DECISION REGULATION IMPACT STATEMENT ON

A NATIONAL SCHEME FOR ASSESSMENT, REGISTRATION AND CONTROL-OF-USE OF AGRICULTURAL AND VETERINARY CHEMICALS

by

Tim Harding & Associates

ABN 55 102 917 624

PO Box 5113, Cheltenham East VIC 3192

in association with

RIVERS ECONOMIC CONSULTING

ABN 86 933 238 261

PO Box 3046, Wheelers Hill VIC 3150

Executive Summary

Introduction

The proposed national scheme arises from the Council of Australian Governments (COAG) response to a 2008 Productivity Commission report on the regulation of chemicals and plastics. COAG directed the Primary Industries Ministerial Council [predecessor of the Standing Council on Primary Industries (SCoPI)] to 'bring forward a proposal for a single national framework to improve the efficiency and effectiveness of the regulation of agricultural and veterinary chemicals.'

As the first stage of that proposal, in August 2010 COAG approved *A National Framework for the Assessment, Registration and Control-of-Use of Agricultural and Veterinary Chemicals*[1] ('the National Policy Framework'). The National Policy Framework contains a set of policy principles and desired outcomes, but no details of the proposed national scheme.

Consultation for these reforms was undertaken by the former Product Safety and Integrity Committee (PSIC). A discussion paper entitled *A National Scheme for Assessment, Registration and Control-of-Use of Agricultural and Veterinary Chemicals – Discussion Paper (Rose and Sheppard)* was released for public comment in December 2009. More than 90 submissions were received from stakeholders. Subsequently, a Consultation Regulation Impact Statement (RIS) was released in March 2011 leading up to the preparation of the proposed national scheme. PSIC also held stakeholder meetings in March 2011 to further inform policy and engage in discussion of the issues identified in the Consultation RIS. Following consideration of the 71 public submissions received on the Consultation RIS and feedback from stakeholder workshops, a Decision RIS is now required for submission to SCoPI.

The above consultation process has canvassed a wide range of issues, from which the proposed national scheme has emerged. Stakeholders were generally supportive of the reforms' intent, and the majority have acknowledged the regulatory system would benefit from a nationally consistent approach. However, stakeholders remained divided on a number of issues, such as use of a single, national regulator for control-of-use versus harmonisation under state control. Use of chemicals outside of their registered label instructions was also an area of contention among stakeholders. In response to stakeholder concerns, options outlined in this RIS which propose an off-label component (also known as allowable variations to approved uses) include a produce monitoring component as part of risk management practices.

The purpose of this Decision RIS is to evaluate the proposed national scheme in comparison with feasible alternative schemes. That is, the process has progressed from a discussion of individual issues to an evaluation of alternative national schemes. It is intended that further consultation will take place during implementation, following SCoPI's endorsement of a proposed national scheme.

Agricultural and veterinary (AgVet) chemicals include a diversity of products used to protect crops, livestock, companion animals, urban and rural infrastructure[2] and human health. The total value of agricultural produce protected by these products in 2009-10 was $49.5 billion. In 2008-09, the Australian horticultural sector represented 35,000 businesses nationally and an annual farm gate value of $8 billion in 2009-10.

[1] PSIC 2010.
[2] For example, protecting buildings from termite damage.

The sale and use of AgVet chemicals are currently regulated under a National Registration Scheme for Agricultural and Veterinary Chemicals (NRS). By intergovernmental agreement, the scheme operates under complementary Australian Government, state and territory legislation. Under the NRS, an Australian Government statutory authority,— the Australian Pesticides and Veterinary Medicines Authority (APVMA) undertakes the assessment and registration of AgVet chemical products up to the point of retail sale, while states and territories are responsible for regulating AgVet chemical use after retail sale, known as 'control-of-use'. APVMA assesses a chemical product and its active constituents on their potential impact on human health, the environment, and trade as well as on its efficacy.

Control–of-use involves a wide range of regulatory activities aimed at the use of pesticides that are registered by the APVMA and in part at implementing APVMA directions. The combinations of these activities vary between jurisdictions; however, most of those activities fall into five broad groupings:

- training and accreditation of users;
- licensing of professional operators;
- monitoring and auditing (of licence compliance and chemical residues in produce and the environment);
- investigations and enforcement; and
- education and extension.

The problems and policy objective

The problems that the proposed national scheme is endeavouring to address include:

- uncoordinated risk management, particularly in respect of allowable variation to approved uses (also known as 'off-label use'), monitoring and auditing
- inconsistent and inadequate user access to chemicals, risking significant losses to producers
- unnecessary regulatory burden as a result of duplication, particularly for businesses that operate across state and territory borders – thus restricting business mobility
- unfair business competition from an inconsistent operating environment between jurisdictions (i.e. an unlevel playing field).

These problems are interrelated, and in some cases involve setting priorities when considering appropriate solutions. For example, minimising risks to health and the environment is a higher priority than access to chemicals and reducing regulatory burden.

Related to these problems as a whole, the following highly variable regulatory requirements between jurisdictions are of specific concern:

- licensing and qualifications requirements for chemical users and fee-for-service users;
- monitoring of chemical use outcomes, including in relation to integration with Australian Government and private sector monitoring systems
- chemical access systems and application of additional chemical controls to compliance and enforcement of chemical use in accordance with registered and other permissible uses between the jurisdictions; and
- recordkeeping requirements for chemical use.

The primary aim of AgVet chemical regulatory policy is to ensure that these chemicals are used properly and do not harm humans or non-target animals and plants. These risks need to be managed within a system based on recognition that, in a broad range of situations, chemical use is a legitimate strategy for protecting food and fibre production, the environment, amenity and the community from adverse impacts of pests and diseases. The regulatory system also needs to be efficient in terms of: timeliness of decisions and actions; resources used by the regulators and regulatory burden imposed on the regulated industries and the broader community.

In relation to the proposed national scheme and possible alternatives, the following specific policy objective is identified:

To reform the national regulation of AgVet chemicals in order to:

- *improve risk management outcomes;*
- *improve access to chemicals;*
- *reduce regulatory burden; and*
- *improve business competition;*

whilst addressing regional risk.

The main criterion for assessing the proposed national scheme against the practicable alternatives is their relative cost-effectiveness in achieving this policy objective, compared to the benefits of each alternative. As part of the assessment, there is a need to ensure that the benefits of the proposed national scheme justify its costs.

The proposed national scheme

The proposed national scheme comprises the following elements:

- all fee-for-service providers (e.g. pest controllers, ground and aerial applicators, sheep dippers) are required to be licensed;
- both fee-for-service businesses and individuals within those businesses are required to be licensed;
- licensing will not be required for users of Restricted Chemical Products (RCPs) and Schedule 7 (S7) chemicals who are not operating a fee-for-service business (general users including farmers);
    - cross-jurisdictional recognition of licences for fee-for-service users of AgVet chemicals;
    - harmonised minimum requirements for all fee-for-service providers to hold Australian Qualification Framework (AQF) Level 3 competencies or equivalent determined to be appropriate for the occupation;
    - harmonised minimum requirements for users of RCP or S7 chemicals to hold AQF Level 3 competencies or equivalent determined to be appropriate for the use of that product;
    - a nationally consistent hierarchical model for access to and use of AgVet chemicals providing for limited variations on approved label instructions under specified risk management control mechanisms;

- a nationally consistent monitoring and auditing system for compliance with licencing and user competency obligations;
- increased, targeted produce monitoring and traceback activities providing a nationally consistent approach to residue monitoring and compliance;
- a harmonised system that allows veterinarians to compound and prescribe off-label access to prescription, non-prescription and unregistered veterinary products subject to certain conditions;
- nationally consistent access conditions to private sector monitoring systems;
- compliance and enforcement systems, including industry responsibilities for co-regulation,
- consistent recordkeeping for the use of AgVet chemicals beyond the point of retail sale;
- consistent and accessible recordkeeping at point of sale (wholesale and retail);
- all aspects of control-of-use[3] to be managed by the states and territories under harmonised legislation and associated subordinate legislation; and
- oversight of the regulatory system to be undertaken by a new strategic policy committee established by intergovernmental agreement, with responsibility for strategy, regulatory instruments and legislation.

The elements of the proposed national scheme relating to licensing represent a minimum system of harmonisation that does not preclude jurisdictions from doing more or retaining existing licence requirements to address regional risk.

The options considered

The feasible options assessed in terms of costs and benefits were (in order of increasing degree of change):

- **Option A:** mutual recognition of entitlements to licences and harmonisation of state and territory schemes, in relation to a minimum qualifications and training level (AQF Level 3), recordkeeping, monitoring and auditing of licences (i.e. the minimum intervention option)
- **Option B:** cross-jurisdictional licences for fee-for-service users of AgVet chemicals, with consistent minimum levels of qualifications and training (AQF Level 3), together with harmonised recordkeeping, monitoring and auditing
- **Option C1:** the proposed national scheme, comprising the elements listed above
- **Option C2:** variation of Option C1 with addition of a requirement for all chemical users, including farmers, to be able to demonstrate base level competencies as a condition of chemical use with some specified exemption categories
- **Option D:** referral of all state and territory control-of-use functions to the Australian Government including policy aspects of Option C1 (i.e. the maximum intervention option).

A number of alternatives were discussed in the Consultation RIS, and the above options contain many of these elements. However, some options such as the creation of a new

[3]Including training, monitoring, auditing, compliance, veterinary prescribing rights etc.

separate, national body responsible for regulation and control-of-use activities separate from registration and assessment were not considered to be feasible due to increased costs with minimal benefits beyond those provided by Option D above. Similarly, the option to restrict AgVet chemical use to label directions or under APVMA permit only was not considered feasible due to restricted access and increased costs and regulatory burden in some jurisdictions without demonstrated benefit.

Harmonisation and mutual recognition of entitlements to state and territory licences (Option A) does not obviate the need for users to obtain a licence and pay licence fees in each jurisdiction. It simply means that the holder of a licence in one jurisdiction is entitled to obtain an equivalent licence in other jurisdictions.

On the other hand, cross-jurisdictional recognition of licences (Options B, C1 and C2) means that the holder of a licence in one jurisdiction is entitled to have that licence recognised in other jurisdictions, in a similar manner to the current cross-jurisdictional recognition of a driver's licence.

Assessment of costs and benefits

An assessment of the relative benefits and costs for the proposed national scheme and other feasible options has been conducted. Where data exists, quantitative estimates of costs and benefits are made, using stated reasonable assumptions to fill in any essential data gaps. However, where sufficient data is not available (in this case for health and safety, environmental outcomes and trade outcomes), the assessment is made using qualitative criteria regarding the achievement of the policy objective. All costs and benefits reported are incremental to the base case. The term 'base case' means the situation that would exist if the proposed national scheme was not adopted, that is, the relevant existing laws and industry practices, which are detailed in Part 4.2. The three criteria used to assess the options were:

Criterion I	Reduction of regulatory burden
Criterion II	Net compliance costs to industry and government
Criterion III	Improved risk management and access to chemicals.

The relevant incremental costs and benefits of the various options relative to the base case is summarised in the Table below.

Table: Summary of estimated 10-year incremental costs and benefits for Options A, B, C1, C2 and D as compared to the base case ($m) – in 2011-12 dollars (using 7% discount rate)

Option	Reduction in regulatory burden (Criterion I)	Compliance costs (Criterion II)	Reduced risk to health (Criterion III)	Net quantifiable benefit	Benefit cost ratio	Improved risk management and chemical access balance (qualitative benefit including reduced risk to environment and trade) (Criterion III)
A Harmonisation	**N/A**	**$27.97**	**$2.11**	***-$25.9***	***0.08***	Limited improvement
B Harmonisation with cross-jurisdictional licence for fee-for-service	**$29.48**	**$27.97**	**$2.11**	***$3.61***	***1.13***	> Option A
C1 Harmonisation with cross-jurisdictional licence for fee-for-service and S7 chemicals+ RCPs (proposed national scheme)	**$98.97**	**$34.87**	**$2.11**	***$66.21***	***2.9***	> Option A, B, C2 or D
C2 Harmonisation with cross-jurisdictional licence for fee-for-service and S7 chemicals+ RCPs + base-level qualifications	**$98.97**	**$121.65**	**$2.11**	***-$20.57***	***0.83***	> Option A but < Options B, C1 and D
D Complete transfer of control-of-use functions to Australian Government	**$98.97**	**$34.87**	**Up to $2.11**	**= < *$66.21***	**= < *2.9***	< Option C1

Option C1 (the proposed national scheme) would provide a **benefit cost ratio of 2.9** and a net benefit of **$66.21m over 10 years.** The proposed national scheme would be likely to result in greater mitigation of negative environmental and trade impacts of chemical use, by achieving a better balance between chemical access and risk management than the base case, and better than Options A, B, C2 or D.

Current residue monitoring data provide no evidence of increased risk to human health and produce trading from the proposed allowable variations to approved uses of chemicals under the proposed national scheme, compared to other existing chemical access systems. However, the current level of produce monitoring across Australia is deficient, as some jurisdictions do not conduct any produce monitoring and rely on industry programs for this purpose.

The proposed targeted national approach to produce monitoring, tracebacks and sample analysis would provide additional safeguards in validating the system, allaying trade concerns and mitigating against any risks of illegal chemical use on around annual agricultural production of $50 billion, including $12.53b worth of exports of produce from minor crops over 10 years.

For the reasons provided above, Option C1 (the proposed national scheme) is therefore selected as the preferred option. Option C1 provides the greatest potential benefit to cost ratio, taking into account all the impacts including the balance between chemical access and improved risk management.

Implementation of preferred option

In broad terms, implementation of the preferred option would involve:

- the development of a consistent national AgVet licensing scheme for fee-for-service chemical users;

- set user competency requirements for fee-for-service licensed professions and users of RCPs and S7 chemical products
- legislation in each state and territory to give effect to proposed changes to recordkeeping, training and AgVet chemical use arrangements as well as to enable cross-jurisdictional recognition of licences; and
- enhancement of monitoring and auditing activities by states and territories, including increased produce monitoring to be funded by the Australian Government.

The broad policy development of these issues would be managed in partnership with the Australian Government, states and territories through a new strategic policy committee. All other aspects of control-of-use would be managed by states and territories under harmonised legislation and associated subordinate legislation. Progressing the proposed governance arrangements could also involve clarifying methods for harmonisation, e.g. a 'model Act,' template legislation and/or other means (such as a compliance tool kit and codes of practice).

In terms of productivity, there would be a significant capacity to reduce costs over time by eliminating the need to hold multiple licences in different jurisdictions. Such scale economies would be realised both in terms of the higher levels of licences and permits that may be processed for the same level for resources and/or in terms of lower resources required to meet current levels of licensing activity.

Importantly, the preferred option would be most likely to provide responsiveness and flexibility in the face of regional differences in terms of monitoring and auditing and recordkeeping. This responsiveness would minimise any unnecessary transaction costs being incurred by chemical users or government by meeting the specific needs of regions based on economic or geographic factors in the timeliest fashion possible. This balance between chemical access and risk management would therefore be more suitable to changing regional needs.

To the extent that harmonisation would impact on businesses, namely farms, horticultural businesses, aerial and ground sprayers, such businesses would be equally affected by the same regulatory environment. Thus the proposed national scheme is unlikely to restrict competition.

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Background

1.1 Introduction

This Regulation Impact Statement (RIS) evaluates the proposed National Scheme for Assessment, Registration and Control-of-Use of Agricultural and Veterinary Chemicals (the proposed national scheme). The broad aims of the proposed national scheme are to increase efficiency and effectiveness by reducing regulatory burden, improving risk management and improving access to agricultural and veterinary chemicals (AgVet chemicals).

The proposed national scheme arises from a Council of Australian Governments (COAG) response to a 2008 Productivity Commission report on the regulation of chemicals and plastics[4]. COAG directed the Primary Industries Ministerial Council [PIMC, predecessor of the Standing Council on Primary Industries (SCoPI)] to 'bring forward a proposal for a single national framework to improve the efficiency and effectiveness of the regulation of agricultural and veterinary chemicals.'

As the first stage of that proposal, in August 2010 COAG approved *A National Framework for the Assessment, Registration and Control-of-Use of Agricultural and Veterinary Chemicals*[5] ('the National Policy Framework'). The National Policy Framework contains a set of policy principles and desired outcomes, but no details of the proposed national scheme.

Parallel to the policy development process underlying this RIS, and consistent with the National Policy Framework, the Australian Government is independently progressing a separate set of policy changes through the better regulation reforms. Over 90 submissions were received in response to the *Better Regulation of Agricultural and Veterinary Chemicals* policy discussion paper released in November 2010[6]. These policy changes are primarily concerned with efficiency and effectiveness of the assessment and registration process; and with the management and review of the existing portfolio of registered chemical products.

A discussion paper entitled *A National Scheme for Assessment, Registration and Control-of-Use of Agricultural and Veterinary Chemicals – Discussion Paper*[7] was released for public comment in December 2009; and a Consultation RIS was released in March 2011 leading up to the preparation of the proposed national scheme. Following consideration of the 71 public submissions received on the Consultation RIS (see Part 1.3), a Decision RIS is now required for submission to SCoPI.

The above consultation process has canvassed a wide range of issues, from which the proposed national scheme has emerged. The purpose of this Decision RIS is to evaluate the proposed national scheme in comparison with feasible alternative schemes. That is, the process has progressed from a discussion of individual issues to an evaluation of alternative national schemes. It is intended that further consultation would take place during implementation, following SCoPI's endorsement of a proposed national scheme.

The Decision RIS is required to comply[8] with the *Best Practice Regulation - A Guide for Ministerial Councils and National Standard Setting Bodies* as endorsed by COAG in October 2007. COAG has agreed that all governments will ensure that regulatory processes in their jurisdiction are consistent with the following principles:

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[4] Productivity Commission, 2008.
[5] PSIC 2010.
[6] Ludwig, 2010
[7] Rose and Sheppard, 2009.
[8] As independently assessed by the Australian Government Office of Best Practice Regulation (OBPR).

1. establishing a case for action before addressing a problem;
2. a range of feasible policy options must be considered, including self-regulatory, co-regulatory and non-regulatory approaches, and their benefits and costs assessed;
3. adopting the option that generates the greatest net benefit for the community;
4. in accordance with the *Competition Principles Agreement*, legislation should not restrict competition unless it can be demonstrated that:
    a. the benefits of the restrictions to the community as a whole outweigh the costs, and
    b. the objectives of the regulation can only be achieved by restricting competition;
5. providing effective guidance to relevant regulators and regulated parties in order to ensure that the policy intent and expected compliance requirements of the regulation are clear;
6. ensuring that regulation remains relevant and effective over time;
7. consulting effectively with affected key stakeholders at all stages of the regulatory cycle; and
8. government action should be effective and proportionate to the issue being addressed.

It is important to emphasise that this RIS is limited to assessing the proposed national scheme and feasible alternatives, and does not assess Australian Government or state legislation, policies or other matters. However, the following relevant background information may be helpful to interested parties in understanding the proposed national scheme within its legislative and economic contexts.

1.2 Setting the scene

1.2.1 Overview of the Australian AgVet chemicals industry

Agricultural chemicals are defined to include all pesticides, herbicides, fungicides, insecticides and plant growth regulators; but excluding fertilisers. Veterinary chemicals are defined broadly to include all substances that can be used to prevent, cure or alleviate a disease or injury of an animal.[9]

Agricultural and veterinary (AgVet) chemicals include a diversity of products used to protect crops, livestock, companion animals, urban and rural infrastructure[10] and human health. The total value of agricultural produce protected by these products in 2009-10 was $49.5 billion[11]. In 2008-09, the Australian horticultural sector represented 35,000 businesses nationally and an annual farm gate value of $8 billion in 2009-10.[12]The value of horticultural exports in 2006 was worth $800m[13].

The Australian market comprises 2% of the world market for agricultural chemical products and 1% for veterinary chemical products. The innovators of new chemical products are typically international companies, whereas Australian based companies typically manufacture generic versions of the international companies' products.

[9] *Agricultural and Veterinary Chemicals Code Act 1994*.
[10] For example, protecting buildings from termite damage.
[11] ABS 2011(c).
[12] Goodwin, 2011.
[13] <http://www.horticulture.com.au/export/export.asp>

The Australian Bureau of Agricultural and Resource Economics (ABARE) estimates that chemicals account for around four per cent of total costs for all broadacre farms[14] and more than that for sugar and some horticulture businesses. Australia has approximately 121,000 farms solely dedicated to agricultural production,[15] most of which need access to AgVet chemicals. AgVet chemicals also have a key role in protecting buildings, and other urban infrastructure, and directly protecting people from pests and diseases.

It is estimated that there are approximately 395,000 employees in the agriculture, forestry and fishery sector, of whom 65% are trained in the use of AgVet chemicals. An estimated 25,000 non-agricultural employees also require training in AgVet chemical use (see Appendix 2).

While there are important industry productivity, health and amenity benefits from the use of AgVet chemicals, there can be negative consequences if use is inappropriate. Many AgVet chemicals are hazardous; and there may be substantial risks to human health and the environment if those products are not used correctly. In order to ensure the legitimate use of AgVet chemicals without undue risk, both access to, and use of, these products is restricted or regulated, as outlined below.

1.2.2 Relevant legislation and regulatory arrangements

The sale and use of AgVet chemicals are currently regulated under a National Registration Scheme (NRS). By intergovernmental agreement, the NRS operates under complementary Australian Government, state and territory legislation.

Under the NRS, the Australian Pesticides and Veterinary Medicines Authority (APVMA), an Australian Government statutory authority, undertakes the assessment and registration of AgVet chemical products up to the point of retail sale. States and territories are responsible for regulating AgVet chemical use after retail sale, known as 'control-of-use'. The APVMA assesses a chemical product and its active constituents on their potential impact on human health, the environment, and trade as well as on its efficacy. Some aspects of assessment are performed within the APVMA in consultation with other relevant agencies, such as Food Standards Australia New Zealand (FSANZ)[16] while the Office of Chemical Safety (OCS) in the Department of Health and Aging and the Chemicals Assessments Section in the Department of Sustainability, Environment, Water, Population and Community (SEWPaC) conduct assessments of the risk to human health, workers and the environment.

As part of the registration or approval of AgVet chemical products, the APVMA sets maximum residue limits (MRLs) for AgVet chemicals in agricultural produce, particularly produce entering the food chain. These MRLs are set at levels which are not likely to be exceeded if the agricultural or veterinary chemicals are used in accordance with approved label or permit instructions. At the time that the MRLs are set, the APVMA undertakes a dietary risk assessment to ensure that the levels do not pose an undue hazard to human health. The MRLs are then incorporated into the *Australia New Zealand Food Standards Code* for control of retail sale of food. Although MRLs themselves are not food safety indicators, they are an indicator of good agricultural practice (GAP). GAP is used as a guide for agricultural production processes which result in safe food production.

Around 9000 chemical products are currently registered by the APVMA, many of those having been registered by state regulators prior to formation of the NRS. Many of those products have been used extensively over long periods of time with no evident harm. On the

[14]Martin, 2011.
[15] NFF farm facts 2011.
[16]Productivity Commission, August 2008.

other hand, regulatory science, risk assessment methods, acceptable levels of risk and knowledge of the effects of a chemical evolve and change over time, raising questions about the continued validity of a registration. For example, the APVMA is currently reviewing the registrations and approvals of dimethoate and fenthion. The APVMA has a risk prioritised chemical review process in place, to review previously registered products. The APVMA and its assessing agencies use international best practice risk assessment principles that evolve as science evolves and changes.

