is not a new issue. It has been highlighted recently, but it has been an issue since the mid-1980s—even before when we had the first of the beef residue scares associated with organochlorines, subsequently with organophosphates and more recently with things such as endosulfan.

If you want to look in a broad sense at limiting the adverse impacts of pesticides, a number of things need to be done. I will leave aside the issue of land use conflicts and focus pretty much on the pesticides themselves. Obviously, if you want to talk about land use conflicts and what might be done, we might come back to that later on.

The first thing that we need to do is to better educate people about the use of pesticides and about the nature of pesticides. That can be done in two ways. One is through general education, and the other is through much better attention to detail on labels and focusing much more on the National Registration Authority process to make sure that the label directions are clear and that they provide as much guidance as possible.

The second thing we need to do is to make sure that those people who are applying pesticides in a commercial sense are well trained so that they know the circumstances under which the pesticide ought to be used and ought not to be used from a label point of view, but also the sorts of things that might turn even a correct use of a pesticide, in terms of the labelling, into a disaster because of the impacts that might occur off farm, or because of changes in wind direction or whatever. We need to look at three groups of people: the aerial applicators, who receive training and are controlled to some extent; the domestic pest controllers, who are also controlled to a reasonable extent; and the biggest users of pesticides in New South Wales, the ground applicators. That group are not under any form of compulsory training or training assistance. The final thing that we need is a strong regulatory framework which ensures that label directions are followed and which discourages the causing of harm or the posing of real risk of harm to neighbours and their property or to neighbouring environments.

Just going back over those briefly, the first one was education. Work is going on with labels and labelling requirements. The National Registration Authority is taking a serious view of label requirements. There are some recent efforts in relation to endosulfan to try to improve the labelling or the label restrictions. We certainly need to move from where we are with training to get some structured training of commercial ground applicators of pesticides in order to cover the major area of pesticide application.

It is the EPA's view that we need a much stronger regulatory framework. The present structure does make it very difficult to bring actions in cases where there has been misuse of pesticide, unless some other statutory prohibition has fortuitously been transgressed—something such as the Clean Waters Act. If there is a breach of the Clean Waters Act arising from the use of a pesticide, then it is relatively easy to deal with that misuse. If it is just contamination of land or contamination of a neighbour's stock, then it is almost impossible to bring an action under the Pesticides Act.

In our view, the minimum requirements—I emphasise the words "minimum requirements"—are, firstly, strong powers to enforce label directions and to make sure that people use pesticides in accordance with the labels. Second is the ability to prevent the use of a pesticide where it will cause harm or a real risk of harm to persons or property. You need defences to that sort of a provision which would allow for honest and reasonable mistake, and also situations where the person causing the harm or real risk of harm had no control over some of the factors involved and had exercised due diligence in utilising the pesticide.

Then a more serious offence is needed when the pesticide is misused in a way that wilfully or negligently causes harm or real risk of harm to persons or property. That is analogous to the distinction in both the environment protection and the occupational health and safety legislation between the two classes of offences. Finally, we need to make it an offence to cause harm or real risk of harm to flora and fauna outside the boundary of the farm to which the pesticide is being applied. That is simply analogous to the property offence. It is exactly the same in concept as the one preventing harm or real risk of harm to persons or property.

We believe that all persons involved in the decision to use the pesticide need to be potentially liable for the consequences of its use. If only the applicator is potentially liable then pressure can be applied inappropriately to the applicator because the other people who are involved in the decision to use the pesticide know that they are not likely to be implicated or caught up in the process. They can put considerable commercial pressure on to the applicator to use the pesticide in inappropriate circumstances or they might withhold information from the person who is to apply the pesticide. It quite crucial that all people involved in the decision to use the pesticide are potentially liable for the misuse of that particular pesticide.

They are the general comments that we wanted to make and we are happy to answer any questions.

**CHAIR:** By spreading the responsibility is there potential for the applicator to have some reduced responsibility? Could an instance occur of applicator saying that he was not fully informed and a farmer saying that he did not really know about it and the instance falls through the cracks and no-one gets pinned? Should the primary responsibility be that of the applicator?

**Dr SHEPHERD:** Not necessarily, the primary responsibility should lie with whoever was most involved in making the decision to apply the pesticide in the circumstances that caused the problem. That is very similar to the way that we currently deal with offences under the environment protection legislation. My recollection is that it is also similar to the way the occupational health and safety legislation operates.

**The Hon. Dr B. P. V. PEZZUTTI:** The Department of Agriculture might well advise on the use of a pesticide in certain circumstances.

**Dr SHEPHERD:** If it advises as a consultant specifically in the use of the pesticide in a particular way that caused harm or real risk of harm then, as a matter of principle, it ought not be any less liable than the person who actually applied the pesticide.

