

Chapter 3

The chemical review of fenthion and its impact on industry stakeholders

3.1 The terms of reference for the committee's inquiry required the consideration of the chemical review process undertaken by the APVMA in relation to fenthion. The committee examined the processes undertaken by the APVMA (in its attempt to determine whether the chemical's use should be further restricted, suspended or withdrawn completely).

3.2 Another primary focus for the committee was to determine the level of impact restricting, (suspending or cancelling) the use of fenthion will have on Australia's horticultural industry. The following chapter outlines the evidence provided by various industry stakeholders about the potential impacts the restriction of fenthion is likely to have – on individuals, businesses and Australia's horticultural industry more generally.

Chemical review of fenthion

Background

3.3 Fenthion is a broad spectrum organophosphate (OP) insecticide used in horticulture, home gardens and domestic and industrial pest control. The chemical first came into use internationally in 1965 and has, for many years, been an important part of insect pest control – particularly for fruit fly – in a number of fruit growing areas across Australia. Fenthion has also been used as a quarantine treatment (to eradicate fruit fly on tropical and subtropical fruit and fruiting vegetables prior to interstate trade)¹ and to control external parasites on cattle and pest birds around buildings.

3.4 The APVMA noted that fenthion is a nerve poison that works by interfering with the nervous system of animals, including insects and birds. The nervous system – including the brain, spinal cord and nerves – is responsible for controlling and coordinating voluntary and involuntary movement through the generation of chemical and electrical signals.²

3.5 Since the mid to late 1990's, the use of fenthion on food producing plants has been phased out in a number of countries and the chemical is no longer registered for use on food producing plants in the European Union, the United States, Canada or New Zealand.³

1 Apple and Pear Australia Limited, *Submission 4*, [p. 1] and Australian Pesticides and Veterinary Medicines Authority, *Submission 23*, p. 1.

2 Australian Pesticides and Veterinary Medicines Authority, *Submission 23*, p. 9.

3 Apple and Pear Australia Limited, *Submission 4*, [p. 1] and Australian Pesticides and Veterinary Medicines Authority, *Submission 23*, p. 1.

3.6 The APVMA noted that, when the Chemical Review Program was introduced in 1994, fenthion was one of the 80 chemicals nominated for reconsideration. The nomination of fenthion as a chemical for review came about as a result of new data which raised concerns about public health, occupational health and safety, and environmental risks. The committee was told that the human health concerns, in particular, came about because, like other OPs:

... fenthion has the potential to cause significant adverse health effects (including death) in people following a single exposure (known as acute toxicity). Fenthion is reported to have both short-term and long-term effects on the brain and nerves of people.⁴

3.7 The committee notes that several witnesses questioned the scientific veracity of this comment.

3.8 The APVMA also noted that fenthion has several breakdown products (degradates or metabolites) that form in plants and the environment after spraying and can cause adverse health effects in people. These metabolites, which form a significant proportion of the total residue found on treated produce are included in the 'residue definition' for fenthion. MRLs set for fenthion include these metabolites.⁵

3.9 The committee acknowledges the APVMA's finding that fenthion has the potential to cause adverse health effects. Nonetheless, while the committee is not qualified to assess the veracity of the APVMA's assessment, nor the weight of evidence that the APVMA submits it relied on in making its assessment, it notes with concern that the only human-derived source of evidence supporting the APVMA's conclusion with respect to fenthion is a 35 year old unpublished paper titled *Safety Evaluation of Fenthion in Human Volunteers* (Coulston et al).

3.10 Furthermore, the committee notes the Coulston paper's conclusion that few, if any, verifiable effects attributable to the chemical were evident, and the comment made in the APVMA Review of the toxicology of Fenthion that 'This 1979 study was considered to have serious flaws...The symptoms reported by the subjects and the occasional exculpatory note are insufficiently detailed to allow independent assessment of their significance'.⁶

3.11 In correspondence provided to the committee by the APVMA, the Advisory Committee on Pesticides and Health, which set the Acute Reference Dose for fenthion in 2000, acknowledged that the Coulston study 'may not be perfect by contemporary standards'. However that Committee still considered it to be the most appropriate study for setting the fenthion ADI, (Acceptable Daily Intake) especially when the 'weight of evidence' approach was taken.⁷

4 Australian Pesticides and Veterinary Medicines Authority, *Submission 23*, p. 9.

5 Australian Pesticides and Veterinary Medicines Authority, *Submission 23*, p. 9.

6 *The APVMA Review of Fenthion*, Appendix XI, p. 135.