By intergovernmental agreement, the Australian Government *Agricultural and Veterinary Chemicals (Administration) Act 1992* established the NRS. The other major piece of legislation is the *Agricultural and Veterinary Chemicals Code Act 1994* and the Schedule to this Act, which is the *Agricultural and Veterinary Chemicals Code* ('the AgVet Code'). The AgVet Code details the operational provisions for the registration of products and provides the APVMA with its powers. The National Registration legislation includes six other Acts, two dealing with registration activities and four relating to registration fees and charges. The states and territories have their own legislation adopting the AgVet Code and enabling the APVMA to enforce the legislation up to the point of retail sale.

The APVMA operates on cost-recovery principles and is principally funded via a levy imposed on sales of registered AgVet products and via application and annual registration fees. The APVMA also collects licensing fees from manufacturers of veterinary medicines. In 2009-10, total revenue amounted to $24.78 million, of which about $17.23 million, or around 70 per cent, came through fees and the sales levy.

The APVMA cooperates with state and territory governments in monitoring and enforcing compliance with the AgVet Code provisions.[17] Also, while the scope of the NRS does not extend to the APVMA directly controlling product use, the directions for use specified by the APVMA during product registration form part of the state and territory control-of-use regimes.[18]

Control-of-use involves a wide range of activities aimed in part at implementing the abovementioned APVMA directions and use of APVMA registered products. The combinations of these activities vary between jurisdictions; however, most of those activities fall into five broad groupings:

- training requirements for licensing and use of higher risk products;
- licensing of professional operators;
- monitoring and auditing (of licence compliance and chemical residues in produce and the environment);
- investigations and resulting enforcement/compliance activities[19]; and
- education and extension.

For example, key areas of investigation in Victoria include residue violations and misuse of both agricultural and veterinary chemicals; and indirect contamination (including spray drift) of plants, animals, humans and the environment. In addition, a monitoring program involving sampling, testing and analysis of produce identifies any chemical residues in produce, to assist in determining whether there is a need to change behaviour among industries and individuals using these chemical products.

[17] The *Agvet Code Act 1995* (Australian Government)
[18] Productivity Commission, August 2008.
[19] As discussed in Appendix 11 this includes targeted produce monitoring, tracebacks and laboratory analysis.

Details of current state and territory control-of-use requirements, and the differences between them, are given in Appendix 12.

There are also various state and territory health regulations governing access to and use of Restricted Chemical Products (RCPs), Schedule 7 (S7) poisons and other high-risk chemicals as discussed below in Part 2.1.4.

2.0 The problems and policy objective

In 2008, the Productivity Commission produced a research report into chemicals and plastics regulation. The report identified that the current state and territory systems for control-of-use of AgVet chemicals are highly fragmented. This fragmentation has led to uncoordinated risk management of AgVet chemicals, inconsistent regulation and instances of unnecessary regulatory burden. The report also highlighted:

- the need for the AgVet chemical registration and assessment process to be commensurate with the risk and
- highly variable requirements for:
    - licensing and training for chemical users,
    - monitoring of chemical use (*i.e.* produce monitoring/user recordkeeping audits) and
    - allowable variations on approved use systems (also referred to as off-label use).

The report found that some jurisdictions (for example, NSW and WA) have adopted a prescriptive interpretation of the APVMA conditions, while others (for example, VIC) have favoured a performance-based approach that allows some legal diversion from product label requirements. In addition, there are also significant differences between jurisdictions when it comes to the licensing and training requirements imposed on pesticide applicators. Current differences in jurisdictional requirements for licensing, training and access to chemicals are outlined in Appendix 12.

Due to differences in jurisdictional approach to AgVet chemical regulation, the Productivity Commission also found that:

- the effectiveness of the APVMA is compromised when it comes to providing a uniform national scheme for registration and use of AgVet chemical products and
- the relevance of the APVMA's risk assessments is reduced as those assessments typically focus only on the uses specified on the label. This could potentially reduce the overall effectiveness of the risk management regime.

In its submission to the Productivity Commission inquiry, the Australian Government Department of Agriculture, Fisheries and Forestry (DAFF) identified a number of barriers to harmonising control-of-use under the current regulatory arrangements:

- difficulty in achieving agreement on policy approaches between jurisdictions, particularly when different portfolios with different approaches to risk are involved,
- different jurisdictions having different priorities and political imperatives, which in turn affects the level of resources directed towards AgVet chemical work and
- periodic reviews of legislation are undertaken by jurisdictions individually, rather than through a COAG subcommittee, which leads to inconsistencies.

2.1 Identifying the problems

The problems that the proposed national scheme is endeavouring to address include:

- 2.1.1 - Uncoordinated risk management, particularly in respect to:
  - differences in allowable chemical uses when not specified on label;
  - differences in the monitoring of chemical residues; and
  - differences in approach to user training, licensing and accreditation.
- 2.1.2 - Inconsistent regulation of and inadequate user access to chemicals, risking significant losses to producers, including unfair business competition from an inconsistent operating environment between jurisdictions,
- 2.1.3 - Unnecessary regulatory burden as a result of duplication, particularly for businesses that operate across state and territory borders – thus restricting business competition.

These problems are interrelated and, in some cases, involve setting priorities when considering appropriate solutions. For example, minimising risks to health and the environment is a higher priority than access to chemicals and reducing regulatory burden.

2.1.1 Uncoordinated risk management

Chemical use and monitoring

The regulatory approach currently embodied in the AgVet Code is explicitly risk based. The focus is on science based assessment of chemical products in which the methods, rates and timing of application proposed for each chemical are analysed. In the assessment process, the intrinsic hazard of any active ingredient or component contained in a product is important only to the extent that the chemical product is used as proposed by the applicant.

The risks associated with the use of a chemical product are assessed on the basis that the product is going to be used in accordance with label instructions. This assessment specifically takes into account a products design, concentration, application, target species and host animals or plants, assuming that the product is applied with good practice by competent users. This process is important as product design and instructions will vary based on risk factors. For example:

- a product may contain substances that are hazardous to some species in some circumstances, but be approved for use in others; for example, some dog medicines may be dangerous to cats; and
- broadleaf herbicides may be harmless to grasses but dangerous to some crops.

Existing differences in jurisdictions' provisions allowing use of chemicals in a manner different to its label instructions are outlined in Table A12.3 in Appendix 12. This variability in AgVet chemical regulation is often a function of different approaches to risk management between jurisdictions. A failure to match the degree of intervention with the level of risk can result in under-regulation in some cases and over-regulation in others. For example, in some jurisdictions use of a relatively low risk chemical requires the user to adhere to label instructions and be trained to a certain level; whereas another jurisdiction may allow access to a relatively higher risk chemical without these requirements. Much of the jurisdictional differences in approach to regulation of AgVet chemical access has been driven by attempts to mitigate or soften the effects of the minor use access hurdle (as discussed in Part 2.1.2). Unlike other problems discussed here, the issue of inconsistent risk management is not just

confined to businesses operating across state or territory borders. It is important that harmonisation be achieved between states to ensure a consistent approach to risk mitigation for domestic agriculture overall.

AgVet chemicals are applied directly to the environment, including various food producing crops (subject to safe dosages and withholding periods). However, pesticides are frequently toxic in sufficient concentrations and their inappropriate or unsafe use can pose a significant risk to human health and the environment.

Variability in risk management approach can lead to confusion in appropriate use of AgVet chemicals. The resulting inappropriate use of AgVet chemical products on exported primary produce can also affect Australia's international trade. A key marketing strategy of Australian primary industries is the production of commodities in sustainable 'clean and green' agricultural systems. This requires a high level of compliance with legislation that addresses chemical and contaminant issues in agriculture.

For example, in 2006 Japan's Ministry of Health, Labour and Welfare (MHLW) implemented what is known as the 'Positive List System' whereby a percentage of all consignments entering the country are subject to a base level of monitoring. Under the 'Positive List System' if a consignment of a specific commodity from a specific country receives a positive residue violation result then the testing rate escalates to 50% of all consignments of that commodity from that country, and testing further escalates to 100% if there is a subsequent violation. Costs would be borne by exporters for extra testing. All developed markets have increasingly effective and sensitive testing regimes, e.g. Japan tests for over 600 chemicals in four broad-spectrum screens. As an illustration of the sensitivity of Japan's testing regime, in 2006 an Australian consignment of lettuce was detected with 0.2mg/kg of propyzamide, a range of broadleaf herbicide registered for use on lettuce. The detection was well below the relevant Australian MRL of 1.0mg/kg, however, it exceeded Japan's MRL of 0.1mg/kg.

Even where AgVet chemicals are used on-label and in compliance with Australian domestic regulations, there can still be problems in export markets. For example, a 2001 consignment of nectarines to Taiwan was detected with an MRL violation of 0.013 mg/kg of parathion methyl, the active ingredient in a range of insecticides registered for use on stone fruit. The detection was well below the relevant Australian MRL of 0.2mg/kg. However, as the importing country did not have an MRL for this use and the permissible level residue level was nil, a violation was recorded. This example illustrates the need for vertical integration of state and territory domestic control-of-use with Australian Government export controls.

Another example of the impact of a relatively low level residue violation on a key export market relationship is provided by a 2005 incident where endosulfan was used to treat several cattle in New Zealand. The New Zealand beef tested positive for endosulfan at a level of 0.5ppm, whereas the international standard only allows for a level 0.1ppm. Consequently, in addition to disruption to seven other New Zealand export markets, 35% of all New Zealand beef exports ceased when exports to Korea were suspended.

Global issues, such as larger and longer supply chains, global regulatory compliance harmonisation demands and new chemical residue testing capacities (*i.e.* laboratories can now test for 1000 chemical residues and to much lower levels on any sample), have increased the number of chemical residue violations detected and hence increased the market risk for Australian's plant and animal produce. To ensure that these risks are mitigated, an appropriate and consistent level of residue monitoring is required across Australia.

Some growers undertake testing and analysis of their produce in order to determine how they may use a product in compliance with an MRL. However, there is a lack of feedback from

this testing to inform the regulatory framework, including chemical registration and assessment processes. This lack of feedback reduces the regulator's ability to manage risks to users, human health, the environment and trade. A uniform approach to residue monitoring is required, as MRL violations could occur where testing is not performed to agreed or consistent standards, with possible human health and trade implications.

Training and qualifications

Another important part of risk management is ensuring that users' qualifications and competency align with the risk associated with chemical use. Risks, in turn, depend on the particular chemical product, its proposed use pattern and the environment in which the product is used. Thus, it would be reasonable to expect different qualification requirements for different tasks and situations. There is a great deal of variation between jurisdictions in terms of competency, training, accreditation and licensing requirements (see Table A12.1 in Appendix 12). In part, this may reflect the different risk management priorities and approaches of the agencies concerned resulting in a relationship between risk and training requirements that appears incomplete and nationally inconsistent.

Training, licensing and accreditation systems have significant costs, both to participants (course fees, value of time spent on courses and travel costs) and to administrators. Therefore, the focus of training or accreditation harmonisation efforts needs to be on those chemical use areas where the greatest reduction in risk is likely to be gained.

There is an inconsistent application of legal instruments (licensing/accreditation) to different parties (businesses/individuals) by different agencies in each of the jurisdictions for varying risk management objectives. For example, depending on the jurisdiction, a commercial ground sprayer of insecticides can operate with nil training requirements, nil accreditation of individuals, and nil business or individual licensing. These disparate jurisdictional approaches do not reflect a consistent application of risk management tools.

Overall, greater risk is likely to be associated with a greater extent of use, such as the use of a greater number of chemicals and use of more toxic chemicals. Additionally, there are particular situations in which risks are higher, particularly when it comes to urban AgVet chemical use and use in enclosed spaces, such as spraying protected crops or fumigating storage facilities. For the above reasons a hierarchy of controls exists, from licensing and close regulation of urban pest controllers, and lighter regulation of farmers and farm contract sprayers, to limited regulation of low volume household use. The issue is how to improve risk management and harmonise rather than replace training and licensing requirements to ensure national consistency.

2.1.2 Inconsistent regulation of and inadequate user access to chemicals

Unfair business competition

There is a great deal of inconsistency between the level of risk, qualifications and licensing or permits required across jurisdictions. Nevertheless, these inconsistencies have generally not resulted in any demonstrable difference in the quality and safety of produce. For example, current residue monitoring data provide no evidence of increased risk to human health and produce trading between the existing off-label use approaches used in Victoria and South Australia, compared to other existing chemical access approaches. However, the current level of produce monitoring across Australia is deficient, as some jurisdictions do not conduct any produce monitoring and rely on industry programs for this purpose.

The problem with inconsistencies between jurisdictions and gaps in qualifications arises when these inconsistencies are not justified by regional differences. States and territories

require different qualifications and access requirements for fee-for-service providers and users of RCPs, S7 and other higher-risk chemicals. States also have different definitions of an 'Authorised Person'. At times, there have also been ineffective communications between the APVMA and control-of-use regulators regarding RCPs.

There are key differences across jurisdictions in terms of which activities require a licence. For example, ground sprayers in NSW, as well as businesses in amenity horticulture, do not currently require a licence. However, this could change if licensing standards and requirements are harmonised on a national level, in which case the licence requirement would be new for these users.

Currently, the ACT has no licensing requirements, but other jurisdictions have general similarities in terms of licensing requirements for ground spraying, aerial spray activities and the possession and use of various AgVet chemicals. Some jurisdictions also require businesses and technicians to hold licences to operate in the pest management field.

There are significant differences in licensing and training requirements imposed on pesticide applicators. The activity of aerial application of pesticides provides a clear example of the breadth of inconsistent requirements between states and territories:

- all jurisdictions except Western Australia recognise Spraysafe accreditation of pilot training (an industry-run training and accreditation program) for issuing a chemical distribution licence, while New South Wales does not recognise the Spraysafe program for licensing of aerial spray mixers,
- licensing fees and the scope of licences vary between jurisdictions,
- New South Wales, Western Australia and Tasmania require aerial operators to obtain insurance for spray-drift damage, and
- recordkeeping requirements differ between jurisdictions.

Where regulatory variation is not justified by regional differences in climate, geography or other circumstances, it can impose uneven cost burdens on businesses competing in the same market. These uneven cost burdens can result in an unfair comparative advantage or disadvantage to some businesses.

Regarding access to chemicals (see below), the current variations between jurisdictions also provide a perceived unfair advantage to Victorian farmers who can use products off-label between crops, whereas, farmers in every other state face additional costs in time and fees to apply for permits for those same uses (see Appendix 7). These permit applications, produced by grower groups in the other states, lead to MRLs that Victorian farmers require to ensure the sale of their crops.

To limit unfair business competition, the Productivity Commission report recommended that a consistent approach to control-of-use be adopted nationally, in order to provide a level playing field, particularly for businesses that may operate across jurisdictional boundaries. The report noted that much of the need for flexibility derives from differences in environments that do not correspond to state and territory borders and therefore, there is no justification for retaining these jurisdictionally-specific regulatory approaches.

Access to agricultural chemicals

An ongoing challenge to the regulatory system entails providing lawful access to chemical products while simultaneously managing the risks associated with their use. Any successful access and risk management system is likely to involve elements of direct access control, qualifications requirements and monitoring (of both chemical residues in produce and of

licence compliance). A key concern is how to provide reasonable access for minor uses while still managing risks at an acceptable level.

Rules about how AgVet chemical label information is interpreted, who has access to some products and user licensing and competencies requirements all vary between jurisdictions. Some of the variation is based on perceived differences in regional circumstances; and some is based on 'key tensions' or differences in approach to chemical access problems.

Access to AgVet chemicals in Australia is determined by a mix of commercial and regulatory decisions. A key limitation of the current scheme arises due to the overlay of a two-tiered regulatory scheme on a market system of chemical availability.

A major issue for the regulation of AgVet chemicals is providing access to appropriate products for minor uses (both minor crops and uses for minor pests in major crops). A problem for the minor use chemical suppliers is that the potential revenue is too small to cover the costs of assessment and registration of appropriate chemicals for these uses. Thus, potential users of such products are faced with:

- a lack of access to chemicals to protect crops and livestock;
- limited choice of products and consequent resistance risk, which:
    - may have broader implications than those for the minor host crop; and
    - can do much more economic damage in major crops.

Horticulture is the most prominent sector facing minor use issues. In horticulture, fresh fruit and vegetables are often regularly harvested at short intervals following application[20]. To achieve better access to export and domestic markets, horticultural producers need better access to chemicals for minor uses.[21]

In jurisdictions where permits are required, the APVMA approval of minor use permits meets much of the need for access to minor use chemicals. These permits also support users with a set of use instructions based on a scientific assessment of the proposed minor use. There is a great deal of dependence on minor use permits; on average, every year the APVMA issues about 150 new permits for minor uses and renews about 100 permits for existing ones. Over 50% of the permits are for horticultural uses. Most of the horticultural uses are also high consumption crops.

Each permit involves an assessment of the risks associated with human health and consumer exposure and environmental exposure. Approximately 90% of minor use permit requests are for registered pesticides that require an assessment of consumer exposure estimates. Permit applications are often for established and widely used chemicals that have a good record of efficacy with growers. Generally, permits are requested for generic products where growers find them cost effective as they may already use them for other major crops or situations. Such chemicals also tend to be those that require frequent updating of exposure estimates, from an MRL and environmental residues perspective, to ensure consumer and environmental exposures are keep at safe levels. As most of the uses approved are for horticultural crops, the dietary exposure to the consumer, particularly children, must be considered.

In response to problems with access to products for minor uses there are diverse interpretations of label conditions across states and territories. For chemical users and buyers of crop products who operate across borders the differences in interpretations cause difficulties.

[20]Goodwin, 2011.
[21] Ibid, p.31.

A number of stakeholders in chemical user industries, particularly those representing organic producers or others with a 'low chemical use preference', have suggested that the current agvet chemical regulatory system inhibits access to products required for pest management. As well, there can be circumstances in which chemicals widely used in other circumstances can be caught up in the full regulatory review process when they are proposed for AgVet use. On the one hand, a regulatory system that makes access to genuinely low risk products difficult or expensive can impose significant unnecessary productivity costs on user industries. This can also lead to higher risk by encouraging the use of more hazardous chemicals which are already registered.

Concerns have been raised that allowable variations on approved uses (otherwise known as off-label) may result in Australia being perceived negatively by trading partners. However, producers targeting export markets and major domestic suppliers generally aim to meet the specific market access requirements. These requirements may vary significantly and producers would therefore plan to adhere to market requirements, label instructions and/or seek minor use permits, reducing the likelihood of increased trade violations. Consequently, experience in SA and VIC and the data available through the National Residue Survey to date, has failed to find increased evidence of chemical residues as a result of the current approach of allowing variations on approved uses in these two jurisdictions. However, without defined and agreed good agricultural practices, allowable variations on approved uses would present problems in enabling the determination of appropriate MRLs and provision of data required to establish these MRLs.

Chemical industry stakeholders have noted that agricultural chemical product labels include varied use instructions for different jurisdictions. The design and approval process for labels can be expensive and time consuming, and consequently can delay user access to products. In addition, the complexity of this process increases the potential for confusion, and thus heightens risk for users who operate across jurisdictions. It is considered that this issue is a carry-over from the state and territory registration systems and is being addressed by the Australian Government's Better Regulation Partnership reforms.

Access to veterinary chemicals

Restrictions on access and use of veterinary chemicals currently vary between jurisdictions, along with the ability to compound products and prescribe allowable variations on approved use. The Productivity Commission report identified the variation between jurisdictions on access to veterinary medicines as a concern and recommended a nationally consistent approach to reduce unfair business competition.

There is also a need to create a nationally consistent policy on compounding and label access to non-prescription/unregistered veterinary products. Jurisdictions vary in the degree of control over the use of veterinary chemicals. However, all states and territories restrict non-veterinary users to following the label directions for major food (or trade) species; and allow veterinarians to use/authorise off-label use of chemicals in major food species where animals are under the care of the veterinarian and that veterinarian carries some liability for their action (with the exception of ACT). Some jurisdictions have a limit on the number of major species animals that may be treated by a veterinarian with an unregistered veterinary chemical.

Non-prescription products represent approximately 85 per cent of veterinary products and most are legally used in major species by farmers; however many are also used to treat minor food-producing species due to lack of registered products.

Unlike agricultural chemical users, veterinarians are able to compound their own veterinary drugs, prescribe and on-sell unregistered veterinary chemicals to others without restriction or the need to have the product registered or approved by the APVMA. Two major concerns regarding unregistered veterinary chemicals is their off-label use in food-producing animals (where illegal residues may jeopardise trade in animal food products) and veterinarians compounding veterinary drugs for on-selling to other veterinarians (thus avoiding national assessment and registration requirements).

The *National Framework for the Assessment, Registration and Control-of-Use of Agricultural and Veterinary Chemicals*, as agreed by COAG in 2010, noted that veterinary prescribing rights should enable protection of animal health and welfare while avoiding unacceptable risks to human health, trade or the environment, and that compounding rights should not deter registration of new veterinary products or the use of existing registered products.

2.1.3 Unnecessary regulatory burden

Agricultural chemical users

The Productivity Commission's research report identified variable regulatory licensing requirements of AgVet chemical users between jurisdictions as an impediment to businesses operating across jurisdictional borders.

Licensing is one mechanism used to ensure competency, which assists regulators in monitoring and traceback in cases of adverse events and enforcement activities. Licensing also provides an assurance to consumers that the service will be provided by a competent operator.

Under the current system, licences are regulated and administered differently in each jurisdiction by the relevant state and territory government departments (see Table A12.1 in Appendix 12). Licensing requirements are aligned with a layered set of training requirements. Fee structures for the administration of licences vary in each jurisdiction, but application and renewal fees are a relatively small source of revenue for those government agencies.

These different jurisdictional requirements place an undue regulatory burden on businesses operating across borders, a common situation for many aerial sprayers, some ground sprayers and other fee-for-service businesses. At present these individuals and businesses need to comply with multiple varied requirements for both licensing and training, and pay multiple licence fees. These differences can lead to a higher regulatory burden than under an integrated national scheme (see Part 4.3 for details).

The current mutual recognition of some licensing for some occupations allows for a degree of uniformity leading to more effective compliance. As well, the content and standard of training courses under the Australian Qualifications Framework (AQF) is common to all states and territories. However, these two things alone are not completely effective in ensuring regulatory policy consistency. In practice, one aspect of mutual recognition may work against an effective training system: it may create pressure for some jurisdictions to lower their standards to create a level playing field.

Although there are broadly similar licensing requirements across states and territories for most fee-for-service users of AgVet chemicals, there are:

- inconsistencies in qualifications standards
- wide variations in licence fees

- duplicate licence fees for licensees who work across borders
- some differences in licence coverage, particularly with regard to ground sprayers.

Different regimes can impose substantial costs to businesses operating across jurisdictional borders. Where those differences are not risk–based, any additional costs represent waste. On the other hand it may be difficult for an individual state or territory regulator to ensure compliance when dealing with businesses which are headquartered in other jurisdictions. It can also mean that there is a need for differences in training of staff for different jurisdictions, and for some staff, training in the detail of regulations for two or more jurisdictions. This additional complexity, that is not justified by regional differences, decreases the likelihood that a business could succeed in complying with the various different regulations. In stakeholder consultations and in submissions in response to both the discussion paper and the Consultation RIS, a high level of concern was expressed about regulatory inconsistencies and the resulting multiple fees. The primary concerns raised by aerial applicators, pest management technicians and ground sprayers concerned a need to standardise the level of qualifications required across states.