**The Hon. Dr B. P. V. PEZZUTTI:** If the Department of Agriculture produced an Agfacts document that says to do something one month would it be liable if it was wrong?

**Dr SHEPHERD:** That would normally be dealt with as a civil law offence, not under pesticide legislation, for provision of negligent advice. In Pesticide Act offences, which are criminal offences, a general advice of that kind would not be immediately associated with the decision to apply the pesticide in the particular circumstance. The two things are reasonably separate. The farmer may decide to sue the Department of Agriculture, as happened in South Australia years ago—not with pesticides but with subclover cases and so on—or the farmer might decide to sue the department for the negligent advice, but it would be severed from the criminal prosecution.

If a Department of Agriculture officer were involved in decision making around the table with the property owner and the aerial applicator and clearly the decision of the pesticide applicator was fundamentally wrong then there is no logical reason why that

person should be differentiated from the applicator.

**The Hon. I. M. MACDONALD:** Should we train applicators to the highest degree possible?

**Dr SHEPHERD:** Yes.

**The Hon. I. M. MACDONALD:** They should have training and meet professional standards in all parts of the operation of applying various sprays to properties. There should be high standards and training for people who operate these spraying companies, particularly aerial spraying?

**Dr SHEPHERD:** Yes, and also on ground. I do not disagree with you.

**The Hon. I. M. MACDONALD:** At this point I am talking about aerial spraying primarily because there are other factors relevant to ground spraying. Do you license the operators?

**Dr SHEPHERD:** The aerial operators we do, yes.

**The Hon. I. M. MACDONALD:** People cannot come into the industry and spray aerially without a licence?

**Dr SHEPHERD:** Theoretically, no.

**The Hon. I. M. MACDONALD:** Are there conditions on their licence stating the sorts of standards they should apply in their spraying operations?

**Mr GORTA:** The licensing is more about meeting the requirements in order to get a licence. They must have undertaken training and must have the civil aviation authority licence and insurance. It is more of a qualification than a condition. The conditions are applied through label directions and through the other requirements of the Act about what they can and cannot do in a general sense.

**The Hon. I. M. MACDONALD:** Are you suggesting that their ability to fly the plane safely is checked but there is no training imposed on them to spray?

**Mr GORTA:** Yes, they have passed examinations in relation to the application of pesticides.

**CHAIR:** Before they are given a licence?

**Mr GORTA:** Yes.

**The Hon. I. M. MACDONALD:** If they have such a licence surely with their training they should know when and when not to spray, given that I would have thought that in that body of training would be some ground rules as to when, how and what to spray?

**Mr GORTA:** Yes, but there may be circumstances in which the farmer engaging them, or his consultant, gives them information about the circumstances of that application. He may tell them that there is a residence downwind which is not owned by the farmer which he needs to make sure he does not spray if the wind is blowing in that direction, or there is a susceptible neighbour's grazing property. The aerial applicator has to get that information from the farmer in order to have the complete picture. If the farmer or his consultant do not give that complete picture, or withhold information then Dr Shepherd is suggesting that they should also be liable.

**The Hon. J. R. JOHNSON:** Along with the person who was the applicator who knew nothing about it. Surely he would take the Nuremberg defence?

**Dr SHEPHERD:** That is an issue of fact within the court. Investigations under the environment protection legislation are conducted and at the end of the investigation with all the evidence a decision is made as to who are the most likely defendants from the brief of evidence. Then the court determines their level of involvement as a matter of fact in the court case. Originally I suggested that all the people involved in the decision being potentially liable merely gives access to the full normal spectrum of potential defendants for the particular action. It is a matter of fact as to which ones are most involved.

**The Hon. J. R. JOHNSON:** That would be terribly bad to apply in every situation of employment. Would the 16-year-old shop assistant involved in the Garibaldi case in South Australia also become liable?

**Dr SHEPHERD:** In these situations under the environmental legislation the prosecutor has a strict set of prosecution guidelines put in place by the board of the Environment Protection Authority (because the board is the prosecuting authority, not the Minister). Those prosecution guidelines set out very clearly who should be looked at first, second, third and so on. As a matter of practice if a corporation is involved we will deal with the corporation, and not with the individual employees unless the individual employees were off on a frolic of their own.

**The Hon. Dr B. P. V. PEZZUTTI:** They are then covered by the Employees Protection Act anyway?

**Dr SHEPHERD:** No, they are still liable technically.

**The Hon. I. M. MACDONALD:** If someone is contractually employed to do a job, and are told what the employer wants done, surely the person contracted should have sufficient training and understanding of what they are doing to be able to make the decision about whether they fly at a certain point, at what height, in what winds and what have you, competently and professionally. That would thereby overrule any little instructions that may have been given by the person who wants the job done. In other words, professionalism should override the decision of an individual person who wants the job done?