7 Additional Information, correspondence from APVMA, dated 24 June 2014; *The APVMA Review of Fenthion*, Appendix XI, p. 174

3.12 Evidence was presented to the committee of chemical testing on apricots and peaches around Australia in the 2013-14 summer. Evidence to the committee was that fruit sample numbers containing fenthion levels exceeding the allowable MRL (0.02 mg/kg)⁸ were very low, especially in contrast to other chemicals monitored at the same time.

3.13 Some committee members questioned whether the incidence of excessive fenthion residuals was confined to a limited number of orchards. Such a conclusion would point to the need for education of offending orchardists or their exclusion from selling product through the markets.

3.14 The question hanging over the committee is whether fenthion could continue to be used during a transition period, given that the majority of orchardists told the committee they were using it responsibly and according to label, while they transition to other management techniques to control Medfly.

Decisions made by the APVMA

3.15 The APVMA's submission provided the committee with a detailed account of the review process it undertook in relation to fenthion. The APVMA told the committee that the process commenced in 1998, when the then National Registration Authority (NRA) requested information on fenthion from registrants and industry. At the same time, in order to assist the APVMA to define the risk assessment components, the NRA invited public submissions about the current use, or problems associated with the continued use, of fenthion.⁹

3.16 The APVMA split the review of fenthion into two parts. Part 1 dealt with products used in non-food producing situations, including products used in the home garden, flea products for dogs and home insecticide sprays. When decisions in relation to these product types were made in 2005, some home garden products were cancelled and bird control products containing fenthion were declared Restricted Chemical Products (RCPs).¹⁰

3.17 The second part (Part 2) of the review included products used on food, commercial and home garden products for fruits and vegetables and a veterinary cattle

8 Mr Brett DelSimone, Hills Orchard Improvement Group, *Committee Hansard*, 3 February 2014, p. 23 and Dr Raj Bhula and Ms Kareena Arthy, Australian Pesticides and Veterinary Medicines Authority, *Committee Hansard*, 7 July 2014, pp 5 and 6.

9 Australian Pesticides and Veterinary Medicines Authority, *Submission 23*, p. 9.

10 Australian Pesticides and Veterinary Medicines Authority, *Submission 23*, p. 10.

product. Table 3.1 provides a timeline and a summary of Part 2 of the review process undertaken by the APVMA and the decisions made in relation to fenthion.¹¹

Table 3.1: Part 2 of the review of fenthion conducted by APVMA¹²

30 January 1999	<p>The end of January 1999 was set as the closing date for submissions. The APVMA's review commenced shortly after submissions were received.</p> <p>The scope of the fenthion review included public health (which incorporated a toxicological and residue assessment), worker safety, environment and trade.</p> <p>The toxicological and worker safety assessments were conducted by the OCS, the environment assessment by the Department of Environment and the residue and trade assessment by the APVMA.</p>
2000	<p>The OCS implemented a policy of setting acute reference doses for the first time in Australia. As part of that policy, an acute reference dose was set for fenthion.</p> <p>(The assessment of fenthion and its other health impacts included an examination of the extensive toxicological database on fenthion and this process continued for a number of years).</p>
2004-05	<p>The APVMA had discussions with the registrant and user industry regarding the lack of residue data to allow establishment of MRLs for use of fenthion products in fruits and vegetables, particularly for fruit fly control.</p> <p>The APVMA gave the industry time to generate the necessary residue data with a view to providing an opportunity for a full review of uses approved on the registered label. Some uses included post-harvest dipping of fruit and vegetables for fruit fly control.</p>
2005	<p>The full human health assessment in relation to fenthion was completed.</p>

11 The table describing the review process and decisions made by the APVMA is based on information provided in Australian Pesticides and Veterinary Medicines Authority, *Submission 23*, pp 9-12, Australian Pesticides and Veterinary Medicines Authority, Media Release, *APVMA releases fenthion review for final phase of consultation*, 22 May 2012 and Australian Pesticides and Veterinary Medicines Authority website http://www.apvma.gov.au/consultation/public/2014/prf_fenthion.php, accessed 4 June 2014.

12 Pertaining to products used on food, commercial and home garden products for fruits and vegetables and a veterinary cattle.