Veterinary chemical users

Veterinarians treat a wide range of companion animals (such as horses, dogs and cats) and food producing animals (such as cattle, sheep, pigs and poultry). For the purposes of allowing veterinarians to offer effective treatment for a wide variety of species and situations, they are given the right to prescribe registered chemicals; and the right to compound, prescribe and use unregistered chemicals. Those rights are most extensive for treatment of companion animals, where animal health and well-being is the primary concern. Prescription rights are more limited in the case of food producing species, where the possibility of contamination of food supplies must be taken into account. Nevertheless, those rights are important to the maintenance of productivity in minor food producing industries and sometimes to emergency response or protection of animal welfare in major food producing species.

There is already some level of harmonisation for the use of veterinary chemicals through the adoption of agreed national principles. Nevertheless, there are still significant differences in prescribing rights between states and territories. For example, all jurisdictions make a distinction between categories of food producing and non-food producing species but there are differences in how the categories are defined and which species are included. The inclusion of minor food sources, such as bees and aquaculture species, is varied across the jurisdictions.

Additionally, there are relatively minor differences in veterinarians' rights to prescribe and use both registered chemical products and unregistered products in food production species, particularly those not classified as Major Food Production Species (or Major Trade Species in those jurisdictions which have a specific trade classification). In aspects of veterinary regulation, such differences between jurisdictions add unnecessary complexity to business operations and attempts at cooperation between regulators.

2.2 Policy objective

The primary aim of AgVet chemical regulatory policy is to to ensure that these chemicals are used properly and do not harm humans or non-target animals and plants.[22] These risks need to be managed within a system based on contemporary science and risk assessment principles, recognising that, in a broad range of situations, chemical use is a legitimate strategy for

[22] <http://www.daff.gov.au/agriculture-food/ag-vet-chemicals/domestic-policy> Viewed 19 July 2012.

protecting food and fibre production, the environment, amenity and the community from adverse impacts of pests and diseases. The regulatory system also needs to be efficient in terms of: timeliness of decisions and actions, resources used by the regulators and the regulatory burden imposed on the regulated industries and the broader community. In this context, the COAG principles of best practice regulation should be considered a guide. The objective in suggesting changes to the existing policies is to provide improved risk management within a more efficient regulatory framework. A primary outcome of the regulatory process should be chemical use which is sustainable in terms of economic, social and environmental considerations.

In relation to the proposed national scheme and possible alternatives, the following specific policy objective is identified:

To reform the national regulation of AgVet chemicals in order to:

- *improve risk management outcomes*
- *improve access to chemicals*
- *reduce regulatory burden*
- *improve business competition whilst addressing regional risk*[23].

The main criterion for assessing the proposed national scheme against the practicable alternatives is their relative cost-effectiveness in achieving this policy objective, compared to the benefits of each alternative. As part of the assessment, there is a need to ensure that the benefits of the proposed national scheme justify its costs.

3.0 The proposed national scheme and feasible alternatives

To achieve the policy objective, the focus of this RIS is the development of options for a more harmonised and consistent regulatory scheme through adoption of:

- a *governance* structure based on;
    - a partnership between states, territories and the Australian Government
    - co-operation with industry, and co-regulation where feasible
    - harmonisation of control-of-use legislation with some allowance for regional differences
- a *national* user licensing scheme to be implemented by cross-jurisdictional recognition of licences; and
- a *nationally* consistent requirement for user recordkeeping.

3.1 The proposed national scheme

The proposed national scheme comprises the following elements:

- all fee-for-service providers (e.g. pest controllers, ground and aerial applicators, sheep dippers) are required to be licensed;
- both fee-for-service businesses and individuals within those businesses are required to be licensed;

[23]That is, acknowledging that there can be justified reasons for regional differences e.g. geography, climate, regional economics etc.

- licensing will not be required for users of RCPs and S7 chemicals who are not operating a fee-for-service business (general users including farmers);
    - cross-jurisdictional recognition of licences for fee-for-service users of AgVet chemicals;
    - harmonised minimum requirements for all fee-for-service providers to hold Australian Qualification Framework (AQF) Level 3 competencies or equivalent determined to be appropriate for the occupation;
    - harmonised minimum requirements for users of RCP or S7 chemicals to hold AQF Level 3 competencies or equivalent determined to be appropriate for the use of that product;
    - a nationally consistent hierarchical model for access to and use of AgVet chemicals providing for limited variations on approved label instructions under specified risk management control mechanisms;
    - a nationally consistent monitoring and auditing system for compliance with licencing and user competency obligations;
    - increased, targeted produce monitoring and traceback activities providing a nationally consistent approach to residue monitoring and compliance;
    - a harmonised system that allows veterinarians to compound and prescribe off-label access to prescription, non-prescription and unregistered veterinary products subject to certain conditions;
    - nationally consistent access conditions to private sector monitoring systems;
    - compliance and enforcement systems, including industry responsibilities for co-regulation, with consistent recordkeeping for the use of AgVet chemicals beyond the point of retail sale;
    - consistent and accessible recordkeeping from points of sale (wholesale and retail);
    - all aspects of control-of-use[24] to be managed by the states and territories under harmonised legislation and associated subordinate legislation; and
    - oversight of the regulatory system to be undertaken by a new strategic policy committee established by intergovernmental agreement, with responsibility for strategy, regulatory instruments and legislation.

The elements of the proposed national scheme relating to licensing represent a minimum system of harmonisation that does not preclude jurisdictions from doing more or retaining existing licence requirements to address regional risk.

The various elements of the proposed national scheme will now be explained in more detail.

3.1.1 Governance and funding

The proposed national scheme would develop an enhanced partnership arrangement between the Australian Government, states and territories as partners overseeing:

- the development of a harmonised licence scheme which includes cross-jurisdictional recognition of licences, similar to the approach adopted for drivers' licences. State and territory CEOs have agreed that an Australian Government licensing scheme is a

[24]Including training, monitoring, auditing, compliance, veterinary prescribing rights etc.

preferred aspirational outcome, but given the Australian Government's reluctance to take it on, they have accepted that a harmonised licence scheme is the pragmatic option with a longer term option being the National Occupational Authority (NOLA).

- the continuation of the states and territories to fund licensing and control-of-use, gradually shifting to full cost recovery;
- the sourcing of Australian Government funding for increased, targeted, produce monitoring and tracebacks providing a nationally consistent approach to residue monitoring and compliance.
- the development of harmonised legislation for other aspects of control-of-use would be developed
- the management of monitoring, auditing and enforcement of licence conditions by state and territory governments
- the management of other aspects of monitoring, auditing and enforcement by state and territory governments under their own harmonised legislation.

This partnership approach would be overseen by a new strategic policy committee established by agreement between the Australian Government, states and territories.

Policy development would also involve considerations for responding to regional issues with respect to the management of control-of-use functions.

Current legal advice states that the relevant Intergovernmental Agreement (IGA) could easily be amended without being fundamentally restructured. Progressing the proposed governance arrangements could also involve clarifying methods for harmonisation, e.g. a 'model Act,' template legislation or other means (such as codes of practice).

The proposed national scheme represents a combination of a central, national, system of determining necessary user qualifications and organising training and licensing with a regionally responsive approach to delivering control-of-use functions. Potential costs of having disparate regulations across jurisdictions would be avoided by basing control-of-use on harmonised legislation with consistent implementation. However, states and territories would be able to devote more resources to additional activities such as produce monitoring if they choose.

In keeping with the proposed national framework, a key aspect of the policy would be to adopt a co-regulatory approach wherever regulatory aims can be achieved more effectively and economically by working with industry. There are three levels at which this co-regulatory approach would operate:

- industry, states and territories cooperating to develop models for
  - regulatory recognition of industry schemes
  - industry monitoring, auditing and compliance
- state, territory and industry delivery of control-of-use aspects of those models
- Australian Government/state/industry implementation of models for training and licensing.

3.1.2 Qualifications, training and licensing

COAG has endorsed policy principles for chemical application and use competency and training as follows:

- link access to chemicals to user competency
- the level of competency required is commensurate with the identified risk
- where appropriate, consideration is given to industry initiatives as the instrument to ensure compliance
- a consistent set of competency requirements is set within the national framework which applies across jurisdictional boundaries.

The key elements of the proposed national scheme in relation to licensing are:

- all fee-for-service providers are required to be licensed;
- both fee-for-service businesses and individuals within those businesses are required to be licensed. For business licences, where the business is a company, one licence would be issued, otherwise for businesses which are not companies, the individual owners of the business will be licensed;
- licensing will not be required for users of RCPs and S7 chemicals who are not operating a fee-for-service business (general users including farmers);[25]
- licenses will be issued by the jurisdiction for registration of a business or for an individual, based on their primary location of business registration
- fees and charges will be set by each jurisdiction
- automatic recognition of any jurisdictional licence will exist in all other jurisdictions (similar to the current system for inter-jurisdictional recognition of drivers' licences)
- individual jurisdictions will be responsible for auditing and compliance within their own state; and any suspension or cancellation of a licence or a right to operate in a particular jurisdiction will automatically apply in other jurisdictions.

It is important for both individuals and businesses to be licensed for a number of reasons. Individual fee for service operators often work for a number of businesses under a range of employment or contractual relationships. They are also the ones who will receive the training in chemical use and usually be responsible for chemical application errors. On the other hand, businesses are also legally accountable for errors, and maintain chemical use records and implement quality management systems. A majority of jurisdictions already require both individuals and jurisdictions to be licensed, especially in the case of aerial and ground sprayers.

However, it has also been agreed that these requirements reflect the minimum standards of the proposed national scheme; and individual states or territories (e.g. VIC, NT and TAS) may choose to implement or retain additional licensing and competency requirements to users residing within their jurisdiction to allow for regional need.

The key elements of the proposed national scheme in relation to qualifications and training are:

[25] The elements of the proposed national scheme relating to licensing represent a minimum system of harmonisation that does not preclude jurisdictions from doing more or retaining existing licence requirements to address regional risk.

- All fee-for-service providers are required to hold a minimum AQF Level 3 competency (or equivalent determined to be appropriate for the occupation) as a condition of licence.
- All users of RCPs and Schedule 7 chemicals are required to hold minimum AQF3 competencies (or equivalent determined to be appropriate for the use of that product) but with no licensing requirement. Users will be required to maintain records of S7 product and RCP use.

Again, these requirements reflect a minimum requirement, however individual states or territories may choose to implement or retain additional licensing and competency requirements within their jurisdiction to allow for regional need.

Additional training for the use of chemicals such as *1080* would require completion of an accredited course that aims to ensure that *1080* pest animal bait users have the knowledge, skills and appropriate competencies to use *1080* pest animal bait products in a manner which is both safe for themselves and the environment.

Figure 2 – AQF1, AQF2 and AQF3 training levels for AgVet chemical use

AQF Level 1 is an awareness program and does not gain a qualification. It is suited to employees who require a knowledge of chemical awareness, but do not apply chemicals.

AQF Level 2 is suitable for employees who are required to apply chemicals, but only under close supervision, and also does not gain a qualification. It incorporates AQF Level 1.

AQF Level 3 includes Chemcert or national accredited recognised equivalent competencies in chemical safety and handling qualification, and is suited to people who are using agricultural and veterinary chemicals as part of their normal work duties as an employee. This qualification incorporates the Level 1 and 2 competencies.

The proposed new strategic policy committee would develop licensing policy (in partnership with the Australian Government, states and territories under an agreed governance structure). Where feasible, regulators would work with industry to recognise existing accreditation and qualifications standards on a national basis. It is envisaged that the model would aspire to operate on a cost recovery basis from licence revenue.

An essential part of this arrangement concerns the management of RCPs and S7 poisons. As is currently the case, the APVMA would continue to determine whether an authorised person is required to use a product, with set competencies and access use rules for these RCPs determined by the states and territories. Access to RCPs, S7 poisons and other high-risk chemicals would be restricted to users with minimum AQF Level 3 competencies determined to be appropriate for the use of that product. State and territory supporting regulations would be amended to reflect any changes in the RCP list.[26]

The new arrangements would include enhanced licence monitoring and auditing activities. These enhancements would take the form of consistent improvements in co-regulatory relationships with industry and additional monitoring and auditing delivered by the states and territories to manage and enforce the conditions of licences.

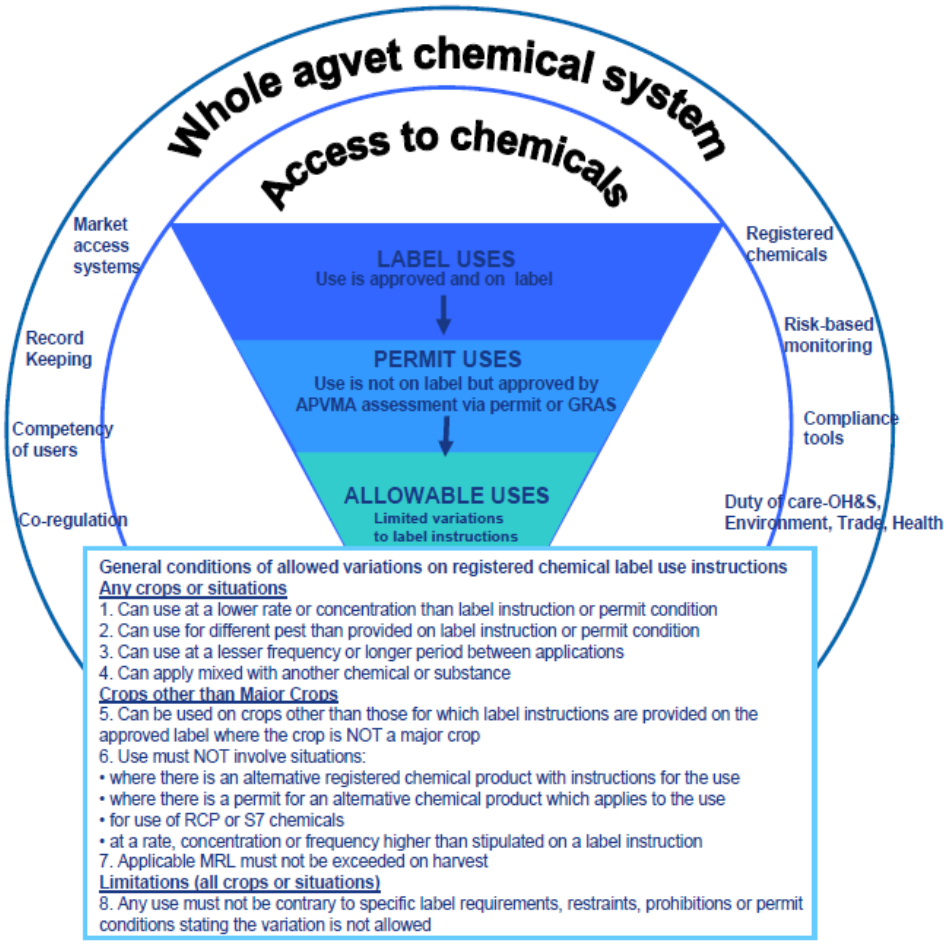
[26]It is intended that this list will be adopted in regulations by reference.

3.1.3 Access to chemicals: tiered national system through registered uses, permit usage and allowable variations on approved uses

Under the proposed national scheme, a hierarchy of approved access would be established for chemicals used on crops under harmonised state and territory control-of-use legislation; and supported by a system of enhanced licensing, training, monitoring and auditing.

Legal access to chemical products for use on crops would follow a three tiered, cascading system of access illustrated in Figure 3 below. In all cases when there was a product (or products) registered for the use in question, only that product (or products) could be applied for that use. Similarly, when there was no product registered for the use but there was an APVMA permit for that use, only the use as specified on the permit would be permitted. Users would be allowed to apply a product registered for another crop in circumstances where there is no product registered nor an APVMA permit issued for that use. This allowance would apply to minor uses only, and would be subject to a series of conditions outlined below and in Figure 3. (Such allowance is also known as 'off-label use'). To clarify, the allowable variations on approved uses model will not seek to amend the uses listed on the label.

Figure 3: Access to Agvet chemicals model to address allowable variations on approved uses



Situations under which variations of use would be allowed are limited, with any risk being managed through the following control mechanisms:

- crop or situation use patterns on Restricted Chemical Product (RCP) or Schedule 7 agricultural chemicals would not be allowed to be altered;
- allowed variations on use for different pests, use at lower rates or lesser frequency or mixing with other products, generally pose low risks. These can be effectively managed through label instructions that specifically prohibit the use in that manner**;**
- allowing use on crops not specifically mentioned in label instructions is limited to crops NOT considered as a major crop. The existing Australian Pesticides and Veterinary Medicines Authority (APVMA) *Guideline for Determining Minor Uses* deems a wide cross-section of agricultural and horticultural crops as "major crops". This guideline and the existing APVMA list of major crops will be reviewed and amended as necessary to consider both commodity production value and consumption data associated with dietary exposure. This will result in the development of agreed criteria and a new list which will be uniformly applied across jurisdictions and

an important component of the reform is the retention of the legal obligation in each jurisdiction, that a producer who sells produce that exceeds the domestic Maximum Residue Limit (MRL) commits an offence.

Certain legislative changes will be required to implement the proposed access to chemicals model. These may include:

- introduction of an offence to use a chemical contrary to a label instruction or a permit condition in a major crop except for where it is being used for different pests, at a lower rate, lesser frequency or mixing with other products;
- higher order offences ensuring that RCPs and S7 chemical products are used in accordance with label instructions or an APVMA permit condition and the person holds the required competencies and licence;
- ensuring there is a specific offence for exceeding a domestic MRL for agricultural produce; and
- mandatory recordkeeping obligations to ensure those producers who are not part of an industry quality assurance scheme also keep records. As most producers are already doing this it is considered a minor increase in regulatory burden.

This access policy should be seen in the broad context of the package of other existing and improved instruments in the regulatory system. Unacceptable risks to human health, the environment and trade should be managed while providing access. In particular, the following aspects of monitoring and regulatory arrangements would support access and risk management:

1. APVMA chemical approvals, registered uses and permits, including:
    a. improved efficiency of assessment processes
    b. upgraded, risk prioritised chemical review
    c. co-funded research and development (Research and Development Corporations);
2. mandatory recordkeeping;

3. enhancements to qualifications of users and management of access to chemicals, through:
    a. mandating minimum AQF Level 3competencies determined to be appropriate for the use of that product for all users of RCPs and S7 poisons;
    b. a minimum requirement that all fee-for-service users hold specific AQF Level 3 competencies determined to be appropriate for the profession; and be licensed;
4. risk based monitoring that is:
    a. nationally consistent for both licences and produce;
    b. at an enhanced level, that is, a monitoring program specifically directed at ensuring compliance with licence conditions and user competency obligations; and
    c. targeted at high risk areas;
5. co-regulation between industry and regulators;
6. statutory control-of-use systems (harm minimisation) which include:
    a. a complete compliance toolbox (to influence user behaviour)[27]
    b. a duty of care with OH&S, trade and the environment;
7. market access systems; and
8. overseas audits.

{Drafting note: We see items such as 6a and 6b as methods of implementation of the proposed national scheme, but not actually elements of the proposed national scheme. For this reason, we have not costed them. }.

The design of the regulatory system would be such that on-label access is considered first. Permits for minor uses should be the primary backup. The other permissible use arrangements would be in place only to cover access for uses which could not be managed either on-label or by permit and which did not represent unacceptable risks to human health, the environment and trade.

The policy would represent some easing of access constraints for users in some states and territories, although a harmonised understanding of minor uses would need to be agreed. On the other hand, it would represent a more restrictive system for users in VIC and users in some industries in SA. In parallel with this change in access policy are a number of changes in monitoring (including produce monitoring), competency and recordkeeping dealt with elsewhere in this RIS. As well, efficiency measures arising from the Better Regulations Ministerial Partnership and outlined in the *Better Regulation of Agricultural and Veterinary Chemicals: Regulation Impact Statement (2011)* paper are expected to improve on-label access.

Expanding on Figure 3, situations under which variations of use would be allowed are limited and the risk managed due to a number of control mechanisms, such as not allowing the alteration of crop or situational use patterns on RCPs or S7 chemicals.

Whilst the model manages most of these concerns through the inbuilt control levels, other elements of the proposed AgVet chemical system would also assist in managing potential risks and minimise unacceptable use practices or situations. These elements include increased monitoring, recordkeeping and user competency, as well as the need for industry quality

[27]To be considered during implementation.

management systems and co-regulation. Growers targeting export markets and major domestic suppliers generally aim to meet market access requirements and would consequently aspire to adhere to label instructions and/or seek minor use permits, reducing the likelihood of increased trade violations.

3.1.4 Harmonisation of veterinary prescribing, compounding rights and controls on use of non-prescription products

It is proposed that veterinarians' prescribing rights would be harmonised between the states and territories; with clarification of policy on compounding and label access to non-prescription/unregistered veterinary products. (It is not intended to unduly restrict veterinarians' existing compounding and prescribing rights).

In order to bring about consistency across the national AgVet chemical regulatory scheme and minimise the risk to trade, public health and the environment, the proposed scheme seeks standardisation of the following components/definitions across jurisdictions:

- a nationally consistent definition list of the major food species, similar to the APVMA's major crops list, but likely to include cattle, sheep, pigs and poultry;
- situations where animal owners are able to treat major or minor food species without the necessity to seek veterinary direction to vary from the approved label use situation;
- consistent definition of 'single animal' treatments, which currently differs between the various jurisdictions and interpretation of 'single animal' which also poses problems;
- restrictions on the sale of unregistered products compounded by a veterinarian to animals under their direct care or within the practice;
- restricted use on food species of unregistered products, or products compounded by a veterinarian, to animals under the direct care of the veterinarian; and
- a requirement for any use of a registered veterinary product not to be contrary to any specific label restraint, prohibition or permit condition.

Implementation will be achieved through harmonised legislation in each jurisdiction. The Consultation RIS does not identify any specific amendments or costs associated with amending legislation regarding veterinary practitioners. This may also entail minor amendments to some state and territory legislation regulating veterinary practitioners, including the current Veterinary Code of Practice.

3.1.5 Harmonised national produce monitoring system

Testing plant and animal products is an essential part of the feedback loop to ensure the whole AgVet chemical regulatory system is working well. Additional produce monitoring could be a commercial or marketing advantage to a state or territory's primary producers.

The proposed national scheme includes an enhanced national produce monitoring and trace-back program funded by the Australian Government, potentially through a levy on chemical users. The proposed harmonised national monitoring system would:

- provide a nationally consistent base level of produce monitoring to maintain confidence in the AgVet chemical system, appropriately identify risks and respond to adverse events;

- be risk-based, targeted and responsive to contribute to the protection necessary for the safe use of chemicals, including allowable variations of chemical use (i.e. 'off label' use);
- provide support mechanisms, including suitable data management and access protocols, for effective trace-back and emergency response;
- link directly with existing compliance and enforcement processes in the jurisdictions and APVMA, informing their risk management policies and creating a nationally consistent monitoring framework; and
- be flexible enough to allow individual jurisdictions to monitor targets of local importance (whether environmental or produce related).

Nationally consistent environmental monitoring of AgVet chemicals may be implemented at a later stage but the initial focus of the system is on produce monitoring.