**Dr SHEPHERD:** If all professions worked in exactly that way then there would be no need to have recourse to other parties in the decision-making process but, in fact, they do not. We see enough problems with legal and medical professions and quite a few others of them being susceptible to pressures from third parties, if you like, the person issuing

the contract to a withholding of complete information. It is important to be able to look behind the person who actually applied the pesticide to see who else was involved in the making of the decision and their degree of culpability in the commission of the particular offence.

No-one from the Environment Protection Authority's point of view is suggesting that we should absolve the applicator of the pesticide from responsibility. Quite clearly, the applicator of the pesticide will be the primary person to look at but if they were influenced, pressured or were not given sufficient information, in other words, information being withheld—

**The Hon. I. M. MACDONALD:** Then they move on and deal with someone else.

**Dr SHEPHERD:** But they do not.

**The Hon. Dr B. P. V. PEZZUTTI:** Doctors or lawyers cannot hide behind that excuse.

**CHAIR:** A large cotton farmer may well know all the regulations, and a pilot should know about spraying something. Presumably any pesticide legislation would cover all farmers. There are a lot of little farmers, say, on 600 acres who know nothing about pesticide legislation but just ring up the local contractor to come and spray their weed at a certain time when convenient, and that is the end of the contract. It really should primarily be the concern of the applicator.

**Dr SHEPHERD:** Yes, and I am not saying anything that is different from that.

**The Hon. Dr B. P. V. PEZZUTTI:** No, you are saying the same thing.

**CHAIR:** It should be solely the responsibility—

**Dr SHEPHERD:** I am saying that you cannot make them solely responsible because there may be factual circumstances that they did not have sufficient information—that the person who is making the contract knowingly misled or whatever. By going down a path of preventing access to people behind the applicator you are setting up a situation where those people could be encouraged to do the wrong thing in order to achieve their own objectives and they would be shielded from any sort of investigation or prosecution.

**The Hon. Dr B. P. V. PEZZUTTI:** A farmer decides to use poison X—let us call them all poisons; it is easier—on, say, 40 acres on this day. That is a decision that the farmer makes with or without advice. Under the regulations he is responsible for working out the application rate and the proper method of applying it—in water, in water mixed with oil or some darned thing—at a certain rate per acre. Acting in good faith he instructs the pilot, "I want you to apply this at this rate to that farm and these acres. Here is your contract." It is so many dollars. The pilot's only responsibility then is to check that he has the right poison, that he twiddles and sets his dials to do it at the right rate, and to apply it at the right speed where he is asked to apply it, and nothing more. If the pilot knocks off one of those three bits—the poison, the rate or the location—surely he alone is responsible for that.

**Dr SHEPHERD:** Under those factual circumstances, yes.

**The Hon. Dr B. P. V. PEZZUTTI:** So having got the contract right, which is what Ian is talking about, then the pilot is responsible for doing precisely what he is asked to do. You cannot expect the pilot to know what rate he is meant to apply the stuff, what sort of poison he is using or whatever. They are a decision by the farmer or the farmer's consultant. But where he applies it and the rate at which he applies it are entirely the responsibility of the pilot because nobody else can do it.

**The Hon. I. M. MACDONALD:** No, that is not quite right.

**The Hon. Dr B. P. V. PEZZUTTI:** Only the pilot can work out how much he is going to apply per acre, by fiddling with his dials and going at a certain speed in certain wind conditions. So if he applies twice the rate to that farm that he has been asked to apply the pilot is responsible for that.

**CHAIR:** Solely.

**The Hon. Dr B. P. V. PEZZUTTI:** In other words, if he overdoses something when he is asked to dose it at a certain rate the pilot has to be responsible for that.

**CHAIR:** Do you agree with that?

**Dr SHEPHERD:** In that factual circumstance that you are describing you are quite right but if the circumstances were a little different—

**The Hon. Dr B. P. V. PEZZUTTI:** Like?

**Dr SHEPHERD:** For example, where the farmer was aware of a particular set of circumstances that should have made the aerial applicator leave a wider buffer or do whatever—we are talking hypothetically at the moment—and the aerial applicator was not aware of those circumstances but they were within the knowledge of the farmer then I think it is much harder to sheet the whole of the responsibility home to the aerial applicator and you should be looking elsewhere.

**The Hon. Dr B. P. V. PEZZUTTI:** The farmer could say, "This particular spray you must not under any circumstances allow to drift on to that property."

**The Hon. I. M. MACDONALD:** That is the case with every one.

**CHAIR:** The aerial applicator should know that, though.

**The Hon. Dr B. P. V. PEZZUTTI:** No, some drifts are less important than other drifts. It depends on what the farmer next door has got growing.