December 2005	The APVMA published the toxicology report on fenthion. In the report, both the acute reference dose and acceptable daily intake previously set by the OCS were published.
July and August 2010	Horticulture Australia Limited (HAL) submitted Australian residue data on fenthion and dimethoate for assessment by the APVMA.
September 2012	<p>The <i>Fenthion Residues and Dietary Risk Assessment Report</i> was published.</p> <p>The report outlined that for peaches, the dietary exposure of children (aged from two to six years old consuming fruit treated according to the registered label directions) was more than 10 times above the acute reference dose. These dietary exposures were so high in some cases to put particularly sensitive children at risk, as the buffers designed to completely protect all consumers were eroded. Where the dietary exposure exceeds the public health standards, the APVMA cannot be satisfied that the use of the produce with the existing label instructions would be safe for people and MRLs cannot be established, thereby leading to use patterns being removed.</p>
11 September 2012	<p>The APVMA:</p> <ul style="list-style-type: none"> • proposed that all uses patterns of concern on apples, pears, citrus, figs, loquats, quince and stonefruit, grapes, olives, pepinos, eggfruit, tomatoes and postharvest use on vegetables be suspended; and • called for proposals from industry for modified use instructions for crops where safety concerns had been identified. This was in recognition that the risk to consumers arising from the use of fenthion on those crops could be addressed by reducing the residues on those crops of concern.
25 September 2012	<p>The closing date for proposals/submissions from industry.</p> <p>The APVMA received over 70 submissions – 67 of which came from Western Australia.</p> <p>Whilst several industry groups responded and proposed alternate reduced use patterns for fenthion, the proposals did not provide sufficient 'additional residues data' to support the proposed modified use patterns. Residues monitoring data submitted to the APVMA was mostly sourced from Quality Assurance testing schemes. (The APVMA noted that these</p>

	<p>types of schemes typically only test for the fenthion parent compound, not all of the relevant metabolites. The information is therefore of limited regulatory value for establishing new MRLs).</p>
31 October 2012	<p>The APVMA suspended the registration and labels of the two fenthion products used on food producing plants. As part of the conditions of suspension of these products, they could only be used according to new, modified instructions.</p> <p>The modified instructions for use were developed based on reduced use patterns proposed by industry which were assessed for safety, and in most cases, accepted by the APVMA.</p> <p>New, lower MRLs were established to support these new use instructions.</p>
31 October 2012	<p>The new instructions for use by growers (in relation to stonefruit) included use for control of Queensland fruit fly up to a minimum of 21 days before harvest (the 'withholding period').</p> <p>For the Mediterranean fruit fly (Medfly) in Western Australia, the available data supported a seven day withholding period with a maximum of two sprays per season.</p> <p>The APVMA indicated that these instructions were developed on advice from relevant bodies and represented a modification of the initial recommendations in the 11 September 2012 report, which called for the complete cessation of fenthion use for stonefruit.</p> <p>Industry was advised that for some use patterns (notably stonefruit) the limited data could only support use under the suspension for 12 months from 31 October 2012 to 30 October 2013.</p> <p>Industry was also advised that prior to October 2013, the APVMA would reconsider the suspension and the conditions under which fenthion could be used. Industry groups were invited to collect and submit further residue data to the APVMA.</p>
Post 31 October 2012	<p>The APVMA received further residues monitoring data from two industry groups in Western Australia for the 2012-13 season to support the continued use of fenthion under the modified use instructions put in place as part of the suspension.</p>
17 and 31 July 2013	<p>Residues monitoring data results were received. However, these submissions did not include testing of all the metabolites</p>