Costs of the enhanced system would depend on the issues targeted, the number of samples taken, and the ability to build on existing systems such as the National Residue Survey. It is expected that coordination and inclusion of data from state and industry monitoring as part of the enhanced monitoring system would be integrated with current systems (e.g. those developed under the National Residue Survey), to assist with keeping costs low.

The national produce monitoring program is needed to provide support and feedback to the proposed regulatory framework, through targeted analyses of produce for AgVet chemical residues. This program would nationally coordinate and target monitoring efforts in each state and territory to inform risk management within the proposed regulatory framework, through a system of prioritisation, sampling, reporting and verification. This targeted approach is essential to appropriately assess and manage the risks within the regulatory framework. By virtue of a system of prioritisation, sampling, reporting and verification, a national produce monitoring program can appropriately manage the quality of Australian produce, as well as risk to industry and the public. Such a program is particularly important for those minor crops and livestock not included in the National Residues Survey that could potentially be subject to off-label uses under the proposed access to chemicals model.

The national program would design targeted monitoring projects, complementary to data obtained from existing monitoring programs and through discussions with key stakeholders. Once priority areas for monitoring are set, monitoring programs would be designed to target those areas, with supplemental data from existing monitoring programs. Samples would be collected and analysed in a coordinated manner by approved Australian laboratories. The analytical results would then be collated and provided to the states and territories for trace-back and appropriate compliance action. All monitoring and trace-back data would then be subjected to quantitative risk analysis and shared with the APVMA, states and territories and other relevant stakeholders.

Ultimately, the results from this program would inform risk management decisions within the proposed regulatory framework and increase the effectiveness of the regulation itself. The program would also coordinate follow-up testing to verify the effectiveness of any resulting risk management activities. Finally, the outcomes of all monitoring and risk management would be reported to all stakeholders and published. The program would also provide the feedback necessary for continuous improvement of the system and could provide an objective assessment of risks associated with the off-label aspects of the proposed 'access to chemicals model'.

To accomplish these activities, the national produce monitoring program would require technical experts in analytical chemistry, quantitative risk analyses and liaison officers with comprehensive knowledge of production systems and analytical laboratories. These officers would work with stakeholders to identify, prioritise and coordinate targeted produce monitoring nationally, while providing direct feedback to the APVMA and state and territory risk managers. The monitoring results would provide direct feedback to the regulatory framework of the APVMA and state and territory risk managers. Such a program would require at least five staff and funding for sampling to supplement existing monitoring programs (see Appendix 11 for detail).

3.1.6 Nationally consistent requirement for wholesale, retail and user recordkeeping.

The proposed national scheme would require that all commercial applicators, primary producers, public authorities and other utilities keep basic records of AgVet chemical use. The requirement would cover use by:

- professional applicators, including
    - pest management technicians
    - aerial applicators
    - ground sprayers
    - fumigators;
- farmers and horticulturalists;
- public authorities and utilities; and
- golf courses, bowling clubs and other sports grounds.

The requirement would exclude household-type application in agriculture using hand-held devices, such as small portable sprayers that can be carried by a person and which are operated manually, except in commercial horticulture (where proximity to urban environments often raises risks). Recordkeeping would still be required for this type of application for food production that is offered for sale. Veterinary chemical use situations (for example use of products on domestic/companion animal situations other than horses) would also be excluded from these recordkeeping requirements.

From a regulatory perspective access to accurate records can assist in resolving problems in a number of circumstances, by:

- allowing more effective treatment in cases of chemical related injury; and
- allowing tracing and resolution of problems with
    - residues in produce
    - harm to livestock or crops or
    - environmental contamination.

Recordkeeping at each wholesale, retail and user level is important to provide an assessment of the exposure to AgVet chemicals experienced by populations, local communities and individuals. At the population and local community level, this is essential for an investigation of potential health effects from cumulative exposure to AgVet chemicals. Such investigations are important not just to populations who may attribute a cluster of disease to AgVet chemical (such as pesticide) exposure, but also to industry who may be under pressure not to use certain chemicals due to suspicion of health risk. These potential health risks cannot be quickly allayed using epidemiological techniques if there is no reasonable estimate of

exposure, both in the affected populations, but also in comparison populations. Currently it is impossible to estimate the level of exposure in a wide range of populations without costly, laborious and potentially inaccurate estimates of exposures in both the affected and other areas.

Appropriate recordkeeping would ensure quick, efficient and accurate information to be aggregated on a region-by region basis, enabling timely health assessment of potential risks and efficient risk communication and/or reassurance messaging.

3.1.7 Allowance for regional differences

There are variations across the country in terms of climate and geography, primary production systems, the proximity of agriculture to the urban interface, recordkeeping requirements for AgVet chemical resellers and community appetite to risk. This requires regulatory capability to manage regional differences.

The elements of the proposed national scheme relating to licensing represent a minimum system of harmonisation that does not preclude jurisdictions from doing more or retaining existing licence requirements to address regional risk.

It is intended that the harmonised control-of-use legislation would require a base level of monitoring and compliance requirements. This would not compromise or limit the capacity for relevant state/territory agencies to conduct their own environmental (e.g. waterways) or health monitoring and to set standards for compliance. This type of activity would extend beyond the scope of what would be required for the national system, and would be done under each jurisdiction's legislation, funded from their own budgets. The harmonised legislation could enact a requirement that these agencies must notify the responsible agency if evidence of AgVet chemical misuse is detected.

In addition, the proposed national scheme needs to provide states and territories with the authority to declare an exclusion or chemical free zone to protect sensitive areas (such as water supply catchments). This is to avoid possible health or environmental impacts.

3.2 Feasible alternatives

In accordance with the COAG guidelines, a RIS is required to identify feasible alternatives to the proposed national scheme. Conversely, a RIS is not required to consider alternatives which are not feasible, or where there are no significant cost burdens being imposed.

In the case of the proposed national scheme, feasible alternatives are limited to various combinations of national functions or agreed arrangements. In view of the COAG direction to 'bring forward a proposal for a single national framework to improve the efficiency and effectiveness of the regulation of agricultural and veterinary chemicals'; the status quo or base case is not a feasible option.[28]

To achieve the policy objective identified in Part 2.2, there are various options available for alternative national schemes. These alternatives range from minimum intervention, consisting of harmonisation and mutual recognition of entitlements to state and territory licences; to

[28] Although the base case is used as the benchmark for measuring the incremental costs and benefits of the feasible options.

maximum intervention in which all state and territory AgVet chemical control-of-use functions would be referred to the Australian Government.[29]

Harmonisation and mutual recognition of entitlements to state and territory licences (Option A below) does not obviate the need for users to obtain a licence and pay licence fees in each jurisdiction. It simply means that the holder of a licence in one jurisdiction is entitled to obtain an equivalent licence in other jurisdiction.

On the other hand, cross-jurisdictional recognition of licences (Options B, C1 and C2 below) means that the holder of a licence in one jurisdiction is entitled to have that licence recognised in other jurisdictions, in a similar manner to the current cross-jurisdictional recognition of a driver's licence.

In the Consultation RIS there was a proposal for all chemical users, including farmers, to be able to demonstrate base level competencies as a condition of chemical use with some specified exemption categories. This requirement has been omitted from the proposed national scheme on cost/benefit grounds. However, it is retained as an alternative in this Decision RIS (Option C2 below).

The feasible alternatives together with the proposed national scheme will from here on be referred to as 'options'. The options to be assessed in terms of costs and benefits are (in order of increasing degree of change):

Option A: mutual recognition of entitlements to state and territory licences and harmonisation of schemes, in relation to qualifications and training (AQF Level 3), recordkeeping, monitoring and auditing of licences[30] (i.e. the minimum intervention option)

Option B: cross-jurisdictional recognition of licences for fee-for-service users of AgVet chemicals, with consistent qualifications and training[31](AQF Level 3), together with harmonised recordkeeping, monitoring and auditing

Option C1: the proposed national scheme, comprising the following elements:

- all fee-for-service providers (e.g. pest controllers, ground and aerial applicators, sheep dippers) are required to be licensed,
- both fee-for-service businesses and individuals within those businesses are required to be licensed,
- licensing will not be required for users of RCPs and S7 chemicals who are not operating a fee-for-service business (general users including farmers),
    - cross-jurisdictional recognition of licences for fee-for-service users of AgVet chemicals,
    - harmonised minimum requirements for all fee-for-service providers to hold Australian Qualification Framework (AQF) Level 3 competencies or equivalent determined to be appropriate for the occupation,
    - harmonised minimum requirements for users of RCP or S7 chemicals to hold AQF Level 3 competencies or equivalent determined to be appropriate for the use of that product,

[29]This is consistent with the recommendation of the 2008 Productivity Commission report.
[30]Not including policy aspects of Option C1, such as requirement for all fee-for-service providers and users of RCP or S7 chemicals to hold minimum AQF Level 3 competencies.
[31]Not including policy aspects of Option C1.

- a nationally consistent hierarchical model for access to and use of AgVet chemicals providing for limited variations on approved label instructions under specified risk management control mechanisms,
- a nationally consistent monitoring and auditing system for compliance with licencing and user competency obligations,
- increased, targeted produce monitoring and traceback activities, providing a nationally consistent approach to residue monitoring and compliance,
- a harmonised system that allows veterinarians to compound and prescribe off-label access to prescription, non-prescription and unregistered veterinary products subject to certain conditions,
- nationally consistent access conditions to private sector monitoring systems,
- compliance and enforcement systems, including industry responsibilities for co-regulation,
- consistent recordkeeping for the use of AgVet chemicals beyond the point of retail sale,
- consistent and accessible recordkeeping at point of sale (wholesale and retail),
- all aspects of control-of-use[32] to be managed by the states and territories under harmonised legislation and associated subordinate legislation, and
- oversight of the regulatory system to be undertaken by a new strategic policy committee established by intergovernmental agreement, with responsibility for strategy, regulatory instruments and legislation.

The elements of the proposed national scheme relating to licensing represent a minimum system of harmonisation that does not preclude jurisdictions from doing more or retaining existing licence requirements to address regional risk.

Option C2: variation of Option C1 with the addition of a requirement for all chemical users, including farmers, to be able to demonstrate base level competencies as a condition of chemical use with some specified exemption categories.[33]

Option D: referral of all state and territory control-of-use functions to the Australian Government including policy aspects of Option C (i.e. the maximum intervention option).

A number of alternatives were discussed in the Consultation RIS, and the above options contain many of these elements. However, some options such as the creation of a new separate, national body responsible for regulation and control-of-use activities separate from registration and assessment were not considered to be feasible due to increased costs with minimal benefits beyond those provided by Option D above.

[32]Including training, monitoring, auditing, compliance, veterinary prescribing rights etc.
[33] All other aspects of Option C2 are the same as for Option C1.

4.0 Assessment of costs and benefits

4.1 Introduction

The purpose of Part 4.0 is to:

- assess the incremental costs and benefits of the proposed national scheme as outlined in Part 3.1; and
- to compare and contrast the costs and benefits of the proposed national scheme with other options identified in Part 3.2.

The assessment of the relative benefits and costs for the proposed national scheme and other identified options has been conducted in relation to how well the policy objective identified in Part 2.2 is likely to be achieved. Where data exists, quantitative estimates of costs and benefits are made, using stated reasonable assumptions to fill in any essential data gaps. However, where sufficient data is not available (in this case for health and safety, environmental outcomes and trade outcomes), the assessment is made using qualitative criteria regarding the achievement of the policy objective. All costs and benefits reported are incremental to the base case (refer to Part 4.2).

The three criteria used to assess the options are:

Criterion I	Reduction of regulatory burden
Criterion II	Net compliance costs to industry and government
Criterion III	Improved risk management and access to chemicals[34].

The summary of cost benefit analysis in Part 4.4 compares the relative merits of the various options with each other, using a break even analysis.

4.2 The base case

The term ‘base case’ means the situation that would exist if the proposed national scheme were not adopted, that is, the relevant existing laws and industry practices. The base case provides the benchmark for measuring the incremental costs and benefits of the proposed national scheme and the other options.

Specifically, the base case includes all relevant Australian Government, state and territory legislation, including Acts, regulations, licence or permit conditions and other mandatory requirements.

Briefly, the APVMA is responsible for the assessment and regulation of AgVet chemicals, control of handling up to the point of retail sale and issuing of permits, including permits for use of restricted chemical products outside of label instructions (except in VIC). The state and territory governments are responsible for all control-of-use activities, including user training, licensing and monitoring.

There are also a range of other processes for management of chemicals outside the AgVet regulation frameworks including scheduling and sale of medicines and poisons, management of hazardous and industrial chemicals and managing the environmental impacts of chemicals.

The base case also includes existing industry practices, which although legally voluntary rather than mandatory, are likely to reduce the incremental cost of introducing mandatory

[34] Given the priority for managing risk, improving access to chemicals is warranted only where risk management is not adversely affected.

requirements. For example, if under industry codes of practice or quality assurance programs there were a higher level of training AgVet chemical users than required by law, the incremental cost of introducing higher training requirements would be the difference between the higher training requirements and existing training levels.

More detailed existing state/territory requirements are set out under the following sub-headings.

4.2.1 Competency, training and licensing

General AgVet chemical users

- There is no requirement for base level users (of unrestricted chemicals) to demonstrate competencies in most jurisdictions (with the exception of NSW).
- There is a requirement in all jurisdictions for users of RCP, (i.e. higher risk chemicals) to undertake approved training or recognition of prior learning via an approved quality assurance program or registered training organisation. However the level of qualifications required differs in the various jurisdictions.
- In addition to the training requirement VIC, NT, and TAS also require users of RCPs, S7 poisons and other high risk agricultural chemicals to have a licence, permit or other form of approval to use these products under their existing control-of-use regime.

For more detail specific state/territory requirements, refer to Appendix 12, Table A12.1.

Fee-for-service AgVet chemical users

- The majority of jurisdictions licence fee-for-service users, to a varying degree. A summary of the current arrangements contrasted with the proposed scheme is in Appendix 12 Table A12.1. This table also demonstrates jurisdictions which would be impacted by the change.
- Most jurisdictions partially cost-recover their licensing model; although none cost recover the full system.
- Most jurisdictions have qualifications requirements for business and/or individual operator for fee-for-service operators, achieved through training and assessment provided by registered training organisations that exist in each jurisdiction and are aligned with national, state or industry training and accreditation organisations. However, qualifications requirements differ across jurisdictions.

Some states, such as Victoria, are moving towards full cost recovery from licence fees. The *Australian Government Cost Recovery Guidelines* also require full cost recovery of licence fees. However, it is not the purpose of this RIS to evaluate the policies of the various jurisdictions on cost recovery. In terms of the cost/benefit analysis, there is a need to compare 'like with like' in order to separate jurisdictional policy differences on cost recovery from the analysis. For this reason, licence fees are treated as if they would be based on full cost recovery.

4.2.2 Recordkeeping

All commercial and occupational users of AgVet chemical products would be required to keep auditable records of use (household style use would be exempt). Veterinarians are already required to keep records, so the change would apply only to some users of

agricultural chemicals. Similarly, all fee-for-service applicators ─ pest controllers, aerial and ground applicators ─ must currently keep records (except in the ACT). All users of agricultural chemicals who comply with Quality Assurance (QA) schemes are also required to keep records. Where there are co-regulatory arrangements in place, a regulatory requirement for recordkeeping would not add to the burden for these users. Currently there is no general requirement under control-of-use legislation for farmers and other individual agvet chemical users to keep records in WA, QLD and the ACT[35].

4.2.3 Access to chemicals

Whilst the APVMA is responsible for the registration and issue of permits for AgVet chemicals, including permits for use of RCPs outside of label instructions (except in VIC) under Australian Government legislation, this power is enacted within the states and territories via reference in jurisdictional legislation. Consequently, access to use of chemicals varies between jurisdictions (see Tables A9.3a and A9.3b in Appendix 9). SA, NT, WA, QLD and particularly VIC allow conditional off-label access to the use of unrestricted chemical products without the necessity to apply for an APVMA permit.

Despite this variation in chemical access across jurisdictions there is no data describing a discernible difference in market access or failure as a result of residue violations.

4.2.4 Veterinary prescribing and compounding rights

The APVMA is also responsible for the registration of products and issue of permits for veterinary products under Australian Government legislation. At the same time it exempts from its controls products compounded or prescribed for compounding by veterinarians, and allows unregulated supply of veterinary chemicals if it is permitted by a state or territory law. Restrictions on access to, and use of, veterinary chemicals varies between jurisdictions. Similarly, their ability to compound and supply unregistered products, as well as allowable variations on approved use, which are allowed on veterinary direction (prescription), vary to a minor extent in some jurisdictions.

4.2.5 Costs of control-of-use under the base case by state and territory

Table 1 summarises the costs of broad control-of-use activities undertaken by state and territory.

Table 1: Cost of control-of-use activities by state and territory in 2011-12 dollars ($m)

ACTIVITY	NSW	VIC	QLD[36]	SA	WA	NT	TAS	ACT[37]	Total Cost
Licensing of Permitted Users	$0.04	$0.42	$0.38	$0.34	$0.22	$0.14	$0.12	$0.00	$1.66
Monitoring of Conditions of Licence (auditing)	$0.12	$0.72	$0.26	$0.04	$0.06	$0.05	$0.05	$0.00	$1.30
Pre Use Risk Management	$0.00	$0.00	$0.00	$0.04	$0.27	$0.06	$0.03	$0.00	$0.41
Enforcement (investigations and prosecutions)	$0.97	$0.48	$2.07	$0.23	$0.07	$0.10	$0.07	$0.02	$4.01
Provision of Information	$0.05	$0.27	$0.24	$0.04	$0.19	$0.04	$0.04	$0.00	$0.87

[35] Queensland has exceptions where there are specific record requirements in the regulations. Qld also accesses the compulsory AgVet chemical use records kept by all Qld producers for WH&S legislation. Similarly, records are required for use of restricted products in WA.
[36] Cost estimates for Queensland do not include monitoring, enforcement, advice and other activities for the 13 Queensland Health units (apart from licensing of permitted users).
[37] Total cost of control-of-use is provided by ACT but not the break up in terms of activity.

ACTIVITY	NSW	VIC	QLD[36]	SA	WA	NT	TAS	ACT[37]	Total Cost
Education and Training	$0.04	$0.07	$0.00	$0.07	$0.06	$0.02	$0.00	$0.00	$0.27
Services to Government (including policy development)	$0.13	$0.49	$0.96	$0.09	$0.43	$0.06	$0.04	$0.01	$2.22
Input to Land Development and Planning	$0.01	$0.00	$0.00	$0.00	$0.04	$0.00	$0.00	$0.00	$0.05
Management and Support Activities	$0.09	$0.23	$0.60	$0.10	$0.11	$0.00	$0.00	$0.00	$1.13
Environmental Monitoring	$0.26	$0.03	$0.00	$0.00	$0.01	$0.05	$0.20	$0.01	$0.56
Legislation development and remaking regulations	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00
Minor Use/Research Exemption Permits	$0.12	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.12
Produce Monitoring – same purpose as Environmental	$0.00	$0.16	$0.00	$0.00	$0.00	$0.03	$0.00	$0.00	$0.19
Tracebacks undertaken as part of in-house produce monitoring and on behalf of National Residue Survey	$0.00	$0.11	$0.00	$0.00	$0.00	$0.00	$0.00	$0.00	$0.11
Laboratory Analysis	$0.01	$0.22	$0.56	$0.00	$0.00	$0.03	$0.23	$0.00	$1.05
Total Cost	$1.84	$3.19	$5.08	$0.96	$1.47	$0.59	$0.78	$0.04	$13.97

4.3 Assessment of each of the options against the base case

This section identifies the incremental benefits and costs of the proposed national scheme and each of the other feasible options, as identified in Part 3.0, relative to the 'base case'. Each of the options will be assessed in relation to how well the underlying policy objective identified in Part 2.2 is likely to be achieved which is:

To reform the national regulation of AgVet chemicals in order to:

- *improve risk management outcomes;*
- *improve access to chemicals;*
- *reduce regulatory burden; and*
- *improve business competition; whilst addressing regional risk*[38].

Where data exists, discounted[39] quantitative estimates of costs and benefits are provided, over the next 10 years. However, where cost and benefit data is not available, the assessment of options with respect to achieving the policy objective is made using qualitative criteria. The data used in this analysis and the assumptions and qualifications to the data on which the costs and benefits have been estimated are provided in Appendices 1 through to 11.

[38]That is, acknowledging that there can be justified reasons for regional differences e.g. geography, climate, regional economics etc.

[39] A weighted average cost of capital (WACC) of 7% is used for present value calculations, as recommended by the *OPBR* and accounts for both consumption preferences and the opportunity cost of capital.
QLD costs were reported against different criteria at the program level, including responsibilities for contaminants and policy development associated with legislative review processes. Monitoring, traceback and education awareness activities were reported under compliance. QLD also supports a government chemical residue laboratory.

4.3.1 Assessment of Option A

Option A involves mutual recognition of licences and a harmonisation of state and territory schemes; particularly in relation to qualifications and training (AQF Level 3), recordkeeping, monitoring and auditing.

Expected benefit (Criterion I – Reduction of regulatory burden)

Option A would be unlikely to significantly reduce regulatory burden, as harmonisation with mutual recognition would still incur the same level of licence application costs by industry. Therefore, Option A is not assigned any benefits with respect to this criterion.

Expected compliance costs (Criterion II)

Option A would potentially result in a one-off cost of harmonising relevant control-of-use Acts and Regulations; and recognising standardised competencies in licensing systems.

The estimated 10-year one-off cost in present value dollars is given as **$0.19m** as indicated in Table 2.

Other estimated costs to government would include the need for additional monitoring and audits estimated to be **$3.39m** over 10 years (see Table 2). This additional work would be required to establish best practice audits/monitoring at 10% of all permits and licences issued.

Table 2: Summary of 10-year estimated compliance costs under Option A in 2011-12 dollars ($m)

Cost description	Estimated annual cost (or one-off cost)[40]	Estimated 10-year PV cost[41]	Cost incurred by
Harmonising control-of-use Acts and Regulations and recognising standard competencies	($0.2)[42]	$0.19	State and Territory governments, Parliamentary Counsel and the Australian Government
Monitoring/auditing costs	$0.48[43]	$3.39	State and territory governments
Qualifications and training requirements at AQF Level 3	($11.34)[44]	$10.60	Fee-for-service providers and chemical users of RCP and S7 chemicals
Specific*1080* qualifications and training requirements	($3.42)[45]	$3.2	Fee-for-service providers and chemical users of RCP and S7 chemicals who use *1080*[46]
Compliance costs with respect to additional audit/monitoring activity	$0.06[47]	$0.42	Chemical users
Recordkeeping	$1.4[48]	$9.84	Chemical users
Providing auditable records	($0.35)[49]	$0.33	Chemical re-sellers
Total 10 year cost		***$27.97***	

[40] One-off costs are in brackets. Bracketed numbers are not negative.
[41] A weighted average cost of capital (WACC) of 7% is used for present value calculations.
[42] See Appendix 8 Table A8.1 for source of estimate.
[43] See Appendix 4 Table A4.6 for source of estimate.
[44] See Appendix 2 Table A2.3 for source of estimate.
[45] See Appendix 2 Table A2.4 for source of estimate.
[46] Assumed to be 15% of RCP and S7 users.
[47] See Appendix 4 Table A4.7 for source of estimate.
[48] See Appendix 5 Table A5.2 for source of estimate.
[49] See Appendix 9 Table A9.1 for source of estimate.

