Victorian Parliamentary Inquiry on the Impacts and Trends in Soil Acidity

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Introduction

I am delighted to be here today to talk to you about the Committee's report on acid soils.

Some of Australia's leading experts on acid soils are in the audience today, including Dr Bill Slattery, so I don't intend to talk to you about the causes of acid soils, their devastating impacts, nor their occurrence across Victoria and Australia, as you will be quite familiar with these facts.

But I would like to talk to you about what catchment management authorities, farmers, fertiliser industry representatives, government departments, scientists, Landcare and industry groups advised the Committee during the course of its acid soils Inquiry. I would also like to discuss the Committee's key findings and subsequent recommendations to Parliament.

When the Committee initially received its reference, our Members felt a little daunted. Some of our initial questions included:

- Well, what do acid soils look like? (We soon discovered they can be difficult if not impossible to detect with the naked eye).

Other questions at the forefront of our minds were:

- Is liming the main solution to acid soils?
- Are some fertilisers more acidifying than others? and
- If the impact of acid soils is so significant, rivalling that of salinity, why haven't we heard about the problem before?

The terms of reference required the Committee to:

1. review projected social, economic and environmental impacts of soil acidity at a regional and catchment scale;
2. develop recommendations to reduce the projected impact of soil acidity identifying areas for potential partnerships with industry and the community; and
3. identify future research and development priorities.

But let me first provide you with some background information on the role and work of the Committee.

The Committee

The Victorian Environment and Natural Resources Committee, is a Joint Committee, drawing its seven Members from both the Upper and Lower Houses of Parliament. It has Members from the Australian Labor Party, the Liberal Party and The Nationals.

The Committee operates under the *Parliamentary Committees Act*. The legislation gives the Committee the power to take and consider evidence and outlines the processes it must follow. It also states that Inquiry terms of reference must come from either the Parliament (either House) or the Governor-in-Council (on the advice of the Government of the day). The

Committee can only generate its own terms of reference in response to a report that has been tabled in Parliament.

The Act states that the functions of the Environment and Natural Resources Committee are to inquire into and report to the Parliament on environmental; natural resource; and land use issues.

Inquiry process

The Committee, in conducting its work, relies on the expertise and information held by the community, industry and government departments and the willingness of these groups to share their views and information. We met with over 100 people during the course of the acid soils Inquiry. Public hearings were held in Melbourne and across the State. The Committee also met with agencies in Rutherglen, Canberra and spent a day at the Wagga Wagga Agricultural Institute studying the former New South Wales Acid Soil Action Program.

Key issues raised during the Inquiry

Several key issues were raised during Inquiry and are examined in detail in the Committee's report, copies of which we have here today.

Barriers to management

The Committee concluded that the application of lime and planting of deep rooted perennial pastures are well established management options for acid soils. However two significant barriers were identified during the course of the Inquiry to the implementation of such management options.

Many witnesses advised the Committee that not all landholders have a sound understanding of the causes and impacts of acid soils on production nor the management options available. As one New South Wales district agronomist put it '"There is a lot of hoodoo and voodoo in the soil world".

Secondly, there are significant financial constraints faced by some parts of the agricultural sector, therefore the costs of transporting and applying lime and sowing perennials are regarded as prohibitive or uneconomic. As someone from the Victorian Department of Primary Industries explained to the Committee, spending $500 a hectare on lime to set up a viticulture system worth $30,000 a hectare is insignificant. But if you are a sheep grazier in the southern Wimmera, your land is probably is not worth more than $1,000 per hectare.

Raising awareness

The Committee has recommended that the Victorian Department of Primary Industries develop and deliver a comprehensive education and awareness raising program on acid soils. We believe that such a program not only needs to be directed at farmers but government agencies, agribusiness and the general public also.

For instance, the Glenelg-Hopkins Catchment Management Authority advised us that the government recognises dryland salinity and water quality issues and a lot of federal and state money is going into addressing such issues. However, acidification, which is a huge problem in the region, isn't regarded as an issue by government and the community. Seventy to eighty percent of Glenelg Hopkins' agricultural land is significantly affected by acidity whereas dryland salinity only affects 1-2 per cent of the catchment. Yet the CMA attracts funding under the national action plan for salinity and water quality.

The Department of Primary Industries in Hamilton has developed a system to help sheep and cattle producers make informed decisions about applying phosphorous fertiliser to

pastures. The Phosphorous Ready Reckoner is comprised of a small cardboard wheel with five steps for the producer to follow. It was suggested that the same principle could be applied to lime. The Committee believed that this was a sound idea and recommended that a simplified decision making support system for farmers be developed including advice on the quantity of lime required according to the effective neutralising value.

Soil testing

The Committee discovered that many farmers do not test their soils. Furthermore many farmers have difficulties interpreting soil test results and are confused about the difference between water and calcium chloride pH tests. The Victorian Limestone Producers Association estimates that 20 per cent of farmers conduct regular soil tests. Incitec Pivot in Wodonga stated that in the upper north east of the State, 15 per cent of farmers have their soils tested on a regular basis. Wodonga is one of the most acid affected areas of the state.

Increasing the awareness of farmers through soil testing has been the cornerstone of acid soil management programs interstate. In New South Wales, soil testing by Pivot at below market cost was negotiated under the Acid Soil Action Program. The program captured farmers on non arable land who previously were not regularly testing their soils.