	of fenthion.
9 August 2013	The APVMA received a study, funded by HAL, reporting the residues in stonefruit following treatment with fenthion under the modified use regime. This study included testing for all of the metabolites of fenthion as specified in the Australian residues definition for fenthion and was conducted according to required standards of good laboratory practice.
August/September 2013	<p>The supplementary residues data was assessed by the APVMA. Following analysis of the new information provided by industry, the APVMA indicated that it could no longer be satisfied that stonefruit sprayed with fenthion would have safe residue levels after a withholding period of only seven days.</p> <p>The residues assessment supported a withholding period of 14 days for nectarines and plums. For peaches and apricots, the assessment did not support any continued use of fenthion.</p>
16 October 2013	<p>The APVMA further restricted the use instructions for fenthion on stonefruit and the suspension was continued until 30 October 2014.</p> <p>The <i>Supplementary Fenthion Residues and Dietary Risk Assessment Report</i> was published on the APVMA website at the time of this decision.</p>
25 October 2013	Summerfruit Australia applied for a permit to use a single spray of fenthion on peaches and apricots with a withholding period of 21 days before harvest.
29 October 2013	<p>Summerfruit's application for a permit (for a more restricted pattern of use) was approved on the basis that the dietary risk was reduced to an acceptable level in relation to the public health standard; and the existing lower MRL could still be met.</p> <p>The permit was held by Summerfruit Australia with use up until 30 April 2014. (This permit was not linked with the APVMA use instructions under the suspension continuation issued on 16 October 2013, which expires on 30 October 2014).</p>
22 May 2014	<p>The APVMA published the <i>Preliminary Review Findings Report</i> in relation to fenthion.</p> <p>The APVMA's report recommended further restriction to the use of fenthion.</p> <p>The report noted that an assessment of available data concluded that the use of products containing fenthion, may, in most situations, pose undue risks to human health (via</p>

	<p>dietary and occupational exposure) and to the environment.</p> <p>The APVMA proposed the following regulatory actions to manage the risks:</p> <ul style="list-style-type: none"> • cancellation of a cattle lice control product; • cancellation of all pest control and home garden products except fenthion 1 per cent dust product; • variation of the label of the fenthion 1 per cent dust product to remove use in ceilings, wall spaces and crawl spaces and update the safety directions; and • variation of the label of the horticultural product to remove all uses except post-harvest dipping of tropical and subtropical fruits with inedible peel, and to update safety directions and warnings.
22 August 2014	<p><i>Preliminary Review Findings Report</i> in relation to fenthion has been made available for consultation and submissions have been invited from interested parties by 22 August 2014.</p> <p>The APVMA indicated that it will consider submissions before making a final regulatory decision.</p>

3.18 The APVMA noted that that from 2011 onwards, it did issue permits for alternate uses of fenthion to control fruit fly, and alternative chemicals for the control or suppression of fruit fly in certain crops.¹³

3.19 The requests for permits came from grower groups, industry bodies and states and territories. The APVMA told the committee that decisions made in relation to the issuing of permits were science-based, and involved consideration of all the data available at the time. The APVMA specifically noted that, in relation to fenthion, the proposed pattern of use (the number of sprays and associated withholding periods) was assessed to confirm compliance with the relevant public health standards.¹⁴

Chemical review of fenthion – issues raised by stakeholders

Support for the review

3.20 A number of stakeholders expressed support for the APVMA's review, particularly given concerns about the health risks associated with fenthion.¹⁵

13 Australian Pesticides and Veterinary Medicines Authority, *Submission 23*, p. 12.

14 Australian Pesticides and Veterinary Medicines Authority, *Submission 23*, p. 12.

15 See, for example, Donnybrook Orchard Improvement Group, *Submission 8*, Nannup Fresh Fruit Pty Ltd, *Submission 7*, CropLife Australia, *Submission 13*, Alliance for a Clean Environment, *Submission 16*, and Mr David Eyre, *Submission 25*.

3.21 The Queensland Department of Agriculture, Fisheries and Forestry (Queensland DAFF) expressed its support for the APVMA's review, particularly given the level of international concern about the acute toxicity of organophosphorous pesticides. Specifically, Queensland DAFF argued that:

... it was appropriate that compounds such as fenthion and dimethoate were some of the highest priority chemistries for review. This was particularly important because the previous registration decisions only considered chronic toxicity in human dietary risk assessments.¹⁶

3.22 The Department of Primary Industries and Regions South Australia (PIRSA) also indicated that it 'supports the science based approach of risk as undertaken by the APVMA, particularly when there are risks to human health'. At the same time, however, some concerns were expressed about the process itself. PIRSA contended:

... that better outcomes for public health and the development of effective alternative treatments and management strategies could have been achieved with a more efficient review process followed by a transparent and effective implementation schedule. This would have provided the confidence necessary for industry to invest in the development and implementation of new practices to manage fruit fly risks. It would have also helped to reduce some stakeholder disengagement and avoidance of difficult decisions, which can occur when decision-making is continually extended and final deadlines are unknown.¹⁷

Support for an independent regulator

3.23 A number of submitters expressed support for the APVMA. Specifically, stakeholders stressed the importance of maintaining an independent and science-based regulatory system.¹⁸

3.24 CropLife Australia acknowledged that there is a strong argument for improving the timeliness and efficiency of the APVMA's chemical review process. However, at the same time, it asserted that the APVMA must continue to base its regulatory decisions 'within the legislative and regulatory framework provided for in the *Agricultural and Veterinary Chemicals Code Act 1994*':¹⁹

Allowing undue influence from activist groups, industry or any other third parties on registration decisions by the APVMA would compromise the integrity and credibility of the agricultural chemical (crop protection) registration system. CropLife strongly considers that a move away from this system would be to the long-term detriment of Australia's farming sector.