**The Hon. I. M. MACDONALD:** But you try to avoid drift.

**The Hon. Dr B. P. V. PEZZUTTI:** Sometimes it is more important than at other times.

**CHAIR:** Have you encountered any resistance to that shared responsibility

projected change in relation to discussions for liability of acts of employees or contractors? What effect do you think that will have on agricultural producers?

**Dr SHEPHERD:** It should not have any effect on any agricultural producers as a class for the simple reason that we are dealing only with the bad end of this process, where people have actually caused harm or real risk of harm. That will be a very minor group of cases and all we are suggesting here—

**CHAIR:** The whole reason behind a lot of our questioning is that we do not want to see the responsibilities watered down in any way. We do not want to see anybody falling through the cracks because the thing has not worked in the way it was planned.

**Dr SHEPHERD:** What I am concerned about is that if you go down the path that perhaps has been suggested you will leave significant gaps where the responsibility cannot be properly apportioned on the factual circumstances that exist in each case. If you leave a gap where the consultant and the landowner are still not potentially liable within the spectrum then you create the climate in which they can put pressure on the applicator—because they transfer all their responsibilities onto the applicator in effect—and withhold information. They cannot be approached under the legislation; only the applicator can.

**The Hon. Dr B. P. V. PEZZUTTI:** I am sorry, I do not understand that. How can they possibly transfer all the responsibility to the applicator if they have made the decision what chemical to use and what dose they want used? The applicator then has to comply with those two requirements.

**The Hon. I. M. MACDONALD:** I do not agree with that.

**The Hon. Dr B. P. V. PEZZUTTI:** Why?

**The Hon. I. M. MACDONALD:** Because on the chemical drums there might be specific guidelines as to what to do and how to do it, including rates and the conditions in which it is to be done, et cetera.

**The Hon. Dr B. P. V. PEZZUTTI:** But they are not the responsibility of the pilot.

**CHAIR:** They should be.

**The Hon. Dr B. P. V. PEZZUTTI:** I do not think that the pilot could possibly understand the pesticide legislation about the type of chemical used and the rate of application. You would not hold a pilot to that, would you?

**The Hon. I. M. MACDONALD:** The training should include that, should it not?

**The Hon. Dr B. P. V. PEZZUTTI:** Would you apply to the pilot the need to know whether he should be spraying this chemical in this month or this chemical at this rate?

**The Hon. I. M. MACDONALD:** How extensive is your training?

**Dr SHEPHERD:** I want to take that question on notice and come back with details. The only reason is that I think that with some pesticides that would be more important than with others, because of the toxicity and the potential downstream effects of those things. I want to go back and check what is actually incorporated in the training program in relation to that. So I will need to come back to you on that. Sue has drawn my attention to the fact that the same sorts of provisions that I was talking about in relation to broadening the liability net have just been brought into the Tasmanian legislation. We did not get much opposition to that concept as a result of the discussion paper.

**CHAIR:** What opposition did you get to that? That was the first part of the question.

**Dr SHEPHERD:** The only thing we did pick up was that the New South Wales Farmers' Association had one expressed concern and that was that there ought to be a statutory defence available for the property owner and the consultant: that they could not be liable if they had no control over the circumstances that caused the problem, and that they had exercised an appropriate level of due diligence. They are exactly the same defences as we are proposing for the offences in relation to people, property and the environment because we think that gives the appropriate balance between the need to use pesticides and the need to use them responsibly.

**CHAIR:** So basically the only objection you had in your process of asking for submissions was that one, and you are addressing it anyway?

**Dr SHEPHERD:** Yes, and we are addressing it in all the offence provisions because we think that it makes sense to have that defence available.

**The Hon. J. R. JOHNSON:** Has the pilots union been consulted?

**Dr SHEPHERD:** The aerial applicators were certainly consulted.

**The Hon. J. R. JOHNSON:** The aerial applicators—I said the pilots union.

**Dr SHEPHERD:** I cannot answer that. I can find out.

**The Hon. J. R. JOHNSON:** Were they served with the documents or were the documents made available to them?

**Mr GORTA:** We advertised the discussion paper in the press. I do not think we deliberately solicited a response from the pilots' union.

**The Hon. J. R. JOHNSON:** I think that once they find out that it could all devolve on the pilot, who is an employee in lots of cases, they will certainly have something to say.

**The Hon. Dr B. P. V. PEZZUTTI:** The employees protection Act would cover them.

**Mr GORTA:** Currently the applicator is solely responsible. In the case of aerial application that is the pilot. There is the other thing that Neil was talking about earlier:

The corporation that employs him could also be responsible. But the primary responsibility lies with the person who carries out the job. What we are talking about is broadening the responsibility to others who are involved in the decision making.