As shown in Table 2, Option A would be likely to result in one-off additional costs for qualifications and training. These additional training costs would ensure that all fee-for-service providers and users of RCPs and S7 poisons meet the qualifications requirements for licensing at AQF Level 3 and specialist units as required for particular chemicals (namely *1080*). This cost would involve the course fees, travel costs (e.g. fuel) and the cost of a chemical user's own time, both spent at the course and travelling. Harmonisation under Option A would be likely to entail an estimated **$10.6m** of training cost (at AQF Level 3) for users of RCPs and S7 chemicals over 10 years in 2011-12 dollars. Additional specific training for *1080* users is estimated to be **$3.2m** over 10 years.

Option A would also be likely to result in approximately **$0.42m** of additional compliance costs to chemical users in relation to assisting with additional auditing and monitoring activity over 10 years in 2011-12 dollars (see Table 2). This may involve up to an average of 0.5 hours of time from chemical users where desktop audits/monitoring is performed or up to an average of 1.5 hours of time in relation to field audits.

Furthermore Option A would be likely to result in additional annual recordkeeping costs for chemical users, - as compared to the base case. The purpose of requiring users to keep and maintain records with respect to the application of AgVet chemicals is to provide an opportunity to better manage risks associated with AgVet chemical use[50]. With harmonisation, various states and territories would be affected which do not currently have reporting requirements and chemical users in those jurisdictions would be affected with additional administrative costs. As discussed in the base case (see Part 4.2) there is no general requirement for farmers and other individual users to keep records in Western Australia, and the Australian Capital Territory. Harmonisation under Option A would be likely to entail an estimated **$9.84m** of additional recordkeeping costs for SA, WA and ACT together over 10 years in 2011-12 dollars (see Table 2).

Finally, Option A would be likely to result in a one-off additional cost of providing auditable records by chemical re-sellers as compared to the base case. Given that records of chemical sale would normally be kept by re-sellers for commercial reasons the additional cost under each of the options would simply be the one-off cost of acquiring software. Such software is estimated to cost around $200 and would allow re-sellers to provide records in the fashion required by auditors, as and when required. The additional cost of providing auditable records under Option A is estimated to be approximately **$0.33m** over 10 years in 2011-12 dollars (see Table 1).

As shown in Table 2, the total level of additional compliance costs that would potentially be incurred under Option A is estimated to be ***$27.97m*** over 10 years in 2011-12 dollars. The distribution of these estimated 10-year compliance costs by state and territory is shown in Table 3.

[50]Department of Primary Industries, (July 2008), *Auditing DPI Chemical Use for Compliance with the Agricultural and Veterinary Chemicals (Control-of-Use) Act 1992. Audit & survey report*, Department of Primary Industries, Melbourne.

Table 3: Estimated 10-year compliance costs (2011-12 dollars) by state and territory ($m)- Option A

Jurisdiction	Harmonising control-of-use Acts and Regulations and recognising standard competencies	Monitoring/ auditing costs	Training cost for AQF Level 3	Training cost for *1080*	Compliance costs with respect to additional audit/ monitoring activity	Record-keeping costs	Cost of providing auditable records	**Total 10-year cost in 2011-12 dollars**
Stakeholders affected	State and territory governments and Parliamentary Counsel	State and territory governments	RCP and S7 chemical users	RCP and S7 chemical users who use *1080*	Chemical users	Chemical users	Chemical re-sellers	**All groups**
NSW	$0.03	$0.23	$2.34	$0.20	$0.03	-	$0.09	$2.91
VIC	$0.03	-$0.50	-	-	-$0.04	-	$0.07	-$0.44
SA	$0.03	$0.54	$1.24	$0.10	$0.07	$4.39	$0.04	$6.40
QLD	$0.03	$1.82	$3.74	$2.69	$0.19	-	$0.07	$8.54
WA	$0.02	$0.97	$2.35	$0.14	$0.15	$5.32	$0.05	$9.00
NT	$0.03	-$0.04	$0.10	$0.01	-$0.01	-	$0.00	$0.09
TAS	$0.03	$0.33	$0.80	$0.05	$0.04	-	$0.01	$1.25
ACT		$0.03	$0.03	$0.00	$0.01	$0.13	$0.00	$0.21
Australian Government	$0.01	-	-	-	-	-	-	$0.01
Australia	**$0.19**	**$3.39**	**$10.60**	**$3.20**	**$0.42**	**$9.84**	**$0.33**	***$27.97***

The largest share of compliance costs would potentially be incurred by WA and is estimated to be **$9m** over 10 years. This would be made up mainly of training requirements for chemical users at AQF Level 3 estimated to be **$2.35m** and additional monitoring and additional recordkeeping costs for chemical users estimated to be **$5.32m** over 10 years. The next largest estimated cost of **$8.54m** would potentially be incurred by QLD made up mainly of **$3.74m** training costs (AQF Level 3), **$2.69m** training costs for *1080* and auditing costs to government of **$1.82m** over 10 years in present value dollars. The main stakeholders affected by compliance costs under Option A would most likely be RCP and S7 chemical users who need training at the AQF Level 3 followed by chemical users having to provide additional recordkeeping

Expected benefit (Criterion III – Improved risk management[51])

Benefits in relation to criterion III under Option A would be generated by a 'package' of policy measures or by individual policy measures.

Option A would be likely to provide some improvement in risk management with respect to health where training and competencies would be required for users of RCP and S7 chemicals. With compulsory training at AQF Level 3 under Option A, there would be an estimated $0.3m of annual health cost savings in terms of acute health incidents (reduction in hospital admissions from accidental poisoning) and mortality (reduction in accidental death). The benefits of compulsory training have been extrapolated from NSW data and are applied

[51] Without a national approach to off-label use, Option A would be unable to improve chemical access. Therefore improved chemical assess for minor use under criterion III is not considered under Option A.

nationally. A more detailed discussion of potential benefits in this regard is presented in Appendix 10. This would be equal to **$2.11m**[52] over 10 years in present value dollars.

By providing for a package of greater harmonisation with respect to additional training; auditing/monitoring activity, as well as recordkeeping requirements (including those by chemical resellers), Option A would have the potential to reduce some risks to the environment and trade. However, such benefits are unquantifiable as studies of the impact of chemicals on the environment in Australia[53] are lacking and the causal relationship between harmonisation under Option A and these benefits (i.e. environment and trade) are unknown.

Option A would be potentially likely to provide responsiveness to regional differences and needs, however this would not be different (i.e. additional) to the level of responsiveness under the base case.

Option A would be limited in its ability to improve risk management with respect to trade as compared to the base case, given the lack of vertical integration with Australian Government export controls under this option. This is relevant in that, even where AgVet chemicals are used correctly and on-label, there are still potential risks to trade (as discussed in Part 2.1.1). Improving compliance with chemical use via harmonisation of training, auditing and recordkeeping alone would not be able to achieve the full potential improvements to trade risk management attainable in control-of-use system which is more vertically integrated between the state and territory jurisdictions and the Australian Government's export controls.

Notwithstanding this, a greater harmonisation of recordkeeping requirements (including those by re-sellers) would improve traceability which in turn would assist regulators in resolving issues, such as MRL breaches in commodity trade or spray drift. To the extent that recordkeeping contributes to more effective and efficient use of chemical products, there may be additional human health and environmental benefits. Increased access to accurate records under Option A would assist in resolution of adverse human health incidents or cases where a MRL is exceeded. With increased accuracy of records under Option A, the particular practice that caused the problem would become less obscure.

Moreover, under Option A, current overall logistical arrangements would be maintained with monitoring, auditing and training undertaken separately by each state and territory but with greater consistency and harmonisation of some elements. However, the lack of agreed policies would provide greater incentive for jurisdictions to adopt a differentiated approach to risk mitigation of chemical use during implementation, which would reduce the effectiveness of harmonisation under Option A in terms of Criterion III.

Benefit cost ratio – Option A

Based on estimated quantifiable costs and benefits alone, Option A would potentially achieve a benefit cost ratio of 0.08 (i.e. less than 1) and a quantifiable net cost of $25.9m over 10 years.

[52] See Appendix 10 for source of estimate.

[53] Estimates of the impact of pesticides on the environment are available for the UK, US and Germany however, a benefit transfer approach to valuation of potential costs savings would be inappropriate according to theNSW Environmental Protection Agency (EPA) where there are differences in the study and target sites.

4.3.2 Assessment of Option B

Option B, as with Option A, would also involve a harmonisation of state and territory schemes, particularly in relation to qualifications and training (AQF Level 3), recordkeeping, monitoring and auditing. However, in addition to Option A, Option B would involve a cross-jurisdictional licence for fee-for-service chemical users only – with licences issued by states and territories but fully recognised in all jurisdictions.

Expected benefit (Criterion I – Reduction of the regulatory burden)

The cross-jurisdictional licence under Option B would reduce the regulatory burden for aerial spraying operators and pilots who would otherwise need to obtain up to three and six additional licences/permits under the base case, respectively, to operate across state and territory jurisdictions once every 3 years[54]. The major aspects of cost savings would include less time required for the preparation of an application for both the aerial spraying operator's and pilot's licence, as well as the fees avoided.

Furthermore, up to 10% of licences/permits for non-aerial fee-for-service chemical users including pest management technicians; ground sprayers; and fumigators would also benefit from not needing one additional licence/permit over 10 years under Option B as compared to the base case. Again, cost savings would be in the form of reduced time applying for licences/permits and the fees avoided.

The cross-jurisdictional licence for fee-for-service chemical users under Option B would be likely to generate a reduction in regulatory burden equal to **$4.2m** per annum, as shown in Table 4. Over 10 years, and in present value dollars, this would potentially be equal to ***$29.48m*** (see Table 4).

Table 4: Estimated reduction in regulatory burden likely under Option B ($m) over 10 years as compared to the base case in 2011-12 dollars

Benefit	Estimated annual benefit	Estimated 10-year PV benefit	Benefit received by
Reduction in regulatory burden	$0.25[55]	$1.78	Aerial spraying operators
Reduction in regulatory burden	$0.81[56]	$5.67	Pilots
Reduction in regulatory burden	$3.14[57]	$22.02	Non-aerial fee-for-service users (e.g. ground sprayers; fumigators; and pest management technicians)
Total reduction in regulatory burden	**$4.2**	**$29.48**	

The distribution of these benefits (i.e. reduction in regulatory burden) for non-aerial fee-for-service users by state and territory under Option B is shown in Table 5. The benefit for aerial fee-for-service is reported for Australia as a whole and not on a state-by-state basis (see Table 5). This is because many of the aerial operators and pilots operate across multiple states and

[54] Based on advice from various relevant government departments
[55] See Appendix 6 Table A6.3 for source of estimate
[56] See Appendix 6 Table A6.3 for source of estimate Interstate pilots licensed in another jurisdiction seeking to work in QLD do not need a QLD licence and do not need to notify DAFF they are operating in QLD.
[57] See Appendix 6 Table A6.5 for source of estimate.

territories and therefore it would be very difficult or inappropriate to apportion such benefits in this way.[58]

Table 5: Estimated 10-year reduction in regulatory burden (2011-12 dollars) for fee-for-service users by state and territory ($m) - Option B

Jurisdiction	Reduction in regulatory burden	Reduction in regulatory burden	Reduction in regulatory burden	**Additional 10-year benefit**
Stakeholders affected	Aerial spraying operators	Pilots	Non-aerial fee-for-service chemical users[59]	**All groups**
NSW	-	-	$1.12	$1.12
VIC	-	-	$0.39	$0.39
SA	-	-	$3.73	$3.73
QLD	-	-	$11.64	$11.64
WA	-	-	$4.76	$4.76
NT	-	-	$0.09	$0.09
TAS	-	-	$0.14	$0.14
ACT	-	-	$0.16	$0.16
Australia	**$1.78**	**$5.67**	**$22.02**	***$29.48***

As shown in Table 5, the main state to receive benefits with regards to a reduction in regulatory burden for non-aerial fee-for-service chemical users seeking to work interstate, would most likely be QLD, followed by WA and SA with estimated reductions of **$11.64m**, **$4.76m** and **$3.73m**, respectively, over 10 years in 2011-12 dollars.

Expected compliance costs (Criterion II)

Option B would result in a set of compliance costs identical to those under Option A. These would include: a one-off cost of harmonising relevant control-of-use Acts and Regulations; compliance costs to government and chemical users with respect to additional audit/monitoring activity; recognising standardised competencies in licensing systems, as well as training costs; and additional annual recordkeeping costs. The overall total 10-year incremental compliance costs of Option B would potentially be equal to ***$27.97m*** over 10 years (see Tables 2 and 3, under Option A).

Expected benefit (Criterion III – Improved risk management[60])

The benefits in relation to Criterion III under Option B would be generated by either a 'package' of policy measures or by individual policy measures.

Option B would be likely to provide the same level of improvement to risk management to chemical use in relation to health as Option A. As with Option A, training and competencies would be required for users of RCP and S7 chemicals with compulsory training at AQF Level 3. The estimated health cost savings in terms of acute health incidents and mortality would be **$0.3m** annually. This would be equal to **$2.11m**[61] over 10 years in present value dollars.

[58] Based on advice from AAAA
[59] Ground sprayers; fumigators; and pest management technicians
[60] Without a national approach to off-label use, Option B would be unable to improve chemical access. Therefore improved chemical assess for minor use under criterion III is not considered under Option B.
[61] See Appendix 10 for source of estimate.

As with Option A, Option B would be likely to improve risk management with regard to the environment and trade as a result of the overall policy package including: harmonisation of schemes and greater control of chemical use by fee-for-service users via national licensing.

One of the fundamental principles of an ideal AgVet chemicals regulation and management system is that it should be able to respond quickly to new and emerging issues in order to ensure the proper identification and management of risk[62]. Option B would maintain responsiveness to regional differences and needs in relation to training, auditing/monitoring and recordkeeping, as well as setting licence conditions for fee-for-service chemical users.

Harmonisation of training competencies for users of RCP and S7 chemicals along with higher auditing and monitoring of licence/permit conditions and consistent recordkeeping requirements for all states and territory jurisdictions would potentially lead to less trade risk arising from a violation of MRLs. Moreover, under Option B, there would be limited vertical integration of the control-of-use system via a cross-jurisdictional licence for fee-for-service users. This limited integration between state and territory jurisdictions, the Australian Government export control would provide some improvement to risk management with respect to trade.

The harmonisation of these schemes and national licensing of fee-for-service chemical users under Option B would also be likely to improve the management of risk to the environment arising from incorrect chemical use particularly with respect to chemicals used by pest management technicians, ground sprayers, and fumigators.

The nature and degree of risk reduction would differ across professional groups. To a large extent, Option B would have an important effect on risks associated with chemicals used by pest management technicians in particular, where work conducted is close to people in urban, and often, closed environments. While mutual recognition, as under Option A or the base case, facilitates technicians working across borders, it does not remove the considerable disparities in qualifications requirements. Development of a consistent set of qualifications requirements under Option B, and actions to ensure that those requirements are met via national licensing of fee-for-service users would reduce risks primarily to human health and probably, to a lesser extent, to the environment.

However, given the already substantial degree of harmonisation in the regulation of aerial applicators and the existence of the industry Spraysafe program, risk reduction may not be a significant part of the gains for that group under Option B.

As with Option A, greater harmonisation of recordkeeping requirements (including those by re-sellers) under Option B, would provide greater traceability which would assist regulators in the resolution of adverse human health incidents or cases where a MRL is exceeded. In this way it would be easier to manage any improvements to risk management with respect to future practices.

However the potential to improve risk management in general would be limited under Option B in that despite greater control of chemical use by fee-for-service chemical users, there would be no greater control over the use of S7 chemicals or RCPs, than under the base case. Also there would be an inconsistent treatment of occupational chemical users (e.g. farmers) who are not providing fee-for-service activities.

Finally, the agreed to policy of national licensing for fee-for-service chemical users would provide less incentive for jurisdictions to adopt a differentiated approach to risk mitigation of

[62] Allen Consulting Group (September, 2002), *A National Risk Management System for Agvet Chemicals: Positioning for the Future*, prepared for the Project Steering Committee of the NRA

chemical use during implementation, which would enhance the effectiveness of harmonisation under Option B, as compared to Option A, in terms of Criterion III.

Benefit cost ratio – Option B

Based on estimated quantifiable costs and benefits alone, Option B would potentially achieve a benefit cost ratio of 1.13 (i.e. greater than 1) and a quantifiable net benefit of $3.61m over 10 years.

4.3.3 Assessment of Option C1 (the proposed national scheme)

Option C1, as with Option A and B, would also involve a harmonisation of state and territory schemes, particularly in relation to qualifications and training (AQF Level 3), recordkeeping, monitoring and auditing. However, in addition to Option B, Option C1 would involve cross-jurisdictional recognition of operator licences with minimum requirements for fee-for-service operators determined to be appropriate for the profession. In addition all users of Restricted and Schedule 7 Chemical Products would be required to hold competencies determined to be appropriate for the use of that product. Under the minimum requirements of the cross-jurisdictional licence, farmers (except those providing services for fee or reward to others) who use Restricted and Schedule 7 Chemical Products would no longer need to be licensed in VIC, TAS and the NT. Other general users in QLD (e.g. occupational users for State Government agencies, local government, utilities providers, golf and bowling clubs) would also no longer need to be licensed. The proposed licencing and training requirements would not apply to registered veterinarians using S7 veterinary chemicals if that qualification is covered by the veterinary science degree (e.g. veterinarians preparing and using *1080* baits would still need to be trained and licensed for use).

Option C1 would also include a nationally consistent regime for access to and use of AgVet chemicals in accordance with specified risk management conditions; plus other proposals as set out in Part 3.1, including a national approach to produce monitoring, traceback activities and sample analysis.

Expected benefit (Criterion I – Reduction in regulatory burden)

The proposed cross-jurisdictional licence for fee-for-service and specific occupational chemical users under Option C1 would be likely to generate a reduction in regulatory burden. Option C1 would result in a potential reduction in the need for duplicate licences for all aerial spraying operators and pilots equal to **$0.25m** and **$0.81m** per annum, respectively, as shown in Table 6.

Option C1 would also result in a reduction in the need for duplicate licences for non-aerial fee-for-service, as well as, other non-aerial occupational users of S7 and restricted chemicals. There would also be a further substantial savings in the number of licences needed by farmers in VIC, TAS and NT or by general users in QLD (i.e. 3,668[63] fewer licences) per annum. This would be represented by a reduction in the amount of time spent by these chemical users applying for additional licences, as well as a saving of fees. The saving of time and fees, under Option C1 in terms of duplicate licences or licencing no longer required, would provide an estimated benefit of **$9.88m** per annum, as shown in Table 6.

[63] See Table A6.7 of Appendix 6 for source of estimate

In addition, Option C1 would mean a net reduction in regulatory burden in terms of providing access to chemicals without a permit where conditions of a cross-jurisdictional licence are met. The reduction of regulatory burden of minor use permits (to be obtained from the APVMA) comprises both fees to chemical users as well as the cost of time with regards to making an application. With respect to Victoria, conditions are more liberal than under the proposed cross-jurisdictional licence, where chemicals may currently be used on major crops outside of label provisions without the need for a permit. In Victoria there would in fact in some instances be an increase in regulatory burden under Option C1. The net reduction in regulatory burden with regards to minor use permits is estimated to be **$0.21m** over 10 years, as shown in Table 6.

Over 10 years, and in 2011-12 dollars, the total reduction in regulatory burden under Option C1 is estimated to be ***$98.97m*** (see Table 6).

Table 6: Estimated reduction in regulatory burden likely under Option C1 ($m) as compared to the base case

Benefit	Estimated annual benefit	Estimated 10-year PV benefit	Benefit received by
Reduction in regulatory burden	$0.25[64]	$1.78	Aerial spraying operators
Reduction in regulatory burden	$0.81[65]	$5.67	Pilots
Reduction in regulatory burden	$9.88[66]	$91.31	Non-aerial fee-for-service users plus other occupational users (general users including farmers) using RCPs and S7 poisons
Reduction in regulatory burden	$0.03[67]	$0.21	Users of chemicals off-label who meet the conditions of the cross-jurisdictional licence
Total reduction in regulatory burden	**$10.97**	***$98.97***	

Under Option C1, the distribution in the change in regulatory burden for non-aerial chemical users (as well as off-label users of chemicals by state and territory) is shown in Table 7. The largest beneficiaries from a reduction in regulatory burden under C1 would be occupational users in VIC given that there would be the largest reduction in the number of licences required for farmers. The estimated benefit to this group over 10 years in 2011-12 dollars would likely be **$34.73m**. For QLD this benefit to general users[68] would be **$14.15m** over 10 years.

[64] See Appendix 6 Table A6.3 for source of estimate
[65] See Appendix 6 Table A6.3 for source of estimate
[66] Estimate based on the sum of annual totals in Tables A6.5, A6.6 and A6.7 in Appendix 6
[67] See Appendix 7 Table A7.1 for source of estimate
[68] Farmers are not licenced in QLD

Table 7: Estimated 10-year reduction in regulatory burden (2011-12 dollars) by state and territory ($m) – Option C1

Jurisdiction	Reduction in regulatory burden	Reduction in regulatory burden	Reduction in regulatory burden	Reduction in regulatory burden	Reduction in regulatory burden	**Additional 10-year benefit**
Stakeholders affected	Aerial spraying operators	Pilots	Occupational users (i.e. general users including farmers)	Non-aerial fee-for-service users[69]	Savings for off-label users not requiring an APVMA permit	**All groups**
NSW	-	-	$0.00	$1.12	-	$1.12
VIC	-	-	$34.73	$0.39	-	$35.11
SA	-	-	$0.00	$3.73	-	$3.73
QLD	-	-	$14.15	$11.64	-	$25.79
WA	-	-	$0.00	$4.76	-	$4.76
NT	-	-	$7.77	$0.09	-	$7.86
TAS	-	-	$12.63	$0.14	-	$12.77
ACT	-	-	$0.00	$0.16	-	$0.16
Australia	**$1.78**	**$5.67**	**$69.29**	**$22.02**	**$0.21**	***$98.97***

Given that QLD represents approximately 51% of annual licence activity in Australia (see Table A4.1 of Appendix 4) and the majority of licensing in QLD is for fee-for-service users, there would be a substantial reduction in the duplication of licensing costs. The estimated benefit to this group over 10 years in 2011-12 dollars would be likely to be **$11.64m**. With respect to regulatory burden reductions for off-label users who would no longer need an APVMA permit under certain prescribed conditions – the benefit is reported for Australia as a whole and not on a state-by-state basis (see Table 7). This is because many of the minor use permits that would otherwise be issued by the APVMA are given to national associations and many of the permits operate across multiple states and territories.

Expected compliance costs (Criterion II)

Option C1 would incur compliance costs of a similar nature as those under Options A and B (see Tables 2 and 3 under Option A). These would include: a one-off cost of harmonising relevant control-of-use Acts and Regulations; compliance costs to government and chemical users with respect to additional audit/monitoring activity; recognising standardised competencies in licensing systems, as well as training costs; and additional annual recordkeeping costs. However, as general users including farmers using Restricted and S7 chemicals would no longer need licensing under Option C1, there would be difference in the cost of audit/monitoring activity for both government and industry.

Moreover, Option C1 would also require additional resources for the delivery of a national approach to produce monitoring, traceback activities, and sample analysis. The incremental annual costs of funding by the Australian Government over the base case are estimated to be equal to $1.23m[70] per annum or **$8.63m** over 10 years in present value dollars.