16 Queensland Department of Agriculture, Fisheries and Forestry, *Submission 6*, p. 2.

17 Mr Will Zacharin, Biosecurity SA, Department of Primary Industries and Regions South Australia, *Committee Hansard*, 16 April 2014, p. 37.

18 See, for example, Queensland Department of Agriculture, Fisheries and Forestry, *Submission 6*, CropLife Australia, *Submission 13*, and Alliance for a Clean Environment, *Submission 16*.

19 CropLife Australia, *Submission 13*, Covering letter, p. 1.

Australia is fortunate that it currently has an independent regulator and this is something that must be protected.²⁰

Time taken to complete reviews

3.25 The committee received evidence from a number of individuals and organisations that were critical of the length of time taken for APVMA to complete reviews of chemical products.²¹

3.26 The Horticulture Coalition of SA noted that of particular concern to the group is a perceived 'lack of sufficient resources available to APVMA to undertake reviews in an efficient manner and timeframe'.²² The group suggested that the length of time taken to conduct reviews was a major issue, given that the reviews of dimethoate and fenthion have 'been at least ten years in the process'.²³

3.27 The APVMA acknowledged in its submission that chemical reviews are 'large, complex projects that necessarily take a considerable period of time to complete for a number of reasons',²⁴ including:

- There are large amounts of technical data that are scientifically evaluated, often by experts external to the APVMA. These rigorous processes use internationally established methods and can take a considerable period of time to complete. The conclusions of the scientific assessments are based on the best available information at a point in time.
- Often new information will become available during the course of a review, such as new published studies or unpublished studies conducted to address a data gap identified by the APVMA, or provided voluntarily by approval holders, registrants or users. Under the current system, this can often drive a review into an iterative process where reports are updated as new information becomes available or is submitted over relatively long periods of time.
- Any potential decision to restrict or remove a chemical from the marketplace may have a significant impact on user groups and primary producers. For this reason, the communication activities and engagement

20 CropLife Australia, *Submission 13*, Covering letter, p. 1.

21 See, for example, Summerfruit Australia, *Submission 9*, Horticulture Coalition of SA, *Submission 11*, Hills Orchard Improvement Group, *Submission 1*, CropLife Australia, *Submission 13*, and Alliance for a Clean Environment, *Submission 16*.

22 Horticulture Coalition of SA, *Submission 11*, [p. 2].

23 Horticulture Coalition of SA, *Submission 11*, [p. 2].

24 Australian Pesticides and Veterinary Medicines Authority, *Submission 23*, p. 5.

around chemical reviews with the jurisdictions, approval holders/registrants and users can be lengthy and complex.²⁵

Implications for the horticultural industry

3.28 The Minister for Agriculture recently noted that the total value of Australian horticulture production in 2012-13 was over \$8 billion. It was also noted that over 75 percent of Australia's fruit and vegetable exports – valued at around \$640 million in 2012-13 are susceptible to fruit fly.²⁶

Economic loss

3.29 The committee received evidence from a number of stakeholders – including peak industry bodies, grower organisations and individual growers – about the economic impact of restricting (and eventually discontinuing) the use of fenthion. The committee found that opinion was very much divided – particularly in Western Australia – regarding the effect that restrictions would have on the horticultural industry. Whilst some organisations spoke of severe and irreversible damage, others noted that the industry had been aware of the possibilities for some time, that change was inevitable and that industry has been preparing for it.

3.30 NSW industry group Summerfruit Australia predicted that the impacts on their grower members would be major, and argued that:

The impact of the loss of Dimethoate and the restriction in use of Fenthion in 2013/4 has been highlighted in the increase in damage to stonefruit across all growing regions. The loss is estimated at \$125 Million. (Vickers 1994), possibly in current terms \$150 Million.