**The Hon. I. M. MACDONALD:** Dr Shepherd, when you answer this question in due course could you give us further detail on what is involved in your training programs and to what level you take them? In other words, do pilots have the ability to make the appropriate decision about when to fly, whether it is feasible to go up on certain days, whether the rate that has been asked for is the appropriate one; and what rights do they have not to spray at a certain level beyond what is on the label of the product and so on and so forth?

**CHAIR:** You will be given a copy of *Hansard* so that those questions can be taken on notice.

**The Hon. J. R. JOHNSON:** This morning the Department of Agriculture indicated that in 1996 it was ready to go with legislation on pesticides and then the responsibility of pesticides was transferred to you and the legislation is still laying dormant. Are there reasons why the legislation prepared by the Department of Agriculture and then passed over to your department has not been acted upon?

**Dr SHEPHERD:** There are probably a number of reasons. The Government decided to put out a discussion paper on pesticides. The discussion paper drew a polarised response, for want of a better expression. The Government then decided to refer the matter to this standing committee so that it could provide advice as to the sort of framework that might be required to manage pesticides in the longer term. As you correctly pointed out, draft legislation has been available since 1996. A redraft has been available for some time as well. But until we resolve the strong community issues associated with the use of pesticides there is not much point in bringing forward a one-sided piece of legislation, if you like.

**The Hon. J. R. JOHNSON:** What are the major areas of concern to the department in relation to pesticides and where is the best model throughout the world?

**Dr SHEPHERD:** There are a number of issues associated with the use of pesticides in New South Wales that are of very high significance. As I mentioned originally, in the last decade over a fairly wide area of New South Wales land use conflicts and the changed use of pesticides and the changed use of land have put communities that are pesticide users in direct conflict with people who would prefer not to be exposed to pesticides. That is increasing rather than decreasing as the pressures of urbanisation and the alienation of prime agricultural land continue to occur. That is clearly a major issue.

**The Hon. J. R. JOHNSON:** Prime agricultural land?

**Dr SHEPHERD:** Basically prime agricultural land. If you look at the two areas we spoke about before, Gunnedah and the north-west, and the North Coast which in its time has been prime agricultural land, there are certainly agricultural uses of land. The same problems occur along the coast regarding vegetable growth. That prime agricultural land has been alienated. The second issue from our point of view is that the regulatory framework is weak and needs to be strengthened considerably. That will have substantial benefits for the rural community as well as the urban community. It has substantial benefits for the rural community in improving protection of trade, dealing with residue issues and so on. It will also

mean that pesticides we use currently are likely to be available for much longer periods than they would be if their use is continually controversial. A good example of that is endosulfan, which is becoming an extremely restricted substance.

In my discussions with Dr John Keniry, the Chairman of the National Registration Authority, it became clear that that authority is seriously considering the banning of endosulfan not too far down the track if its pattern of use does not improve. At the moment the system under which we regulate its use is inherently weak, if it were stronger we would not necessarily get into the position where the continued use of pesticides is threatened.

**The Hon. J. R. JOHNSON:** Endosulfan is used mainly in which industry?

**Dr SHEPHERD:** The control of a pest in cotton.

**Mr GORTA:** It has broader uses, but its main use is in cotton.

**The Hon. J. R. JOHNSON:** Would it be paramount to the cotton industry?

**Dr SHEPHERD:** As I understand it, its continued use is exceedingly important to the cotton industry. Certainly there are alternatives which are environmentally less desirable than endosulfan. We could be in an even worse situation if the use of pesticides associated with cotton are not regulated effectively. That does not mean we should stop its use, but we should regulate them effectively. At the moment it is the extremes rather than the legitimate uses of the pesticides that is the problem. Most of our discussion is about dealing with the extremes, the regulatory framework is there to deal with the people who do not use them in the appropriate way.

**The Hon. I. COHEN:** Gary Punch, representing the cotton growers industry, said that cotton growers were getting a bad reputation, undeserved according to him. He said unregulated users were at fault and that some 70 per cent of endosulfan used in Australia is used in the cotton industry. Would you agree?

**Dr SHEPHERD:** It is a high proportion of use; I can check the figures. I will take that question on notice.

**The Hon. I. COHEN:** I am interested to know what percentage is used in other industries. When talking about research and development to reduce pesticide use, have you heard of Envirofeast as a concept? Why is that program not being rigorously pursued?

**Mr GORTA:** It is used to encourage beneficials, those insects that eat pests and otherwise help reduce the need for pesticide application. I understand it is used in the cotton industry and other industries.