Potential resource requirements for establishing and operating the new strategic policy committee are currently unknown but are unlikely to be significantly higher than the system involving the Product Safety and Integrity Committee (PSIC) and the Animal Welfare and Product Integrity Taskforce (AWPIT). Therefore, the overall total 10-year incremental

[69] Ground sprayers; fumigators; and pest management technicians
[70] See Table A11.5 in Appendix 11 for source of estimate

compliance costs of Option C1 would potentially be equal to or slightly greater than ***$34.87m*** in 2011-12 dollars as summarised in Table 8.

Table 8: Summary of 10-year estimated compliance costs under Option C1-2011-12 dollars ($m)

Cost description	Estimated annual cost (or one-off cost)	Estimated 10-year PV cost[71]	Cost incurred by
Harmonising control-of-use Acts and Regulations and recognising standard competencies	($0.2)[72]	$0.19	State and Territory governments, Parliamentary Counsel and the Australian Government
Monitoring/auditing costs	$0.26[73]	$1.83	State and territory governments
Qualifications and training requirements at AQF Level 3	($11.34)[74]	$10.60	Fee-for-service providers and chemical users of RCP and S7 chemicals
Specific*1080* qualifications and training requirements	($3.42)[75]	$3.2	Fee-for-service providers and chemical users of RCP and S7 chemicals who use *1080*[76]
Compliance costs with respect to additional audit/monitoring activity	$0.03[77]	$0.25	Chemical users
Recordkeeping	$1.4[78]	$9.84	Chemical users
Providing auditable records	($0.35)[79]	$0.33	Chemical re-sellers
Funding for produce monitoring, traceback monitoring and sample analysis	1.23[80]	$8.63	Australian Government
Total 10 year cost		***$34.87***	

The distribution of these estimated 10-year compliance costs by state and territory is shown in Table 9.

Table 9: Estimated 10-year compliance costs (2011-12 dollars) by state and territory ($m)-Option C1

Jurisdiction	Harmonising control-of-use Acts and Regulations and recognising standard competencies	Monitoring/ auditing costs	Training cost for AQF Level 3	Training cost for *1080*	Compliance costs with respect to additional audit/ monitoring activity	Record-keeping costs	Cost of providing auditable records	Cost of produce/ traceback monitoring and sample analysis	**Total 10-year cost in 2011-12 dollars**
Stakeholders affected	State and Territory governments and Parliamentary Counsel	State and territory governments	RCP and S7 chemical users	RCP and S7 chemical users who use *1080*	Chemical users	Chemical users	Chemical re-sellers	Australian Government	**All groups**
NSW	$0.03	$0.23	$2.34	$0.20	$0.03	-	$0.09	-	$2.91
VIC	$0.03	-$1.21	-	-	-$0.13	-	$0.07	-	-$1.24
SA	$0.03	$0.54	$1.24	$0.10	$0.07	$4.39	$0.04	-	$6.40
QLD	$0.03	$1.48	$3.74	$2.69	$0.15	-	$0.07	-	$8.16
WA	$0.02	$0.97	$2.35	$0.14	$0.15	$5.32	$0.05	-	$9.00
NT	$0.03	-$0.26	$0.10	$0.01	-$0.03	-	$0.00	-	-$0.15
TAS	$0.03	$0.04	$0.80	$0.05	$0.01	-	$0.01	-	$0.94

[71] A weighted average cost of capital (WACC) of 7% is used for present value calculations in this RIS
[72] See Appendix 8 Table A8.1 for source of estimate
[73] See Appendix 4 Table A4.3 for source of estimate.
[74] See Appendix 2 Table A2.3 for source of estimate.
[75] See Appendix 2 Table A2.4 for source of estimate.
[76] Assumed to be 15% of RCP and S7 users.
[77] See Appendix 4 Table A4.4 for source of estimate.
[78] See Appendix 5 Table A5.2 for source of estimate.
[79] See Appendix 9 Table A9.1 for source of estimate.
[80] See Appendix 11 Table A11.5 for source of estimate.

Jurisdiction	Harmonising control-of-use Acts and Regulations and recognising standard competencies	Monitoring/ auditing costs	Training cost for AQF Level 3	Training cost for *1080*	Compliance costs with respect to additional audit/ monitoring activity	Record-keeping costs	Cost of providing auditable records	Cost of produce/ traceback monitoring and sample analysis	**Total 10-year cost in 2011-12 dollars**
Stakeholders affected	State and Territory governments and Parliamentary Counsel	State and territory governments	RCP and S7 chemical users	RCP and S7 chemical users who use *1080*	Chemical users	Chemical users	Chemical re-sellers	Australian Government	**All groups**
ACT	-	$0.03	$0.03	$0.00	$0.01	$0.13	$0.00	-	$0.21
Australian Government	$0.01	-	-	-	-	-	-	$8.63	$8.64
Australia	**$0.19**	**$1.83**	**$10.60**	**$3.20**	**$0.25**	**$9.84**	**$0.33**	**$8.63**	***$34.87***

The largest share of compliance costs would potentially be incurred by WA and is estimated to be **$9m** over 10 years. This would be made up mainly of training requirements for chemical users at AQF Level 3 estimated to be **$2.35m** and additional recordkeeping costs for chemical users estimated to be **$5.32m** over 10 years. The next largest estimated cost of **$6.07m** would potentially be incurred by QLD made up of **$3.74m** training costs (AQF Level 3) and **$2.69m** training costs (for *1080*), as well as, additional monitoring and auditing costs for the QLD government of **$1.83m** over 10 years in present value dollars. The main stakeholders affected by compliance costs under Option C1 would most likely be RCP and S7 chemical users who need training at the AQF Level 3, chemical users required to keep records and the Australian Government by way of produce monitoring, traceback activities and sample analysis costs.

Expected benefit (Criterion III – Improved risk management and access to chemicals)

As with Options A and B, Option C1 is likely to improve risk management particularly where training and competencies would be required for fee-for-service providers and users of RCP and S7 chemicals and with higher auditing and monitoring of licence/permit conditions. Option C1 would be able to provide some responsiveness to regional differences and needs in relation to training, auditing/monitoring and recordkeeping.

This would be the case for all aspects of chemical use management under Option C1 – apart from licensing. Option C1 would provide greater control of fee-for-service chemical use, well as use of S7 chemicals or RCPs, compared to either Option A or B. This would likely result in a more consistent treatment of chemical users who are not necessarily providing fee-for-service activities but still using RCPs or S7 chemicals.

Moreover, as with Options A and B, Option C1 would be likely to generate the same reduction in health costs of **$2.11m**[81] over 10 years in present value dollars due to compulsory training requirements for AQF Level 3 for fee-for-service providers and RCP and S7 chemical users.

In addition, Option C1 would have an increased ability to improve risk management with respect to trade, and greater than under Option B. As with Options A and B, Option C1 would improve compliance with chemical use via harmonisation of qualifications at the AQF Level 3 and auditing, leading to less trade risk arising from violations of MRLs. However, under Option C1, there would be a significant vertical integration of the control-of-use system via the cross-jurisdictional licence which would cover licence and permit conditions for all chemical users including users of RCP and S7 products. The stronger integration

[81] See Appendix 10 for source of estimate.

between state and territory jurisdictions and chemical residue monitoring in produce under Option C1 would help to achieve a greater level of risk management with respect to both trade and the environment.

The Productivity Commission noted in 2008 that in relation to consistency of the risk management approach between states and jurisdictions, 'the greatest benefits are likely to come from having a uniform approach to off-label use of chemicals'. A harmonised approach to off-label use under Option C1, would help to provide consistency to good agricultural practices (GAP).

Whilst it is understood that this scheme may impact upon the risk thresholds of the APVMA, OCS, DSEWPaC and FSANZ,[82] a significant number of controls have been incorporated into the model in order to manage this risk appropriately.

Furthermore, Option C1 would reduce the potential for confusion for users who operate in multiple jurisdictions and pesticide suppliers advising customers, therefore promoting greater compliance[83].

With respect to reducing risk to trade, consistency with allowable variations to approved uses would be particularly relevant to chemicals used for horticulture products in the situation where the necessary data for MRLs cannot be established or obtained, (as discussed in Part 2.1.1). Improvements to the establishment of MRLs for AgVet chemicals would be extremely important for the sustainability and growth of Australian agricultural exports to Japan, North America and Europe.

Moreover, any extension of the VIC and SA off-label minor use system to other jurisdictions would need to be accompanied by an enhanced system of residue monitoring. This system will also need to include a feedback function to inform the regulatory framework, including chemical registration and assessment processes. Under C1 a nationally consistent approach to produce monitoring, as well as sample analysis and tracebacks would provide for additional safeguards against adverse impacts on human health, the environment and international trade. This would represent a key risk mitigation strategy under the proposed national scheme under Option C1. Any other resulting increased risks to users, human health, the environment and trade would also need to be considered and addressed.

Although the impact of such harmonisation under Option C1 is unquantifiable, the value of horticultural exports in 2006 was worth $800m[84], and, to illustrate the potential value of this impact, even a small improvement in risk of the order of 0.001% could be worth up to $0.8m per annum. It is likely that Option C1 would have an even greater impact on reducing trade risk than this. Furthermore, there is no evidence that off-label use, as adopted in Victoria and South Australia, has increased the risks to international trade or domestic markets or caused any competitive disadvantage compared to other states and territories. This observation is particularly relevant for Victoria where variations to approved uses are applied more extensively to major crops as well as minor crops. As shown in Table 8 below, the export value of minor crops over 10 years (2001-02 to 2010-11) was worth $12.53b, with the largest component made up of legumes[85]. This represents a significant potential risk however under Option C1, as discussed in the previous section there would be $17.75m of funding dedicated for a national and targeted produce monitoring program with traceback and sample analysis provided for.

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[82] See glossary.
[83] Productivity Commission 2008.
[84] <[84] http://www.horticulture.com.au/export/export.asp.
[85] For example chickpeas, kidney beans, lentils, horse beans, broad beans, peas etc.

Table 10: Export value of minor crops over 10 years (2001-02 to 2010-11) ($b) – Option C1

Export category	Real 10-year value ($b)
Watermelon	$0.02
Legumes	$6.52
Sweet corn	$0.02
Other Vegetables	$0.98
Other orchard	$0.61
Other berry and tropical	$0.10
Other plantation fruit	$0.05
Other broad-acre	$1.05
Other oilseed	$1.10
Other fruit and nuts	$0.12
Other livestock[86]	$1.96
Total 10 year value	**$12.53**

An argument has been raised that adverse international perceptions of the proposed variations to approved use access arrangements to AgVet chemicals may generate risks to international trade. Any such perceptions would be in addition to the potential risks to trade generated even when AgVet chemicals are used correctly and on-label (as discussed in Part 2.1.1). Australia is aware of and monitoring the activity of a number of trading partners, who have recently or are currently in the process of changing legislation regarding food safety MRLs. This, along with advances in residue testing, means that there is greater scrutiny on imported products from Australia and breaches can be reported to the importing government very quickly.

Whilst this is an issue of national coverage, it is particularly relevant for crops coming from those states besides Victoria and South Australia that do not currently permit cross-crop chemical access. Perceptions of increased risks to international trade would be less relevant for VIC (where more extensive off-label use has been used for major crops) where under the proposed national scheme there would be tighter access arrangements than existing at present. A counterargument is that successful export crops are grown to meet the requirements of the relevant importing countries; and where such requirements are stricter than domestic requirements, the export requirements would prevail.

In summary, there is currently no evidence to suggest that: a) there could be adverse international perceptions due to the proposed variations to approved use access arrangements for low risk chemicals; and/or b) that even if there were such perceptions, they would be translated into real risks to international trade.

As with Options A and B, greater harmonisation of recordkeeping requirements (including those by re-sellers) under Option C1 would provide greater traceability making it easier to manage any improvements to risk management with respect to future practices.

Option C1 is likely to bring about a further improvement in chemical access to low risk chemicals by minimising the constraints on all chemical users (including veterinarians) who operate off-label (subject to meeting certain conditions) and/or across jurisdictions, namely NSW, TAS and the ACT. On the other hand, in Victoria, where off-label access conditions are currently more liberal, access would be tightened. The net outcome of Option C1 would be an improved overall national access to chemicals, which would assist the competitiveness and sustainability of agricultural production in Australia. It has been noted that:

> "An imperative for Australia's agricultural industry is to obtain and retain access to important agricultural markets overseas. This will require that they are highly productive

[86] Excluding primates.

> and produce high quality products…[and]…this in turn will require that they have appropriate access to AgVet chemicals."[87]

Option C1 would also be likely to remove sales competition between veterinarians and product manufacturers[88].

Full cost recovery of all licences would also provide for a more efficient funding model allowing for greater stability in monitoring and enforcing activities by government.

Benefit cost ratio – Option C1

Based on estimated quantifiable costs and benefits alone, Option C1 would potentially achieve a benefit cost ratio of up to 2.9 and a net benefit equal to or slightly less than $66.21m over 10 years.

4.3.4 Assessment of Option C2

Option C2 would be identical to Option C1 (the proposed option) except that Option C2 would also involve the introduction of nationally consistent training competencies at AQF Level 2 for general AgVet chemicals users with exemptions:

- home gardeners, household use and similar domestic-style use in work and business settings;
- approved low risk domestic pet use and services providers, (e.g. pet grooming and worming);
- livestock producers who are trained and accredited under Approved QA scheme;
- exhibited animal carers e.g. workers in zoos, animal displays; and
- registered veterinarians using veterinary chemicals if that qualifications is covered by the veterinary science degree (e.g. veterinarians preparing and using *1080* baits would still need to be trained and licensed for use).

Furthermore, chemical users would not need to be trained if they only used small quantities of pesticides (excluding RCPs or S7 chemicals) as part of their farm, business or work, provided that all of the following apply:

- they only apply pesticides that are ordinarily used for domestic purposes (e.g. in the home or garden);
- are widely available to the general public at retail outlets (e.g. supermarkets, hardware outlets);
- are applied by hand or by using hand-held equipment (but the equipment can be powered);
- if used outdoors, entails no more than 5 litres/5 kilograms of concentrate or 20 litres/20 kilograms of ready-to-use product; or
- if used indoors, entails no more than 1 litre/1 kilogram of concentrate or 5 litres/5 kilograms of ready-to-use product.

Expected benefit (Criterion I – Reduction in regulatory burden)

As with Option C1, the cross-jurisdictional licence for fee-for-service and occupational chemical users under Option C2 would be likely to generate a reduction in regulatory burden equal to **$10.97m** per annum (see Table 6 under Option C1). This would be represented as a cost savings with respect to time spent applying for duplicate licences and fees avoided. Over

[87] Allen Consulting Group (September, 2002), p.14.
[88] See Part 3.1.3 of this RIS for a more detailed discussion on the rationalisation of differences in veterinarians' prescribing rights.

10 years, and in present value dollars, the total reduction in regulatory burden under Option C2 is estimated to be ***$98.97m***.

Expected compliance costs (Criterion II)

Option C2 would result in all compliance costs shown in Options A, B and C1. These would include:

- a one-off cost of harmonising relevant control-of-use Acts and Regulations;
- compliance costs to government and chemical users with respect to additional audit/monitoring activity;
- recognising standardised competencies in licensing systems, as well as training costs;
- additional annual recordkeeping costs; and
- costs to the Australian Government for funding a national produce monitoring and traceback monitoring system and sample analysis.

Again the resource requirements for establishing and operating the new strategic policy committee system are currently unknown; but are unlikely to be significantly higher than the PSIC and AWPIT system.

However, Option C2 would be likely to result in *additional* qualifications and training costs for chemical users, over and above Options A, B and C1. Base-level qualifications and training requirements (AQF Level 2) under Option C2 would be likely to impose a significant compliance cost on chemical users estimated to be **$86.78m** over 10 years, as shown in Table 9. Total compliance costs under Option C2 would potentially equal ***$121.65m*** over 10 years.

Table 11: Summary of 10-year estimated compliance costs under Option C2 in 2011-12 dollars ($m)

Cost description	Estimated annual cost (or one-off cost)[89]	Estimated 10-year PV cost[90]	Cost incurred by
Harmonising control-of-use Acts and Regulations and recognising standard competencies	($0.2)[91]	0.19	State and Territory governments and Parliamentary Counsel
Monitoring/auditing costs	$0.26[92]	$1.83	State and territory governments
Competency and training requirements at AQF Level 3	($11.34)[93]	$10.60	Chemical users of RCP and S7 chemicals and fee-for-service providers
Specific*1080* qualifications and training requirements	($3.42)[94]	$3.2	Chemical users of RCP and S7 chemicals who use *1080*[95]
Competency and training requirements at AQF Level 2	($92.85)[96]	$86.78	All chemical users
Compliance costs with respect to additional audit/monitoring activity	$0.03[97]	$0.25	Chemical users
Recordkeeping	$1.4[98]	$9.84	Chemical users
Providing auditable records	($0.35)[99]	$0.33	Chemical re-sellers

[89] Numbers in brackets are one-off rather than negative.
[90] A weighted average cost of capital (WACC) of 7% is used for present value calculations.
[91] See Appendix 8 Table A8.1 for source of estimate.
[92] See Appendix 4 Table A4.3 for source of estimate.
[93] See Appendix 2 Table A2.3 for source of estimate.
[94] See Appendix 2 Table A2.4 for source of estimate.
[95] Assumed to be 15% of RCP and S7 users.
[96] See Appendix 2 Table A2.5 for source of estimate.
[97] See Appendix 4 Table A4.4 for source of estimate.
[98] See Appendix 5 Table A5.2 for source of estimate.
[99] See Appendix 9 Table A9.1 for source of estimate.

Cost description	Estimated annual cost (or one-off cost)[89]	Estimated 10-year PV cost[90]	Cost incurred by
Funding for produce monitoring, traceback activities and sample analysis	$1.23[100]	$8.63	Australian Government
Total 10 year cost		***$121.65***	

The distribution of estimated compliance costs is shown by state and territory under Option C2 in Table 12. QLD would incur the largest estimated compliance costs over 10 years equal to **$32.09m,** driven mainly by both training qualifications requirements at AQF Level 3 and Level 2. VIC would potentially incur the largest increase in training (AQF Level 2) compliance costs estimated to be **$27.96m** over 10 years. QLD would be likely to incur **$23.93m** in additional training costs at AQF Level 2 for chemical users followed by WA with **$14.27m** over 10 years in 2011-12 dollars. Chemical users in general would be the major stakeholder group affected by Option C2. Unlike other states and territories, AQF Level 2 training costs in NSW would not be incurred by chemical users employed in the agricultural (e.g. farmers) and non-agricultural sectors (e.g. council workers) as they would need to be trained under current regulations.

Table 12: Estimated 10-year compliance costs by state and territory ($m) - Option C2 – 2011-12 dollars

Jurisdiction	Harmonising control-of-use Acts and Regulations and recognising standard competencies	Monitoring / auditing costs	Training cost for AQF Level 3	Training cost for *1080*	Training cost AQF Level 2	Compliance costs with respect to additional audit/ monitoring activity	Record-keeping costs	Cost of providing auditable records	Cost of produce/ traceback monitoring and sample analysis	**Total 10-year cost in 2011-12 dollars**
Stakeholder affected	State and Territory governments and Parliamentary Counsel	State and territory governments	Fee-for-service, RCP and S7 chemical users	RCP and S7 chemical users who use *1080*	Chemical users	Chemical users	Chemical users	Chemical re-sellers	State and territory govts	**All groups**
NSW	$0.03	$0.23	$2.34	$0.20	$0.00	$0.03	-	$0.09	$0.00	$2.91
VIC	$0.03	-$1.21	$0.00	-	$27.96	-$0.13	-	$0.07	$0.00	$26.72
SA	$0.03	$0.54	$1.24	$0.10	$10.85	$0.07	$4.39	$0.04	$0.00	$17.25
QLD	$0.03	$1.48	$3.74	$2.69	$23.93	$0.15	-	$0.07	$0.00	$32.09
WA	$0.02	$0.97	$2.35	$0.14	$14.27	$0.15	$5.32	$0.05	$0.00	$23.27
NT	$0.03	-$0.26	$0.10	$0.01	$4.08	-$0.03	-	$0.00	$0.00	$3.93
TAS	$0.03	$0.04	$0.80	$0.05	$5.40	$0.01	-	$0.01	$0.00	$6.33
ACT	$0.00	$0.03	$0.03	$0.00	$0.28	$0.01	$0.13	$0.00	$0.00	$0.49
Aust Govt	$0.01	$0.00	$0.00	-	-	-	-	-	$8.63	$8.64
Aust	**$0.19**	**$1.83**	**$10.60**	**$3.20**	**$86.78**	**$0.25**	**$9.84**	**$0.33**	**$8.63**	***$121.65***

Expected benefit (Criterion III)

As with Option C1 – Option C2 would be likely to achieve an identical improvement in risk management and chemical access. Option C2 would also be likely to provide flexibility and responsiveness to regional differences, as with Option C1. Option C2 would also provide for a more efficient funding model allowing for greater stability in monitoring and enforcing activities by government. Moreover, as with Options A, B, and C1, Option C2 would be likely to generate the same reduction in health costs of **$2.11m**[101]over 10 years in present value dollars due to compulsory training requirements for AQF level 3 for fee-for-service providers and RCP and S7 chemical users. However, base-level (AQF Level 2) training

[100]See Appendix 11 Table A11.5 for source of estimate.
[101]See Appendix 10 for source of estimate.

requirements under Option C2 would be unlikely to provide for additional compliance by chemical users as established by consideration of NSW offence data before and after the introduction of such a requirement.

Benefit cost ratio – Option C2

Based on estimated quantifiable costs and benefits alone, Option C2 would potentially achieve a benefit cost ratio of only 0.83 (i.e. less than 1) and a quantifiable net cost of around $20.57m over 10 years.

4.3.5 Assessment of Option D

Option D would require a complete referral of all state and territory control-of-use functions to the Australian Government including licensing, qualifications and training and monitoring and auditing as recommended by the Productivity Commission. Option D would therefore be the maximum intervention option. This option does not preclude the Australian Government entering into agreements with states and territories regarding the delivery of specified services.

Expected benefit (Criterion I – Reduction in regulatory burden)

Under Option D there would be a reduction in regulatory burden equivalent to that under Options C1 and C2 (See Table 6 under Option C1). Over 10 years, and in present value dollars, this is estimated to be ***$98.97m*** (see Table 6 under Option C1).

Expected compliance costs (Criterion II)

Option D would result in identical compliance costs to Option C1. These would include a one-off cost of harmonising relevant control-of-use Acts and Regulations; compliance costs to government and chemical users with respect to additional audit/monitoring activity; recognising standardised competencies in licensing systems, as well as training costs; and additional annual recordkeeping costs; and produce/traceback monitoring and sample analysis costs[102] equal to ***$34.87m*** over 10 years in present value dollars (see Tables 8 and 9 under Option C1).

Expected benefit (Criterion III)

Option D would possibly bring about an improvement to chemical access (as with Options C1 and C2) by reducing inconsistencies in licensing activities. The Productivity Commission report[103] found that establishing a national control-of-use regime would probably lead to improved overall effectiveness of the NRS in achieving consistent risk management outcomes across Australia, particularly if all of the complementary instruments utilised by current control-of-use regimes were vertically integrated (from registration through to use). The greatest benefits in risk management are likely to come from having a uniform approach to variations to approved uses of chemicals.