The long term impact is that if no other controls of Fruit Fly are found then the stonefruit industry in Australia could rapidly decline resulting in business closing, jobs being lost and the viability of the industry threatened. The Australian consumer may well have to rely on imported stonefruit from a range of overseas countries to satisfy the domestic market.²⁷

3.31 The Hills Orchard Improvement Group (HOIG) also predicted that the removal of fenthion would have severe, negative impacts on the industry. HOIG told the committee that growers in the Perth hills produce more than \$40 million a year of stonefruit, apples and pears. The group also noted that, in 2012, it had made the prediction that 'a ban on fenthion could lead to the total destruction of the stonefruit crop and the loss of a significant portion of the apple crop in the south west of Western Australia'.²⁸

25 Australian Pesticides and Veterinary Medicines Authority, *Submission 23*, p. 5.

26 Media Release, The Hon. Barnaby Joyce, MP, Minister for Agriculture, *Getting fruit fly under control a national priority*, 7 May 2014, p. 1.

27 Summerfruit Australia, *Submission 9*, [p. 6].

28 Hills Orchard Improvement Group, *Submission 12*, p. 6.

3.32 HOIG argued that the crop losses growers could experience without access to fenthion were substantial. The example was used of the 2012-13 growing season when adverse weather conditions saw fruit fly numbers increase significantly. At the time, growers were permitted two applications of fenthion, however crop losses were estimated across the board at 50 percent – with one orchard experiencing a loss of 100 percent.²⁹

3.33 Mr Mark Napper, a stone fruit grower from Bangalow, New South Wales, told the committee that in recent years, a number of his neighbours and long term growers in the area had exited the industry citing the APVMA's decision on fenthion as the final 'nail in the coffin'. Mr Napper also indicated that that the APVMA decision has had a negative impact on growers, both financially and personally.³⁰

3.34 The views put forward by Growcom were typical of those expressed by a number of submitters:

It is absolutely undeniable that the restriction of the use of Fenthion has a significant and difficult to manage impact on the Australian horticulture industry. We are deeply sympathetic to those growers and industries adversely affected.³¹

3.35 Low Chill Australia (LCA)³² told the committee that approximately 50 percent of its members' plantings are peaches, which means that both the short and long term impacts of the proposed ban on fenthion are devastating. It was noted that many peach trees are being removed, which led the LCA to suggest that it was likely that the only peaches that would be available in Australia during the July-November period would be those imported from the United States.³³

3.36 The claims made by some sections of the industry were strongly disputed by another. For example the Donnybrook Orchard Improvement Group (DOIG) argued that:

Western Australia has a robust fruit industry that will prosper and produce good fruit without fenthion. The damage to the industry does not arise from the restrictions on fenthion; unfortunately the damage to our market and the industry is caused by the irrational advocacy of those opposed to the restrictions on fenthion.³⁴

3.37 DOIG also told the committee that it was important to recognise that:

29 Hills Orchard Improvement Group, *Submission 12*, p. 6.

30 Mr Mark Napper, *Submission 21*, [p. 1].

31 Growcom, *Submission 19*, p. 3.

32 Low Chill Australia Inc. is the national peak industry body representing low-chill stone fruit producers and its supply chain service providers (primarily in the areas around the NSW North Coast and the Queensland Sunshine Coast).

33 Low Chill Australia Inc., *Submission 22*, [p. 4].

34 Donnybrook Orchard Improvement Group, *Submission 8*, p. 4.

... good fruit can be effectively grown without the use of fenthion as a cover spray and that in a world market that is increasingly cautious of all chemicals the cessation of fenthion as a cover spray is inevitable.³⁵

3.38 These views were shared by Nannup Fresh Fruit Pty Ltd, which argued that:

Whilst a small number of growers will need to rapidly progress from their current practise to the use of new chemicals and methods the impact on the overall industry will be minimal. Large portions of the industry have heeded the advice given them and have transitioned to different use methods already.³⁶

3.39 The APVMA acknowledged that, as an organisation, it is very restricted in what it can take into consideration when undertaking reviews. Whilst issues around human, animal and environmental health and safety, efficacy and international trade are routinely taken into consideration, the Authority is not able to take economic factors into account when making decisions. Chief Executive Officer, Ms Kareena Arthy, noted that:

One of the things that often gets put to us is: why don't you do a cost benefit analysis about the use and non-use of this chemical. That is not within our purview to do, because it is not part of our legislative decision making. That is where it becomes a bit tricky about what we can and can't do.³⁷

The lack of a single-use control

3.40 The lack of a single-use chemical mechanism for fruit fly control was also raised as an issue by other stakeholders.