**The Hon. I. COHEN:** Do you know if it is being pursued as rigorously as the genetic engineering option?

**Mr GORTA:** I cannot say about the extent to which the industry is using it.

**The Hon. I. COHEN:** Dr Shepherd, you mentioned the power that the EPA has to operate under the Clean Waters Act as the most effective means of dealing with most

pesticide issues. I wonder why you have not had a field day with it. The Total Environment Centre stated in its paper that while pesticide problems are high on the agenda of concerns from Gunnedah residents, tensions over ground water supplies, die-back in trees, degraded rivers and flood plain manipulation are other problem areas. Do you have a comment?

**Dr SHEPHERD:** It is much easier to deal with a pesticide matter if it happens fortuitously to infringe the Clean Waters Act than to deal with it under the Pesticides Act. I would not waste my time trying to deal with that under the Pesticides Act if I could deal with it under any other legislation because the chances of dealing with it effectively are much greater, fortunately. Most issues do not involve the Clean Waters Act; from an environmental point of view that is fortunate, but it is unfortunate from an enforcement point of view. Apart from some degradation of the river ecology as a result of endosulfan and some other pesticides, most of the other issues you mentioned are land-use issues and not necessarily related to the use of pesticides. Die-back in trees is not necessarily related to the use of pesticides. Decreasing ground water supplies are not related to the use of pesticides. A lot of degradation of rivers is not associated with the use of pesticides. They are all land-use decision problems associated with the use of intensively grown crops and irrigation.

**The Hon. I. COHEN:** Perhaps I misquoted the document. All chemical audits conducted in Australia to date have identified that there is lack of accessible data on usage of Agvet chemicals. All have had to rely on estimates, inconsistent records and sometimes outdated aerial photographs or satellite images to determine land use. Do you have a comment?

**Dr SHEPHERD:** As far as I know there is a standing committee on environment protection and a standing committee on agricultural resource management; there is a task force looking into data on the use of Agvet chemicals. That is occurring at the moment at the national level.

**The Hon. I. COHEN:** Do you have any information on the current status of aerial spraying in Great Britain? I understand there is a significant cutting down, or even banning, of that process. How would your department view a ban on aerial spraying in New South Wales?

**Dr SHEPHERD:** To answer your second question first, aerial application of pesticides properly carried out is sometimes a more efficient and effective method of applying pesticides than ground application. Given the very different nature of the agricultural enterprises in the two countries I think that transferring a projected ban, if there is one, from the United Kingdom to Australia would be a mistake. The issues with aerial application in New South Wales are much more associated with the best practice and quality of that use of aerial spraying than with a decision to either allow it or not allow it. I can check on the United Kingdom issue and I take that on notice.

**Mr GORTA:** I understand that in Great Britain there is not a ban, but it is restricted. The restrictions plus the circumstances of British agriculture are such that there is virtually no aerial application.

**The Hon. I. COHEN:** Is it possible that circumstances developing in New South Wales may be similar, given the rural residential developments that are occurring and the changing face of agriculture in terms of interaction with land use and people living in the area?

**Dr SHEPHERD:** It may get to that point if the application of pesticides is not effectively regulated, either by air or ground. That is one reason we argue for a properly structured regulatory framework to deal with these things. That does not preclude the various associations, be they aerial applicators or other commercial applicators, or the agricultural associations such as Cotton Australia, from putting their best practice, self-regulatory systems in place. In order to improve the quality of the application of pesticides and pesticide use we suggest that you need an overarching, strong, regulatory framework within which those things can operate.

**The Hon. Dr B. P. V. PEZZUTTI:** How many inspectors do you have in New South Wales?

**Dr SHEPHERD:** Eleven. We inherited less than that and the EPA has added some resources to the pesticides function since that function was taken over. The funds for that have come from the general environment protection budget.

**The Hon. Dr B. P. V. PEZZUTTI:** Do you have enough inspectors if you rejig the Act to reasonably respond to community concerns, or if third parties appeal to you, or if farmers want information?

**Dr SHEPHERD:** If a new Act were brought in that encompassed the things we have talked about for an effective regulatory framework, that number of inspectors should enable us to do an effective job of policing and make sure that the frameworks are in place.

**The Hon. Dr B. P. V. PEZZUTTI:** Have you done a cost assessment of the new regulations in terms of regulatory requirements?

**Dr SHEPHERD:** We would have looked at the costs and benefits at the time we put out the discussion paper.

**The Hon. Dr B. P. V. PEZZUTTI:** I do not mean overall costs and benefits; I mean the costs to you for its implementation?

**Dr SHEPHERD:** Yes, we will do that at the time that we take a final proposal to government for changes to the legislation. We cannot work out exactly what we need until we know what we need them for. At this stage we think that within the framework we have talked about, the existing pesticides resources should be able to cope with the issues. Bear in mind that the pesticide inspectors are not on their own, they are backed up by the EPA legal department, the chemicals policy people, and by a whole raft of operations staff.