The Productivity Commission also argued that a national control-of-use regime could also improve efficiency through cost savings in policy development and implementation. Whilst a national scheme would involve some short-term set-up costs, it would be likely to lead to long-term cost savings. The Report concluded that inter-jurisdictional inconsistency in control-of-use regimes limits the effectiveness of the APVMA and the overall effectiveness

[102] Again as with Option C1, the potential resource requirements for establishing and operating the new strategic policy committee system are currently unknown but are unlikely to be significantly higher than the current PSIC system.
[103] Productivity Commission, 2008.

and efficiency of the NRS. Vertical integration of regulations governing AgVet chemical use into a single national regime delivered by the states and territories would improve effectiveness and efficiency.[104]

However, whilst potentially providing the greatest level of control of chemical use, Option D would most likely result in the greatest loss of responsiveness to regional differences and needs. State and territory control-of-use regulators have expressed frustration about their lack of ability to influence national components of the current regulatory structure on issues important to successful control-of-use and provision of feedback on the assessment and registration process. State and territory regulators have also identified the need to take into account regional needs and differences in geography, climate, industries, and so on. Option D would hinder the ability to respond quickly to new and emerging issues and would be less effective in ensuring the proper identification and management of risk. An effective national scheme would be one in which responsibilities and lines of communication are clearer than is currently the case and one which is responsive, operating as a partnership between governments.

Under such an Australian Government scheme of complete integration, difficulties may arise in terms of being responsive to local and regional issues and in relation to the interaction with state agencies on multiple boundary regulatory issues with high transaction costs and risks of confusion and gaps in the regulatory system. Furthermore, states and territories might potentially disagree about the provision of staffing and other resources.

Moreover, although the funding model under Option D is based on full-cost recovery – this option may not achieve agreement from all jurisdictions as just discussed. The difficulties in implementing Option D would, in the extreme case, potentially result in a less effective/less responsive and under-resourced risk management system. Unlike Options A, B, C1 and C2, and given the uncertainty regarding failure to cope with regional differences - Option D would be unlikely to generate the same reduction in health costs of ***$2.11m***[105] over 10 years in present value dollars.

Benefit cost ratio – Option D

Based on estimated quantifiable costs and benefits alone, Option D would potentially achieve a benefit cost ratio of up to 2.9 and a quantifiable net benefit of equal to or less than $66.21m over 10 years.

[104] Productivity Commission, 2008.
[105] See Appendix 10 for source of estimate.

4.4 Selection of preferred option

The relevant incremental costs and benefits of the various options relative to the base case is summarised in Table 13.

Table 13: Summary of estimated 10-year incremental costs and benefits for Options A, B, C1, C2 and D as compared to the base case ($m) – in 2011-12 dollars (using 7% discount rate)

Option	Reduction in regulatory burden (Criterion I)	Compliance costs (Criterion II)	Reduced risk to health (Criterion III)	Net quantifiable benefit	Benefit cost ratio	Improved risk management and chemical access balance (qualitative benefit including reduced risk to environment and trade) (Criterion III)
A Harmonisation	**N/A**	**$27.97**	**$2.11**	***-$25.9***	***0.08***	Limited improvement
B Harmonisation with cross-jurisdictional licence for fee-for-service	**$29.48**	**$27.97**	**$2.11**	***$3.61***	***1.13***	> Option A
C1 Harmonisation with cross-jurisdictional licence for fee-for-service and S7 chemicals+ RCPs (proposed national scheme)	**$98.97**	**$34.87**	**$2.11**	***$66.21***	***2.9***	> Option A, B, C2 or D
C2 Harmonisation with cross-jurisdictional licence for fee-for-service and S7 chemicals+ RCPs + base-level qualifications	**$98.97**	**$121.65**	**$2.11**	***-$20.57***	***0.83***	> Option A but < Options B, C1 and D
D Complete transfer of control-of-use functions to Australian Government	**$98.97**	**$34.87**	**Up to $2.11**	**= < *$66.21***	**= < *2.9***	< Option C1

4.4.1 Discussion of benefit cost ratios and break even analysis

As shown in Table 13, Option **A** would potentially achieve a **benefit cost ratio of 0.08** (i.e. less than 1) and a **net cost of $25.9m over 10 years**. In other words, Option A would have to generate a sum of unquantifiable benefits to the community equal to $25.9m over 10-years as discussed above, in order to break even. This would be equivalent to approximately $3.68m per annum. Whilst there are no values available for Australia in terms of environmental costs of AgVet chemicals, Leach and Mumford (2008) valued non-market environmental costs from pesticide use in Germany at AUD$75.6m per annum[106]. These costs included pollution incidents, fish deaths, monitoring costs, biodiversity/wildlife losses and bee colony losses. Based on Leach & Mumford's figures, it seems reasonable that training requirements under Option A would be able to achieve a saving of environmental costs of at least $3.9m per annum given the value of non-market environmental costs from pesticide use illustrated.

Option B would potentially achieve a **benefit cost ratio of 1.13** (i.e. greater than 1) and a **net benefit of $3.61m over 10 years** (see Table 13).

Option C1 would potentially achieve a **benefit cost ratio of 2.9** and a **net benefit of $66.21m over 10 years** (see Table 13). Although the resource requirements for establishing and operating the new strategic policy committee system are unknown, it is unlikely to be significantly higher than the base case resource costs of running the PSIC and AWPIT committees. Moreover, Option C1 would be likely to result in greater mitigation of the

[106] NSW Pesticides Regulation 2009 RIS

potential negative environmental and trade impacts of chemical use by achieving a better balance between chemical access and risk management than the base case and greater than Option A or B. The targeted national approach to produce monitoring, tracebacks and sample analysis would be important in validating the system, allaying trade concerns and militating against any risks of illegal chemical use on around annual agricultural production of $50 billion, including $12.53b worth of exports of produce from minor crops over 10 years.

Option C2 would potentially achieve a **benefit cost ratio of only 0.83** (i.e. less than 1) and a **net cost of $20.57m over 10 years** (see Table 13). In other words, Option C2 would have to generate a sum of unquantifiable benefits to the community equal to approximately $2.95m per annum in order to break even. Given the level of potential negative environmental and trade impacts that could be mitigated by achieving a better balance between chemical access and risk management, Option C2 would possibly break even if these unquantifiable benefits were accounted for. However, any additional benefits achievable under Option C2 would be equally achievable under Option C1 but without the additional 10-year cost of $86.78m of base level training.

As shown in Table 13, **Option D** would potentially achieve a **benefit cost ratio equal to or less than 2.9** and a **net benefit equal to or less than $66.21m over 10 years**. Unlike Option C1, the ability of Option D to improve risk management would most likely be hindered by the inability to respond to emerging risk issues arising from regional differences. Furthermore, disagreement amongst states and territories could potentially arise as to staffing and other resources needed under Option D.

For the reasons provided above, Option C1 (the proposed option) is therefore selected as the preferred option. That is to say the benefits of Option C1 to the community outweigh the costs (see Table 13) and Option C1 has the greatest net benefit for the community, taking into account all the impacts including the balance between chemical access and improved risk management.

4.4.2 Sensitivity analysis on selection of the preferred option

Table 14 illustrates that a sensitivity analysis using different discount rates has no impact on the ranking of the preferred option. Options C1 and D would still provide the highest benefit cost ratios *in terms of quantifiable elements*. Benefit cost ratios are greatest for Options C1 and D for both discount rates even though training costs would occur in the first year (not discounted heavily) whilst reduction in regulatory burden and health cost savings would occur annually over 10 years (discounted more heavily).

Table 14: Sensitivity analysis of estimated 10-year incremental costs and benefits for Options A, B, C1, C2 and D as compared to the base case ($m) – in 2011-12 dollars (using 3% and 10% discount rates)

Option	Category	3%	10%
Option A	Reduced burden	-	-
	Compliance costs	$30.94	$25.50
	Reduced health cost	$2.56	$1.84
	Net benefit	-$28.39	-$23.66
	Benefit cost ratio	**0.08**	**0.07**
Option B	Reduced burden	$35.80	$25.79
	Compliance costs	$29.05	$24.14
	Reduced health cost	$2.56	$1.84
	Net benefit	$4.19	-$0.19
	Benefit cost ratio	**1.13**	**0.99**
Option C1	Reduced burden	$120.20	$86.59

Option	Category	3%	10%
	Compliance costs	$39.54	$31.69
	Reduced health cost	$2.56	$1.84
	Net benefit	$78.11	$53.05
	Benefit cost ratio	**2.86**	**2.58**
Option C2	Reduced burden	$120.20	$86.59
	Compliance costs	$129.68	$116.10
	Reduced health cost	$2.56	$1.84
	Net benefit	-$12.04	-$31.36
	Benefit cost ratio	**0.91**	**0.73**
Option D	Reduced burden	$120.20	$86.59
	Compliance costs	$39.54	$31.69
	Reduced health cost	= < $2.52	= < $1.84
	Net benefit	= < $78.11	= < $53.05
	Benefit cost ratio	**= < 2.86**	**= < 2.58**

5.0 Consultation with stakeholders

5.1 Consultation processes

The Product Safety and Integrity Committee (PSIC), working through the Primary Industries Standing Committee (a sub-committee of the Standing Council of Primary Industries) was charged with developing the single national regulatory framework for AgVet chemicals. PSIC has engaged consultants to support their efforts.

This RIS represents the final stage of an ongoing examination of regulatory reform options.

The first stage involved the preparation and release for comment of a discussion paper (Rose and Sheppard 2009) by consultants engaged to support PSIC. The consultants were informed by a first round of meetings with some key stakeholders in August and September 2009, and a wide range of material available from previous studies, including those by the Productivity Commission, the Australian National Audit Office and Allen Consulting Group (2002).

The consultants held a second round of discussions with stakeholders in early December 2009. In response to a request for comment on the discussion paper, a total of 94 formal submissions were received from stakeholders. The early consultations were used to inform PSIC's development of the National Policy Framework for the Assessment, Registration and Control-of-Use of AgVet Chemicals which was endorsed by COAG on 16 August 2010. Most of the material in stakeholder submissions dealt with issues of operational detail, and provided key input to designing options in for a Consultation RIS on a National Scheme for Assessment, Registration and Control-of-Use of AgVet Chemicals.

The Consultation RIS was then developed with states and territories to set out broad options for the single national framework, consistent with the policy principles that COAG approved in August 2010. PSIC did not include preferred options in the Consultation RIS, but instead asked specific questions of stakeholders to guide and inform the analysis of the next piece of work, the Decision RIS. Consultation comments were sought on all aspects of the Consultation RIS, and asked for specific feedback from stakeholders on how particular changes would impact their businesses.

The Consultation RIS was released in March 2011 and stakeholder meetings were held in Melbourne, Adelaide, Sydney, Hobart, Townsville, Brisbane, Perth and Canberra. These meetings were attended by representatives from relevant state and territory agencies, primary industry and producer groups, professional fee-for-service users, training interests, chemical

manufacturers and environmental/community groups. Submissions to the Consultation RIS closed on 11 April 2011. A total of 71 submissions were received.

5.2 Summary of stakeholder submissions

Stakeholders were generally supportive of the reforms' intent, and the majority have acknowledged the regulatory system would benefit from a nationally consistent approach, with consistent regulatory requirements. State and territory government views are broadly reflective of their stakeholders. Most jurisdictions have expressed support for increased involvement in national policy setting, and the need for an enhanced partnership between Australian Government, state and territory governments with respect to the national regulatory system.

The submissions on the Consultation RIS provided the basis for the final phase of the reform, and led to the development of preferred options for the new regulatory model. However, stakeholders remain divided on the issue of a single, national regulator for control-of-use versus harmonisation under state control. Stakeholders representing the chemical industry were clear in their submissions that their preference was for full Australian Government control of the system, whereas users (who are predominantly farmers) were more comfortable with the idea of harmonised state regulations.

Off-label use continues to be a point of contention among stakeholders. The Consultation RIS presented tiered options for permissible variations to approved uses. Some primary production groups, particularly those based in VIC, would prefer to retain their off-label privileges, and were consequently supportive of a more nationalised off-label system. Additionally, dairy and forestry stakeholders supported increased flexibility of pesticide use.

Conversely, a range of community and environment stakeholders expressly preferred a strict on-label system of use only, to prevent widespread off-label use which could potentially lead to unacceptable environmental risks. Stakeholders from the chemical manufacturing industry also, generally, expressed a preference for this, but accepted that there is additional value in having an accessible, risk-based permit system.

In particular, some stakeholders consider that off-label use should not be permitted where the method of application is not clearly stated, and that some methods of application should not be permitted for such use. Additionally, chemicals that are for terrestrial use should not be used off-label even in the absence of a statement prohibiting aquatic use. Concerns were also raised that variations to approved uses could pose a risk to the environmental safety of areas of high conservation or environmentally sensitive regions, such as Ramsar wetlands and other matters of national environmental significance.

Stakeholders also raised the need for a common understanding of minor use, suggesting that the method of application, label rates and frequency of application should also be incorporated into the common understanding, and not just whether the crop is defined as minor.

Some stakeholders also raised concerns that the proposed tiered access to chemicals model may result in increased risk to the general public because of the potential reduction in applications for APVMA permits, leading to a potential reduction in the number of MRLs established. Additionally, concerns were raised that monitoring and testing after use may not adequately protect the general public, particularly regarding dietary exposure in children. Efforts to address these potential risks may result in more conservative risk analysis frameworks, leading to greater restrictions on available products and uses.

The APVMA have identified that the proposed variation to approved uses may impact on risk thresholds that are used when assessing chemical products for registration. This could affect not only the APVMA but the assessing agencies, the Office of Chemical Safety, DSEWPaC and FSANZ. Changes to risk thresholds and assessments, to include coverage of risks to human health and the environment from uses not currently listed on-label, would impact upon product registrants and users alike, as the risk thresholds would apply to major and minor uses as well as different use situations. Such changes in risk thresholds could result in a greater number of existing chemicals being placed under review, increasing the resources needed to conduct reviews. As reviews often result with uses being removed or whole products being cancelled, it is possible that there would be loss of access to chemicals through a greater enhanced review program as a direct result of more liberal access to chemicals.

Some state governments, particularly those with sensitive environmental regions or heavy involvement in export markets, have also expressed reservations about allowable variations on approved use. Users such as the horticulture industry and livestock producers in some jurisdictions expressed some hesitation at the level of additional risks from a variations on approved uses system. All acknowledged that additional produce and environmental monitoring would be necessary to offset the additional risks. These stakeholders also raised concerns that current produce monitoring schemes conducted insufficient sampling of chemical residues, leading to a lack of confidence in violation statistics and making validation of existing control-of-use regimes difficult. Consequently, an enhanced produce monitoring component has been included in the proposed option (C1) and all other options which include a model for allowable variations to approved uses (Options C2 and D).

Further, the majority of these stakeholders expressed significant interest in establishing a minor use program, similar to the IR-4 program that runs in the United States of America, which they cited as the world's best practice for establishing minor uses on labels.

The majority of stakeholders supported the introduction of a consistent licensing scheme, particularly those businesses that operate across state borders and are subject to varying licensing fees.

The introduction of mandatory competencies was canvassed in the Consultation RIS, but without a quantitative assessment of the costs and benefits. On the basis of the concept alone, mandatory competencies for all chemical users were initially supported by most industry, environmental and consumer groups. Primary producers expressed some concern about the potential additional costs of training. Taking into account stakeholder feedback, the proposed option (Option C1) includes harmonised minimum licensing and training requirements for fee-for service agvet chemical users, similar to the current Australia drivers' licence approach.

From the veterinary perspective, all stakeholders were broadly supportive of harmonised veterinary prescribing rights, but acknowledged that the veterinary regulatory system was far less fragmented than pesticides.

All jurisdictions and stakeholders have expressed concerns about the funding of the national system. Jurisdictions are concerned about the loss of revenue raised through current state-based licensing schemes if the Australian Government took on licensing powers. Additionally, the Consultation RIS did not have sufficient information to undertake a comprehensive cost benefit analysis. Consequently, stakeholders were not given an opportunity at that time to discuss the costs and benefits of any additional regulatory burden

that they might incur. The Decision RIS presents a more comprehensive assessment, and will demonstrate a net benefit for the proposed regulatory changes.

5.3 Stakeholder views on impacts

The views of stakeholders on specific aspects of the proposed national scheme are summarised in Table 14 below. Issues discussed in the cost/benefit assessment (Part 4.0) and the options to which these stakeholder views relate, are discussed in more detail in Appendix 13.

Manufacturers			Table 14 - Summary of stakeholder views on proposed national scheme						
			State harmonisation of control-of-use only	National monitoring	State harmonised variation to approved uses (subject to RIS)	State harmonised and nationally consistent mandatory competencies for all chemical users	State harmonised and mutually recognised licensing for fee-for-service users	States harmonised nationally consistent recordkeeping requirements for chemical users	State harmonised veterinary prescribing rights
Category	Name	Description							
Agricultural products	Croplife	Peak industry body for plant science developers, registrants, manufacturers and formulators	X	✓	X	✓	?	✓	-
Veterinary products	Animal Health Alliance	Peak industry body for Animal health product registrants, manufacturers and formulators of animal health products	X	✓	X	✓	?	✓	✓
Users									
General primary industry (National)	National Farmers Federation (NFF)	Peak national body representing farmers and agriculture across Australia	✓	✓	?	X	✓	✓	-
General primary producers (Victorian)	Victorian Farmers Federation (VFF)	Largest state farmer organisation in Australia, representing over 10,000 members from more than 15,000 farm businesses across Victoria	✓	✓	✓	X	✓	✓	✓
Meat producers	Australian Pork Limited (APL)	Rural industry service body for the Australian pork industry.	✓	✓ Which recognises existing industry monitoring/ QA	**X**	✓ With appropriate transition arrangements	-	✓	-

				systems					
	Cattle Council Australia (CCA)	Peak producer organisation representing Australia's beef cattle producers	✓	✓ Which recognises existing Q/A systems	**X**	**X**	?	✓	✓
	Australian Lot Feeders Association (AFLA)	Peak national body for the feedlot industry in Australia	✓	✓	**X**	-	-	-	-
Dairy	Australian Dairy Industry Council (ADIC)	Dairy industry's peak policy body	✓	**?**	✓ Expressed support for current Victorian system	**?** More information needed on impacts to rural industries/communities	**?** More information needed on costs/benefits	✓ If existing recordkeeping schemes are recognised	✓
Grain growers	Grain Research and Development Corporation (GRDC)	Australian statutory organisation responsible for planning, investing in and overseeing research and development, delivering improvements in production, sustainability and profitability across the Australian grains industry	**X**	-	◆ Suggested changes to registration to allow some limited off-label use but did not express support for 'tiered approach'	✓	-	-	-
Horticultural and other minor uses	Horticulture Australia Limited (HAL)	National research, development and marketing organisation for horticulture sector	✓	✓	**X** But likely to support a national minor use program	-	-	-	-
Nursery and garden	Nursery and Garden Industry Australia (NGIA)	Peak industry body for the Australian nursery and garden industry	✓	-	**X** Supported	✓ Support base	X	-	-

					restricting to on-label/permit but allowing 'responsible off-label use' based on a crop-by-crop assessment	level AQF3 training	NGI supported nationally regulated licensing system		
Stockfeed manufacturers	Stockfeed Manufacturers' Council of Australia (SFMCA)	Represent livestock and aquaculture feed milling companies throughout Australia (over 90% of all commercial feed sold within Australia)	✓	**X** Felt NRS addressed monitoring needs	**X** Supported restricting to on-label and permit but also establishing list of chemicals 'generally regarded as safe'	◆ Supported licensing of feed mill manufacturers	◆ As for competencies	✓	✓
Forestry and paper industries	Australian Plantation Products and Paper Industry Council (A3P)	National representative body for the plantation products and paper industry.	✓	✓	✓ Support national expansion of Victorian off-label system	X Prefer using existing qualifications requirement	X Supported a national licensing system	✓	-
	Forest Industries Association of Tasmania (FIAT)	Employer body representing interest of processors of Tasmanian forest products	**X** Supported national regulation body	✓	**X** Supported restricting to on-label and permit and 'as allowed under permissible uses'	✓ With industry consultation on appropriate training requirements	-	✓ But did not support mandatory reporting/auditing to regulators	-
Fee-for-service providers (aerial spraying)	Aerial Agricultural Association of Australia (AAAA)	Peak industry body for aerial agricultural operators in Australia	**X** Supported national regulation	-	✓	✓ Support national base competencies at AQF3 level	**X** Supported national licensing system for fee-for-service operators	✓ Supported mandatory recordkeeping and suggested expanding to agronomists	-

Fee-for-service providers (ground spraying)	Australian Ground sprayers Association (AGA)	Peak body representing states with grounds spraying associations (NSW, VIC, TAS, SA and WA).	✓	-	◆ Did not give a position but suggested current system does not allow industry to respond to disease or insect invasions	-	**X** Supported national licensing regulated system	-	-
Veterinarians	Australian Veterinary Association (AVA)	Professional organisation representing veterinarians across Australia	✓	✓	◆ Suggested widespread use of unregistered veterinary products on particular trade species should be targeted. Also suggested veterinarian should continue to be allowed to prescribe 'off-label' for minor food species and companion animals.	✓	-	-	✓ Suggested 'cascading system' for veterinary prescribing rights (similar to current UK system).
Retailers and suppliers									
Grocery retailers	Coles	Major grocery/retail store operating Australia-wide	**X** Supported separate national bodies for registration and control-of-use (in addition to state	✓	**X** Coles did support increased off-label where growers are left to determine permissible uses/risks. They did suggest modifying	◆ Coles supported nationally consistent rules for training courses across Australia rather than mandatory competencies.	◆ Coles did not give position on issue but suggested persons ordering applications of spray should hold a relevant	✓	–

			harmonisation)		current Victorian system to allow off-label use where recommended by a certified agronomist.		university degree and spray operators to have certificate for safe operation of equipment		
Externality interests									
Environment	World Wildlife Fund (WWF) - Australia	Part of the WWF International Network, the world's independent conservation organisation. WWF-Australia's program areas include water conservation/management, weeds and pests, lands and forests, species conservation and sustainable industry.WWF have mounted major campaigns on APVMA registration of pesticides including endosulphan and regulation of pesticides in the Great Barrier Reef area.	**X** WWF strongly supported national regulation of control-of-use functions	✓ Expressed support for nationally integrated monitoring system including environment, food safety and human health.	**X** WWF did not support any increase in off-label use or reduced data requirements for registration/permits	-	-	✓	-
	National Toxics Network (NTN)	Community based network for community and environmental organisations across Australia, New Zealand and the South Pacific in relation to chemical/pollution issues.	**X** NTN supported national regulation of control-of-use functions	✓ Expressed support for nationally integrated monitoring system including environment, food safety	**X** NTN did not support any increase in off-label use or reduced data requirements for registration/permits	✓ Support nationally consistent mandatory competencies at AQF3 level	**X** NTN supported a nationally regulated licensing scheme for all fee-for-service users	✓ NTN supported national recordkeeping and suggested a national pesticide use database	-

				and human health					
Consumer interests	Choice	Public face of the Australia Consumers' Association (ACA), conducts product reviews and advice and provides consumer advice and advocacy. Choice has run a number of national campaigns on AgVet chemicals in relation to food safety and public health.	**X** Choice supported national regulation as 'harmonisation may not work in practice'	✓ Supported national information systems on use and feedback loops for regulation	**X** Choice did not support any increase in off-label use but did express support for incentives to increase minor use registrations	✓ Supported nationally consistent mandatory competencies at AQF3 level	**X** Choice supported a nationally regulated licensing scheme	✓ Choice supported nationally consistent recordkeeping requirements and a national pesticide use database	-

6.0 Implementation of preferred option

6.1 Broad implementation plan

In broad terms, implementation of the preferred option would involve:

- the development of a consistent national AgVet licensing scheme for fee-for-service chemical users;
- set user competency requirements for fee-for-service licensed professions and users of RCPs and S7 chemical products
- legislation in each state and territory to give effect to proposed changes to recordkeeping, training and AgVet chemical use arrangements as well as to enable cross-jurisdictional recognition of licences; and
- enhancement of monitoring and auditing activities by states and territories, including increased produce monitoring to be funded by the Australian Government.