Our members were concerned at the low percentage of farmers regularly testing their soils in Victoria. We concluded that such low levels of testing have significant economic and environmental implications, beyond the issue of acid soils. Therefore the Committee recommended that the Victorian Department of Primary Industries take a leaf out of the NSW book and negotiate the delivery of reduced cost soil testing to the regions most affected by acid soils. The Committee believes that such soil tests should be conducted as part of the integrated education program on acid soils, to maximise the resulting benefits.

Some landholders expressed concerns about the accuracy of soil tests and about the potential conflict of interest where both soil tests and advice are provided by fertiliser and lime companies. As Loddon Campaspe Fertilisers advised the Committee, fertiliser companies tend to concentrate on the nutrient side of soil testing and fertiliser companies use soil tests as marketing tools.

I understand that the next speaker on the program will be discussing quality assurance in soil testing so I won't go into any detail on that. However the Committee was advised by an agronomist from HiFert that there are laboratories that are operating that are less than reputable. He felt that the performance of laboratories should be ranked and made public. The Committee has recommended that the Department of Primary Industries undertakes a review of the performance of soil testing laboratories operating in Victoria with the option of regulating the industry considered as part of the review.

Applying lime

A number of concerns were raised about the quality and labelling of agricultural lime, as well as landholder's understanding of the different types of lime – the effective neutralising value, presence of trace elements and 'fineness' or texture. The Department of Primary Industries in Victoria advised that significant quantities of untested lime material are marketed and sold as lime for farm use.

The Committee identified a number of weaknesses in the regulation of agricultural lime in Victoria. It has recommended that the legislation be reviewed. It also recommended that the Victorian Fertiliser Survey be conducted annually rather than every two years and continue to include lime products.

The survey, conducted by the Department of Primary Industries, involves the sampling and checking of superphospate, home garden products and lime for compliance against legislative labelling and content standards. According to the fertiliser regulations in Victoria, the label or advice note supplied with each package or load of lime must state the neutralising value, effective neutralising value, calcium carbonate equivalent and grade of lime. The current format of the survey is complex and too technical. So the Committee has recommended that the results of the survey be simplified and widely distributed.

The Committee also believes that the lime industry needs to urgently review its compliance with the state fertiliser regulations including labelling and content standards.

You will be aware that there have been a number of national reviews of the lime industry over the last decade. The 1995 AACM International review concluded that the lime industry has a lot to gain from promoting management of soil acidification with lime. The review recommended that national standards be developed on the neutralising values of lime, particle size and chemical composition. A 1999 study by the Cooperative Research Centre for Soil and Land Management concluded that the absence of set standards of lime products in Australia (in terms of price, quality and effectiveness) is a difficulty that has long faced the end user in Australian agriculture.

We were surprised to learn that the particle size of New South Wales lime is often much finer than agricultural lime sold in Victoria. We were also told that the effective neutralising value of lime is not labelled in New South Wales as it is in Victoria. The Committee believes that there would be merit in the development of national standards for agricultural lime products.

I have already touched on the economics of liming but you will be well aware that the cost of transporting lime is an important issue to farmers. It was raised repeatedly with the Committee. HiFert told the Committee that a tonne of lime costs $60-$70 to deliver and spread in the north east of the state whereas a farmer in the south west on the limestone coast can get it delivered and spread for $20. The arguments for and against a subsidy on lime are set out in the report.

Research and development

Although there is a sound understanding of the technical aspects of soil acidity including how lime applications work, there remain a number of important gaps in knowledge.

The management of acid soils has traditionally been considered a private rather than a public issue with the impacts limited within farm boundaries. However questions were raised by the Victorian Department of Sustainability and Environment; the Murray-Darling Basin Commission and Primary Industries Research (Victoria) as to whether there is a link between the acidification of soil and the decline in pH of Victorian waterways as well as other “off site” impacts.

Soil scientists also highlighted the nexus between acid soils and other environmental problems such as dryland salinity. The Director of the Soil and Water Program, Primary Industries Research (Victoria) noted that there is some speculation derived from New South Wales research that the salinity levels we are seeing in some water courses may be related to the chemical processes that are causing soil acidification.

The Committee has recommended that research and development focus on:

- measuring the costs associated with the impact of acid soils;
- the implications of intensified agricultural systems on the acidification process;
- the link between soil and waterway pH;
- management of acid subsoils; and

- mapping of soil pH.

Data on the distribution of acid soils and subsoils and the rate of acidification are limited in Victoria, hampering informed planning and management decisions.

Other management options

Many witnesses also advised the Committee that solutions beyond applying lime and planting perennials need to be thoroughly investigated – for example the development of acid tolerant species, land use change and use of organic materials. Some witnesses challenged the promotion of lime as the key management option for correcting acid soils.

Concluding comments

The Government has six months to table a response to the Committee's report. The response is due in mid September and will most likely set out which recommendations the Government accepts and rejects. We look forward to receiving the Government's response to the report.

In closing, the Committee in making its recommendations was very mindful that soil health is only one of many management issues farmers must consider in the production process. And that acid soils cannot be effectively managed in isolation. In the past 50 years the ratio of prices paid to prices received by Australian farmers has fallen by seventy percent. We were told that acid soils must be understood in the context of a rapidly changing economic and social environment with the ageing of the farming population, growth in size and intensification of farm enterprises and increase in hobby/lifestyle farmers.

Landholders emphasised the need for tailored solutions to acid soils that suit individual catchments and the need for government to be strategic about its management of this extensive problem. The Committee has recommended that a Victorian Acid Soils Management Strategy be developed as a matter of priority.

I would like to thank the organisers of the conference for inviting the Committee to make a presentation today. I am happy to take questions.