**The Hon. Dr B. P. V. PEZZUTTI:** Yes, but the person on the ground who handles a call from Gunnedah when someone has sprayed a proof at the same time that someone from Newcastle has a problem, do you have enough people to cover the time needed to get the information needed for a prosecution?

**Dr SHEPHERD:** We will never have enough people to deal with every single issue.

**The Hon. Dr B. P. V. PEZZUTTI:** I am aware of that. If this change in regulation comes about, and it is easy for you to prosecute under the Pesticides Act because of the changes in the way that people deliberately or fraudulently act, will you have enough people on the ground to respond to those problems?

**Dr SHEPHERD:** Within the context that we have talked about, my view is that we would have enough people to do the work. However, that does not mean that every single incident can be dealt with effectively, because things often occur in a batch. It would not matter if we had 100 people, there will be some days and some locations that I cannot service within three or four hours.

**The Hon. Dr B. P. V. PEZZUTTI:** One of the problems I have identified from the hearings today is that cotton is a point source of pollution and is relatively confined within a number of areas within New South Wales. The biggest problem I have is the cumulative impact of a lot of little problems. How does the EPA attack that cumulative impact as opposed to the single-point polluter?

**Dr SHEPHERD:** You mean the cumulative impact from what?

**The Hon. Dr B. P. V. PEZZUTTI:** People like me who spray their dahlias and it goes into the stream or a market gardener who might have an acre or someone who has broadacreage.

**Dr SHEPHERD:** With the cumulative impact, the first thing is to identify that you have problems. So, that requires you from time to time doing surveys of market produce or of rivers or of rainwater tanks to determine whether or not you have a problem. Once you know you have a problem, you need to work out what is the primary source. If it is a large number of small operators, education, with limited regulatory enforcement against a few really bad eggs in that process, is probably the appropriate way to deal with it and, possibly, some additional restrictions on the substances if they are significant, even down to banning, which occurred with some of the termiticides.

**The Hon. Dr B. P. V. PEZZUTTI:** You can advise, say, New South Wales Agriculture, to de-list certain products for certain uses?

**Dr SHEPHERD:** We would advise the National Registration Authority [NRA] or even recommend banning, which happened with some of the organochlorines, for example. If, on the other hand, you found it was a few reasonably significant operators, you would use a different set of tools to get at them.

**The Hon. Dr B. P. V. PEZZUTTI:** That is really the basis of the new Pesticides Act, the point-source polluter?

**Dr SHEPHERD:** The objective of the new Pesticides Act is to deal with the whole raft of those things, in fact, but remember we have already dealt with some of them because we already have a registration process in place and we have our input to the National Registration Authority processes, to the assessment of chemicals and to the conditions that need to be put on labels. We also combine with New South Wales Health or whoever else needs to be involved—New South Wales Agriculture in the case of market surveys—to do the survey work. So, we are already doing a fair bit of that. The powers we are talking about today

for the proposed Pesticides Act would be to clean up that other part of the system, primarily aimed at point sources, but it would also pick up the worst examples of use by the smaller users as well as, say, pest control operators.

**The Hon. Dr B. P. V. PEZZUTTI:** In your submission you say that New South Wales Health has the capability of detecting pesticides in water samples and that the Department of Water and Land Conservation has the monitoring of ground and surface water, and you do that too. Why on earth can we not have one person who tests water samples and who is responsible for surveying? Why do we have three in the same paragraph? On page 9 of your submission you identify two organisations responsible for doing the same thing and you do it as well, which is three people.

**Dr SHEPHERD:** They are not actually doing the same thing nor are they doing it for the same reasons.

**The Hon. Dr B. P. V. PEZZUTTI:** It does not matter if they are doing it for different reasons, but they are doing it. Three laboratories are testing water for pesticides.

**CHAIR:** We will have to move to a situation of asking questions on notice. I think that would be a good one to start with.

**The Hon. Dr B. P. V. PEZZUTTI:** Then, on notice, why are there three departments at least, identified on page 9, including your own, who can and do test water for pesticides? The second question on notice I have is why does your organisation carry out toxicology studies on pesticides when, in my view, it should be a matter for the NRA? On page 6 of your submission, part one, you make the point in the section on the endosulfins study—and I am sure much more should have been put in there for me as a scientist to understand—that the observed change was only explicable on the aqueous concentration of endosulfins, when the Total Environment Centre's report on that matter said there were five times the level of endosulfins in the sludge. Given that invertebrates live in or have some contact with the sludge, I would have thought that would be equally as important as the aqueous concentration.