3.41 HOIG stressed their concerns about fenthion being 'the only product registered and proven by structured in-field testing that will kill the fruit fly larvae or maggot and all other stages of the life cycle'.³⁸

3.42 Apple and Pear Australia Limited (APAL) told the committee that 'the likelihood of a suspension in the registration of fenthion has come as a blow to many apple and pear growers, because'.³⁹

... there are no alternative cover sprays that are effective in the control of Mediterranean and Queensland fruit fly. Cover sprays like fenthion are particularly effective because they kill adult fruit flies on contact, as well as penetrating the edible fruit flesh, killing eggs and larvae within apples and pears.⁴⁰

35 Donnybrook Orchard Improvement Group, *Submission 8*, p. 4.

36 Nannup Fresh Fruit Pty Ltd, *Submission 7*, [p. 2].

37 Ms Kareena Arthy, Australian Pesticides and Veterinary Medicines Authority, *Committee Hansard*, Briefing on use of fenthion, 9 December 2013, p. 4.

38 Hills Orchard Improvement Group, *Submission 12*, [p. 6].

39 Apple and Pear Australia Limited, *Submission 4*, pp [1 and 2].

40 Apple and Pear Australia Limited, *Submission 4*, pp [1 and 2].

3.43 APAL also argued that the restricted use and likely suspension of fenthion is particularly problematic because in 2011, the registration of dimethoate (another common cover spray used against fruit fly) was also suspended.⁴¹

3.44 Industry group Growcom noted that there is no 'silver bullet' replacement for Fenthion and fellow cover spray Dimethoate' and argued that as community concerns around chemical use intensify 'more work needs to be done to increase the number of tools in our crop protection toolbox'.⁴² It was also argued that:

... if there were viable alternatives in place to manage fruit fly that were economically feasible and accepted by our trading partners then many of the concerns around the restriction of Fenthion would disappear.⁴³

3.45 The committee heard that there had been some problems in the Perth Hills area, particularly for those growers who have been seeking to identify alternatives to fenthion and move toward Area Wide Management (AWM) techniques. It was suggested, for example that:

Any alternatives to Fenthion are seen as a threat to the maintenance of the use of Fenthion. Any grower, scientist or industry body that may express a view, or point out a fact that may weaken the image of solidarity and crisis, about the use of Fenthion is to be silenced. ... The perception among growers that Fenthion use will be maintained and that alternatives will weaken the case has led to two seasons of at best secretive preparations for a post Fenthion world ...⁴⁴

3.46 Mark Wilkinson further argued that the removal of fenthion as an option will mean that a large number of growers will 'have to start from a position of no experience and reduced support'.⁴⁵

3.47 As a grower with limited experience of AWM, Mr Rod Thomson told the committee that during the 2013 season he attempted to incorporate AWM into the management of his orchard, as 'part of a very mixed QFF control program'.⁴⁶ Mr Thomson noted that whilst results under 2013 conditions did provide good control of QFF:

... we did have Fenthion available for use in the early season which will not be the case for peaches next season and we did have dry weather for the late maturity season in November which is abnormal.⁴⁷

41 Apple and Pear Australia Limited, *Submission 4*, pp [1 and 2].

42 Growcom, *Submission 19*, p. 4.

43 Growcom, *Submission 19*, p. 4.

44 Mr Mark Wilkinson, *Submission 20*, [p. 2].

45 Mr Mark Wilkinson, *Submission 20*, [p. 2].

46 Mr Rod Thomson, *Submission 3*, p. 4.

47 Mr Rod Thomson, *Submission 3*, p. 4.

3.48 Mr Thomson admitted that his lack of experience without fenthion makes it difficult to judge what future outcomes are likely to be, particularly as conditions and circumstances can vary considerably from season to season. He acknowledged however, that whilst his business is 'still a long way from commercial confidence'⁴⁸ he is aware of the QFF control experiences that some other industries have successfully adopted and this has provided some guidance in his AWM efforts so far. Mr Thomson also argued that the availability of a half rate Fenthion treatment could be very useful in conjunction with AWM of QFF, particularly in the transition years.⁴⁹