**Dr SHEPHERD:** I will give you the published papers on this. They have only just been published.

**The Hon. J. R. JOHNSON:** During a previous inquiry undertaken by this Committee we visited the upper echelons of the Richmond River. The acid sulphate soils had contaminated the rivers to an extent that astonished me. Is that a result of aerial spraying?

**Dr SHEPHERD:** No.

**The Hon. J. R. JOHNSON:** Fertiliser only, is it?

**Dr SHEPHERD:** No, actually it is the result of drainage of low-lying lands and exposing soil containing a particular iron compound to the air. This allows it to oxidise and turns it into sulphuric acid.

**The Hon. Dr B. P. V. PEZZUTTI:** Another question I have, which you can take on notice, concerns the issue of odours. My understanding is that many odours are simply

added so they can be detected when something has been sprayed.

**CHAIR:** Like liquid petroleum gas—it is odourless.

**The Hon. Dr B. P. V. PEZZUTTI:** How many insecticides and pesticides have an odour and in what percentage of them have the odours been added and therefore spread at a different rate?

**CHAIR:** You can take that question on notice too, but the reason behind it is, does the odour sometimes go a bit further than the pesticide?

**Dr SHEPHERD:** Can we split that? Can I deal with it just in the agricultural context?

**The Hon. Dr B. P. V. PEZZUTTI:** Yes, do not talk about houses. The only other question on notice is, what percentage of endosulfins is used by home gardeners compared to industry? I am aware it was taken off the market for stone fruit many years ago and the industry said the world would end and it did not, but I still use endosulfins on my hibiscus, and obviously I will have to stop using them, but they are available in the shops. It is a serious matter. I am using it, and I am as likely to be as careful as a farmer who has everyone looking over his shoulder.

**CHAIR:** Very well, if you could check that. I have a number of other questions I would like you to take on notice. Would it be realistic for chemical producers to share liability with those people who use their products? The EPA submission highlights the fact that land-use planning could be used to reduce issues of conflict associated with pesticide use. This issue is not dealt with in any detail in the EPA discussion paper. Could the EPA expand on the possible use of planning measures as a mechanism to alleviate conflict about pesticide use and application? Would planning measures be best introduced at a State or local level? Could the EPA explain what steps are being taken by some local councils to address the planning issue? Some chemical companies are seeking to reduce the odour associated with pesticide use. The EPA has verbally advised that most odours do not carry the actual pesticide, although this is not always the case. What is the EPA's view about the removal or reduction of the odour of pesticide chemicals? Should there be legislative regulations relating to odour? Is this practical? The EPA has assisted in mediation processes in the Gunnedah and Middle Pocket communities. Could the EPA briefly tell the Committee about its experience in mediation of disputes relating to pesticide use?

A number of other quick things came up. One was the licensing of land sprayers as opposed to just aerial sprayers. I have asked the question about the odour. It was mentioned today by the New South Wales Farmers' Association that the Sydney Markets do testing for pesticides in vegetables. I used to be on the Sydney Market Authority and I think at one stage some changes took place there. I am not sure what testing is done there now, so you might let us know what testing is done on vegetables. It was suggested today there have been no prosecutions of cotton farmers. Perhaps there might have been some of spray operators. You might give us some comment on what prosecutions have been laid in relation to pesticides in the past few years.

The final one is, there has been some comment about how the new Act might work, how effective it might be, and there has been a lot of comment from everyone that they

want to end up in the same place—the farmers, the cotton growers and the Total Environment Centre. They all want to get rid of the rogues and make it a better place to live. They do not all have the same view on how the proposed legislation may work. One of the suggestions has been that there be a two-year review process of the legislation; in other words, that the legislation be reviewed at the end of two years. Perhaps the EPA might give this Committee a six-month or one-yearly comment on how the Act is going in that two-year period, so we can keep an eye on it. You might have some comment on that suggestion as well. Unless you would like to do that now.

**Dr SHEPHERD:** I might just make a comment on it now, if I may. The problem with a two-year review is that it is too early in the life of a new piece of legislation to have the thing completely bedded down and all the stakeholders understanding how it works. The vested interests who did not want it to look as it does might still be reasonably active and anxious that it reverts to its original form.

**The Hon. J. R. JOHNSON:** What about interim reviews?

**Dr SHEPHERD:** Certainly providing advice to this Committee would be fine. The earliest one can realistically review a piece of legislation, particularly one that is complex and controversial, would be three to four years. Then you can have a meaningful review. Anything earlier than that means the thing has not had time to bed down at all. I recommend strongly that you suggest a longer period for the formal review but we would not have a difficulty coming back on an annual basis and saying this is how it is working, these are the things we think are still issues, and obviously there is an opportunity then for you to get other advice.

**(The witnesses withdrew)**

**(The Committee adjourned at 4.00 p.m.)**