3.49 Queensland DAFF acknowledged that, in some cases, alternative chemical treatments for fruit fly control in the field are not as effective as the dimethoate and fenthion products. At the same time, however, it recognised that:

... continued use of fenthion and dimethoate for horticultural produce poses an unacceptable dietary risk to humans.⁵⁰

Market access

3.50 The Department of Agriculture (DA) submitted that controlling fruit fly is important to enable export market access of many commodities being traded internationally. However it also submitted that restrictions on the use of fenthion would have a negligible impact on international market access for Australian agricultural products. The committee was told that exports of fresh horticulture products account for 7.4 percent of the total value of horticulture production (\$9.0 billion). It was also noted, however, that whilst controlling fruit fly is important to maintain export market access for commodities being traded internationally:

... the use of fenthion is limited as a quarantine treatment (many countries ban fenthion and there is only one export market requiring fenthion treatment – choko to New Caledonia). The potential impact of banning fenthion is therefore on domestic trade.⁵¹

3.51 Nonetheless, the committee heard that there are advantages to being able to achieve fruit-fly free status. In giving evidence at the committee's Loxton hearing, Ms Maria Costi (representing Venus Citrus) was asked whether the company had been exporting any fruit to China:

Ms Costi: Yes, we did last year. It was not the biggest program. And we are planning to do so this season as well.

Senator Ruston: If we were able to get fruit-fly free status for South Australia, what sort of impact would that have on your capacity to take advantage of the Chinese market.

48 Mr Rod Thomson, *Submission 3*, p. 4.

49 Mr Rod Thomson, *Submission 3*, p. 4.

50 Queensland Department of Agriculture, Fisheries and Forestry, *Submission 6*, p. 8.

51 Department of Agriculture, *Submission 15*, p. 2.

Ms Costi: It would be fantastic. It would be like every other market we do: you would put more into it. Again, cold treatment is an added cost. China is a market that is growing. It would be great for the industry and it would mean better returns for the growers. Again, it would take away that cost of \$3 or \$4.⁵²

3.52 The committee also heard how export markets could react negatively to a fruit fly outbreak in South Australia, and the efforts undertaken to manage outbreaks in a way to maintain those markets. Citrus Australia – SA Region submitted that, following two QFF outbreaks in the Riverland early in 2014:

We have had a constant dialogue in place with Biosecurity SA and the [Federal] Department of Agriculture (DAFF) to work through the implications to our industry resulting from the declaration of the outbreaks. We will have to carefully manage our trading partners' protocols for our entire export season.⁵³

Committee comment

3.53 The committee supports both the APVMA's independence and its primary role as a regulator. The committee understands that the APVMA is somewhat restricted when it comes to the types of issues it is able to take into consideration when undertaking reviews. The committee notes that whilst human, animal and environmental health and safety and international trade are taken into consideration, the APVMA's remit does not allow it to take economic factors – or the possible impacts on specific industries – into account when conducting reviews.

3.54 The committee understands the frustrations expressed by industry organisations and individual growers to whom it would seem vitally important to take both economic and commercial impacts into consideration.

3.55 The committee acknowledges that there are a number of stakeholders – particularly in Western Australia – who are of the view that the removal of fenthion will have a severe, negative impact on their own businesses and on Australia's horticultural industry more generally. The committee acknowledges that these are genuine concerns and their representations have been made based on their belief that, without using fenthion as a cover spray, their orchards – and their region – could be facing substantial crop losses.

3.56 At the same time, however, the committee agrees that it is fundamentally important that reviews undertaken by the APVMA are conducted using a science-based approach to risk management – particularly when there is any suggestion of possible risks to human health. Absent the means with which to independently verify the APVMA's conclusions as to the toxicity of fenthion, at realistic doses, and in humans, the committee can only accept the evidence given by the agency that its assessment processes were thorough, and based on sound science.

52 Ms Maria Costi, Venus Citrus, *Committee Hansard*, 16 April 2014, p. 20.

53 Citrus Australia – SA Region, *Submission 29*, p. 2.

3.57 The committee therefore concludes this chapter with the observation that the issues surrounding the use of fenthion (and other chemical reviews previously undertaken by the APVMA) create a longer term public policy challenge. The question is raised about how we ensure that Australia's horticultural industries are able to maintain access to a broad range of effective crop protection products and techniques that can be used safely, while at the same time guaranteeing public health and environmental safety. It is to these future directions that the committee now turns.