The broad policy development of these issues managed in partnership with the Australian Government, states and territories through a new strategic policy committee. All other aspects of control-of-use would be managed by states and territories under harmonised legislation and associated subordinate legislation. Progressing the proposed governance arrangements could also involve clarifying methods for harmonisation, e.g. a 'model Act,' template legislation and/or other means (such as a compliance tool kit and codes of practice).

It is proposed that the national system would be at least partially funded through a cost recovery mechanism through collecting licence fees. More detailed costing elements, which include different licence fee options, are under development and will be provided to the new strategic policy committee when available. There may also be opportunities for cost-efficiencies through alignment with other national initiatives and schemes such as streamlining of government online business services.

Minimum training qualifications for fee-for-service providers and users of higher risk chemicals will be harmonised across jurisdictions. Appropriate training would be a key eligibility criterion for licensing. In other words, licence applications would need to be accompanied by the necessary training certification before licences would be issued.

In terms of productivity, there would be a significant capacity to reduce costs over time by eliminating the need to hold multiple licences in different jurisdictions. Such scale economies would be realised both in terms of the higher levels of licences and permits that may be processed for the same level for resources and/or in terms of lower resources required to meet current levels of licensing activity.

Importantly, the preferred option would be most likely to provide responsiveness and flexibility in the face of regional differences in terms of monitoring and auditing and recordkeeping. This responsiveness would minimise any unnecessary transaction costs being incurred by chemical users or government by meeting the specific needs of regions based on economic or geographic factors in the timeliest fashion possible. This balance between chemical access and risk management would therefore be more suitable to changing regional needs.

Implementation would require various changes to Australian Government, state and territory legislation, including the AgVet Code and relevant state and territory control-of-use

legislation. It is estimated that this implementation process would take up to two years from the date of COAG agreement.

To the extent that harmonisation would impact on businesses, namely farms, horticultural businesses, aerial and ground sprayers, such businesses would be equally affected by the same regulatory environment. Thus the proposed national scheme is unlikely to restrict competition.

6.2 Impact on productivity

The integration of regulations governing licensing of AgVet chemical use into a cross-jurisdictional licence issued by the states and territories would improve effectiveness and efficiency.[107] This effectiveness and efficiency would be demonstrated under Option C1 by the potentially significant reduction in regulatory burden estimated to be ***$98.97m*** over 10 years. This would entail a reduction in the need to apply for and pay for duplicate licences/permits and thereby reduce resource requirements for the Australian community (that is, Australian government and chemical use industries). Option C1 would also streamline access to chemical use conditions and would provide a consistent approach leading to a net quantifiable benefit estimated to be ***$66.17m*** over 10 years.

Importantly, Option C1 would be most likely to provide responsiveness and flexibility in the face of regional differences in terms of monitoring and auditing and recordkeeping. This responsiveness would minimise any unnecessary transaction costs being incurred by chemical users or government by meeting the specific needs of regions based on economic or geographic factors in the timeliest fashion possible. This balance between access to chemicals and risk management would therefore be one which is better tailored to changing regional needs.

6.3 Impact on competition

The market affected by the proposed harmonisation under Option C1 is the market for professional applicators, including: pest management technicians; aerial applicators; ground sprayers; fumigators plus markets for farm products (where occupational chemical use is undertaken by farmers) plus golf courses, bowling clubs and other sports grounds. National Competition Policy (NCP) applies to businesses rather than to individuals engaging in non-business activities. To the extent that harmonisation would impact on businesses, namely farms, horticultural businesses, aerial and ground sprayers, such businesses would be equally affected by the same regulatory environment. Thus the proposed standard amendment national scheme is unlikely to restrict competition.

7.0 Evaluation and review strategy

It is intended that the efficiency and effectiveness of the proposed national scheme would be evaluated when next reviewed. Indicators would include the extent to which the national scheme has resulted in:

- reduced regulatory burden
- improved risk management
- improved access to chemicals
- improved public confidence in regulation and application of AgVet chemicals.

[107] Productivity Commission, 2008.

8.0 Conclusions and findings

The main conclusions and findings of this RIS are as follows:

1. An extensive consultation process involving a national policy framework, a discussion paper and a Consultation RIS have canvassed a wide range of issues, from which the proposed national scheme has emerged.
2. The problems that the proposed national scheme is endeavouring to address include:
   - uncoordinated risk management, particularly in respect to a uniform approach to chemical use, monitoring and auditing
   - inconsistent and inadequate user access to chemicals, risking significant losses to producers
   - unnecessary regulatory burden as a result of duplication, particularly for individuals and businesses that operate across state and territory borders – thus restricting business mobility
   - unfair business competition from an inconsistent operating environment between jurisdictions (i.e. 'an unlevel playing field').
3. A quantitative assessment of the relative benefits and costs for the proposed national scheme and other feasible options has been conducted. The three criteria used to assess the options were:

   Criterion I Reduction of the regulatory burden

   Criterion II Net compliance costs to industry and government

   Criterion III Improved risk management and access to chemicals.
4. The relevant incremental costs and benefits of the various options relative to the base case are summarised in Table 13.

Table 13: Summary of estimated 10-year incremental costs and benefits for Options A, B, C1, C2 and D as compared to the base case ($m) – in 2011-12 dollars (using 7% discount rate)

Option	Reduction in regulatory burden (Criterion I)	Compliance costs (Criterion II)	Reduced risk to health (Criterion III)	Net quantifiable benefit	Benefit cost ratio	Improved risk management and chemical access balance (qualitative benefit including reduced risk to environment and trade) (Criterion III)
A Harmonisation	**N/A**	**$27.97**	**$2.11**	***-$25.9***	***0.08***	Limited improvement
B Harmonisation with cross-jurisdictional licence for fee-for-service	**$29.48**	**$27.97**	**$2.11**	***$3.61***	***1.13***	> Option A
C1 Harmonisation with cross-jurisdictional licence for fee-for-service and S7 chemicals+ RCPs (proposed national scheme)	**$98.97**	**$34.87**	**$2.11**	***$66.21***	***2.9***	> Option A, B, C2 or D
C2 Harmonisation with cross-jurisdictional licence for fee-for-service and S7 chemicals+ RCPs + base-level qualifications	**$98.97**	**$121.65**	**$2.11**	***-$20.57***	***0.83***	> Option A but < Options B, C1 and D
D Complete transfer of control-of-use functions to Australian Government	**$98.97**	**$34.87**	**Up to $2.11**	**= < *$66.21***	**= < *2.9***	< Option C1

5. **Option C1** (the proposed national scheme) would potentially achieve a **benefit cost ratio of 2.9** and a **net benefit of $66.21m over 10 years**. Moreover C1 would be likely to result in greater mitigation of the potential negative environmental and trade impacts of chemical use by achieving a better balance between chemical access and risk management than the base case, and greater than Options A, B, C2 or D.

6. There is no evidence of increased risk from the proposed variations on approved uses of chemicals under the proposed national scheme. However, the current level of produce monitoring across Australia is deficient, as some jurisdictions do not conduct any produce monitoring and rely on industry programs for this purpose. The proposed targeted national approach to produce monitoring, tracebacks and sample analysis would provide additional safeguards in validating the system, allaying trade concerns and militating against any risks of illegal chemical use on around annual agricultural production of $50 billion, including $12.53b worth of exports of produce from minor crops over 10 years.

7. **For the reasons provided above, Option C1 (the proposed national scheme) is therefore selected as the preferred option. Option C1 provides the greatest potential benefit to cost ratio, taking into account all the impacts including the balance between chemical access and improved risk management.**

8. In broad terms, implementation of the preferred option would involve:

   - the development of a national AgVet training and licensing scheme
   - legislation in each state and territory to enable cross-jurisdictional recognition of licences; and

- enhancement of monitoring and auditing activities by states and territories, including increased produce monitoring to be funded by the Australian Government.
- alignment of the understanding of minor crops and minor uses
- alignment of the understanding of food producing animals.

9. Importantly, the preferred option would be most likely to provide responsiveness and flexibility in the face of regional differences in terms of monitoring and auditing and recordkeeping. This responsiveness would minimise any unnecessary transaction costs being incurred by chemical users or government by meeting the specific needs of regions based on economic or geographic factors in the timeliest fashion possible. This balance between access to chemicals and risk management would therefore be one which is better tailored to changing regional needs.
10. To the extent that harmonisation would impact on businesses, namely farms, horticultural businesses, aerial and ground sprayers, such businesses would be equally affected by the same regulatory environment. Thus the proposed national scheme is unlikely to restrict competition.

Glossary of terms and acronyms

ABS	Australian Bureau of Statistics
ABARE	Australian Bureau of Agricultural and Resource Economics
AgVet chemicals	Agricultural and veterinary chemicals
administrative burden	also known colloquially as 'red tape', is the cost incurred by business and not-for-profit organisations in demonstrating compliance with government regulation.
APVMA	Australian Pesticides and Veterinary Medicines Authority
avicide	A chemical used to kill birds
base case	means the situation that would exist if the proposed national scheme were not adopted.
COAG	Council of Australian Governments
compliance	means the state of conformity with the law. Compliance can be achieved through various means including enforcement, incentives and education
DAFF	Australian Government Department of Agriculture, Fisheries and Forestry
DSEWPaC	Department of Sustainability, Environment, Water, Population and Communities
competition	the process of rivalry between independent firms or individuals in business. Competition occurs within a market.
economic efficiency	when an output of goods and services is produced making the most efficient use of scarce resources and when that output best meets the needs and wants and consumers and is priced at a price that fairly reflects the value of resources used up in production
enforcement	activities designed to compel **compliance** (see above), including issuing warnings, infringement notices and prosecutions
externality	means the cost or benefit related to a good or service that accrues to persons other than the buyer or the seller of that good or service.
FSANZ	Food Standards Australia and New Zealand
GAP	good agricultural practices
government failure	unnecessary or inappropriate intervention in markets by governments
market failure	means the situation which occurs when freely functioning markets, operating without government intervention, fail to deliver an efficient or optimal allocation of resources
merit goods	underprovided goods/services in a market economy which are determined by government to be good for society whether or not consumers desire them
monopoly	means a market structure such that only one firm supplies the entire market.
MRL	Maximum Residue Level

mutual recognition	mutual recognition means that jurisdictions agree to recognise each other's legislation
PIMC	the former Primary Industries Ministerial Council
PSIC	Product Safety and Integrity Committee
prescribed:	specified by regulations made under an Act
public good	a good or service that will not be produced in private markets because there is no way for the producer to keep those who do not pay for the good or service from using it
regulatory burden	the cost incurred by business and not-for-profit organisations in complying with government regulation
restriction of competition	means something that prevents firms in a market or potential entrants to a market from undertaking the process of economic rivalry.
RCP	Restricted Chemical Product
RIS	regulatory impact statement
QA	Quality Assurance
social cost	the total of all costs of a particular economic activity borne by all economic agents in society, including consumers, producers and government

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Appendix 1: Hourly time costs for private sector

A primary resource requirement of activities undertaken by the private sector in relation to chemical use is time. The purpose of this appendix is to capture the dollar cost per hour and will be used in later appendices as relevant to estimate impacts of various Options with respect to administrative and other requirements on stakeholders.

A1.1 – Estimation of hourly time cost for clerical administrative workers for keeping records and undertaking applications for licences or permits – private sector

It is understood, that the actual cost of time may vary between businesses, between individuals in a business and from day to day. However due to lack of specific data, administrative time costs are estimated by taking average weekly earnings for 'Miscellaneous clerical and administrative workers'[108] as shown in Table 1 column (a).This is then annualised and converted to May 2011 values using a 3.09% growth in average wages between 2010 and 2011[109] in column (c).

Table A1.1 – Estimated hourly charge out rate for clerical/administrative workers by State and Territory - 2011[110]

Jurisdiction	May 2010 Average weekly earnings (a)	May 2010 Annual earnings (b) = (a) x 52	May 2011 annual earnings based on 3.09% growth in average wages (2010-11) (c) = (b) + [(b) * 3.09%]	Projected on-cost multiplier (d)	Overhead cost multiplier (e)	No. weeks worked per annum (f)	No. hours worked per week (g)	Hrly Rate (h) = (c)/{(f) * (g)} * (d) * (e)[111]
NSW	$1,183	$61,506	$63,907	1.19	1.5	44	38	**$68**
VIC	$1,057	$54,980	$56,679	1.17	1.5	44	38	**$60**
QLD	$1,034	$53,758	$55,419	1.15	1.5	44	38	**$58**
SA	$1,111	$57,782	$50,567	1.18	1.5	44	38	**$64**
WA	$1,115	$57,980	$59,771	1.18	1.5	44	38	**$64**
TAS	$1,101	$57,262	$59,031	1.18	1.5	44	38	**$63**
NT	$966	$50,232	$52,784	1.21	1.5	44	38	**$56**
ACT	$1,238	$64,360	$66,349	1.20	1.5	44	38	**$72**

The projected on-cost multiplier in column (d) represents salary on-costs of superannuation, payroll tax, Fringe Benefits Tax (FBT) and workers compensation by state and territory. Leave loading is already incorporated in annual earnings in column (c). Each of the projected on-cost multipliers reflects the ratio of salary on-costs to total earnings within the state and territory as noted in 2002-03[112]. Projection is based on the annual increase of this ratio between 1993-94 and 2002-03 which varies for each of the states and territories. Other salary related on-costs are considered in column (f) – the number of weeks worked per annum (44), which takes account of an average of two weeks of sick leave and two weeks of public

[108] ABS (2011) (a) – Employee Earnings and Hours, Australia, Cat. 6306.0, Table 1a, Average weekly cash earnings and hours paid for, full-time non-managerial adult employees, Australia–Detailed occupation (ANZSCO)
[109] ABS (2011) (b) – Average Weekly Earnings, Australia, Cat. 6302.0
[110] All figures have been rounded to whole numbers for ease of presentation
[111] Rounded to the nearest whole number.
[112] ABS(2003) – Labour Costs, Australia 2002-03, Table 1a. Major Labour Costs, State/Territory, Cat. 6348.0.55.001

holidays plus four weeks of annual leave. The 38 hour working week [column (g)], is based on the guarantee of maximum ordinary hours in the Australian Government Workplace Relations Act.

The overhead cost multiplier in column (e) incorporates non-salary related costs such as a vehicle and computer. This multiplier is based on a guidance note from the Victorian Competition and Efficiency commission which states,

> The Australian Vice–Chancellor's Committee guidance to universities on bidding for research funding suggests multipliers of 1.52 for on-costs and 1.4 for non-laboratory infrastructure costs (excluding other direct, non-salary costs). This suggests that an overhead multiplier of at least 1.5 may be appropriate.[113]

The hourly charge out rate is then calculated by dividing annual earnings by the product of the number of weeks worked and hours per week and then multiplying this by the overhead cost and on-cost multipliers:

Hourly charge out rate = annual earnings/(working weeks x hours per week) x on-cost multiplier x overhead cost multiplier

A1.2 – Estimation of hourly time cost for training for chemical users – private sector

Time cost of qualifications training (see Appendix 2) is estimated using earnings for 'Farm, forestry and garden workers'[114].The hourly time cost for training of chemical users in the private sector by state and territory is summarised in Table A1.2, and uses the same procedure as discussed with clerical/administrative costs in Part A1.1 in Appendix 1.

Table A1.2 – Estimated hourly charge out rate for farm, forestry and garden workers by State and Territory - 2011[115]

Jurisdiction	May 2010 Average weekly earnings (i)	May 2010 Annual earnings (j) = (i) * 52	May 2011 annual earnings based on 3.09% growth in average wages (2010-11) (k) = (j) + [(j) * 3.09%]	Projected on-cost multiplier (l)	Overhead cost multiplier (m)	No. weeks worked per annum (n)	No. hours worked per week (o)	Hrly Rate (p) = (k)/{(n) * (o)} * (l) * (m)[116]
NSW	$843	$43,831	$45,185	1.19	1.5	44	38	**$48**
VIC	$971	$50,513	$52,074	1.17	1.5	44	38	**$55**
QLD	$851	$44,252	$45,619	1.15	1.5	44	38	**$48**
SA	$817	$42,479	$43,792	1.18	1.5	44	38	**$47**
WA	$922	$47,918	$49,399	1.18	1.5	44	38	**$53**
TAS	$1,091	$56,722	$58,475	1.18	1.5	44	38	**$62**
NT	$544	$28,298	$29,172	1.21	1.5	44	38	**$32**
ACT	$764	$39,702	$40,929	1.20	1.5	44	38	**$45**

[113] Victorian Competition and Efficiency Commission 2006, *Guidance Note on Suggested Default Methodology and Values for Staff Time in BIA/RIS Analysis*, Melbourne, p.3.
[114] ABS (2011) (a) – Employee Earnings and Hours, Australia, Cat. 6306.0, Table 1a, Average weekly cash earnings and hours paid for, full-time non-managerial adult employees, Australia–Detailed occupation (ANZSCO)
[115] All figures have been rounded to whole numbers for ease of presentation
[116] Rounded to the nearest whole number.

Appendix 2: Cost of additional qualifications training required under harmonisation – Options A, B, C1, C2 and D

The purpose of Appendix 2 is to estimate the cost of requiring additional qualifications training under Options A, B, C1, C2 and D as compared to the base case. Under Options A, B, C1 and D - there would be additional training costs required to ensure that all fee-for-service users and users of RCPs and S7 poisons meet the qualifications requirements for licensing at an AQF3 qualifications level and specialist units as required for particular chemicals (namely *1080*). Furthermore additional training would be required to ensure that all other users of AgVet chemicals have at least a base level of qualifications training (AQF2) under Option C2.

Moreover, training costs are determined as being a one-off cost to be incurred in the first year (i.e. 2011-12) and does not include the cost of a refresher course[117]. Organisations like Chemcert and SMARTtrain recommend 'update' or 'refresher' courses every 5 years. Furthermore, for the purpose of estimation 100% compliance is assumed. Finally, it is noted that there would be no additional state and territory compliance costs in managing the proposed mandatory qualifications standards. Training acquired by chemical users would be audited as part of determining eligibility for licences and permits.

A2.1 – Components of training costs

The additional training costs are identified as including a tuition fee, time cost of attending the course, the time cost of travelling to and from the course and other transportation costs[118]. Tuition fees across various states and territories are summarised in Table A2.1.

Table A2.1 – Tuition fees for AQF3 and AQF2 and supplementary *1080* courses and duration (hours) by State and Territory - 2011[119]

Jurisdiction	AQF3 (q)	Duration hours (r)	AQF2 (s)	Duration hours (t)	*1080*^^ (u)	Duration hours (v)
NSW	$340	8	$250	8	$84	4
VIC	$320	16	$250	8	$84	4
SA	$340	8	$240	8	$84	4
WA	$425	16	$250^	8	$84	4
Qld	$350	16	$250^	8	$84	4
TAS	$240	16	$250^	8	$84	4
NT	$294	16	$250^	8	$84	4
ACT	$340	8	$250^	8	$84	4

^ Tuition fee for AQF2 based on NSW and VIC figures. ^^ Tuition fee and duration of course for supplementary *1080* certification taken provided by NT course coordinator. The NT figure is utilised as a proxy for the cost estimate for *1080* certification across Australia – as *separate estimates* of this cost is not available in other jurisdictions.

Estimation of training costs includes a transportation cost component which assumes an average of four hours of travel at a speed of 100km/hr (i.e. 400km travelled on average going to and coming back from training course). Fuel costs are estimated assuming a fuel efficiency factor of 15 litres per 100km with a price of $1.50 per litre. Tyre costs are given as 0.94 cents

[117] These refresher courses are not compulsory.
[118] These include fuel; tyre; and service costs which represent additional opportunity costs of having to undertake training that would otherwise be avoided.
[119] All tuition fees are based on discussions with ChemCert or SMARTtrain course coordinators for various state and territory jurisdictions where available and are current as of 11 August 2011.

per km and service costs as 4.7 cents per km. Therefore the transport cost (not including the cost of an individual's time), is calculated as **$112.56**:

400km x [(15L/100km x $1.50/L) + (0.94 cents + 4.7 cents)/100 cents] = $112.56

Other components of training costs apart from transport costs and tuition fees, as discussed above, include the time cost of attending the course (see columns (r), (t) and (v) of Table A2.1), the time cost of travelling to and from the training course which is assumed to be four hours on average (two hours to the course and two hours back).

A2.2 – Number of chemical users needing training

Table A2.1(a) shows the number of people employed (including employees and self-employed farmers) in agriculture, forestry and fishery (see ABS 2011(e) for source of estimates). The number of people employed is taken to reflect the number of users of all AgVet chemicals in this group including: pesticides, herbicides, fungicides, insecticides and plant growth regulators, as well as, veterinary chemicals.

Table A2.1(a) – Estimate of number of agricultural workers using AgVet chemicals

Jurisdiction	Total people employed in agriculture, forestry and fishery (α)
NSW	92535
VIC	76553
SA	33943
WA	40067
QLD	73341
TAS	14039
NT	3527
ACT	519

The number of users employed in agriculture forestry and fishing does not include non-agricultural workers, such as landscape gardeners; and those employed by councils; utilities; golf courses and bowling clubs and state and territory governments, as shown in Table A2.1(b). Data on government workers who use AgVet chemicals is unavailable for jurisdictions apart from NSW. Therefore, pro-rata estimates for the remaining states and territories are obtained by using the NSW estimate for government sector workers and population figures[120] in each jurisdiction (i.e. government sector users are 0.017% of the total population). This assumes a 'constant' share of government activity in terms of AgVet chemical use per population across each of the jurisdictions.

[120] ABS (2011)(f) – Australian Demographic Statistics, Dec 2010, Cat.no. 3101.0, abs.gov.au.

Table A2.1(b) – Estimate of number of non-agricultural workers using AgVet chemicals

Jurisdiction	Government sector workers[121]	Council workers[122]	Golf course grounds keepers[123]	Bowling club grounds keepers[124]	Landscape gardeners[125]	Total non-agricultural chemical users (β)
NSW	1253	760	1179	939	3915	**8046**
VIC	962	395	1,257	835	3375	**6824**
SA	284	320	375	348	1077	**2404**
WA	399	710	465	350	1773	**3697**
QLD	784	365	852	458	2640	**5099**
TAS	88	150	240	117	201	**796**
NT	40	105	27	11	108	**291**
ACT	62	35	69	16	267	**449**

As shown in Table A2.2 and for the purpose of estimating training costs, it is assumed that 65%[126] of total people employed in this agriculture, forestry and fishery and non-agricultural sector are currently trained [see column (w) of Table A2.2].

Table A2.2 – Estimated proportion of full time and part time employed chemical users in agriculture, forestry and fishery and non-agricultural sector chemical users requiring training by State and Territory.[127]

Jurisdiction	Total people employed in agriculture, forestry, fisheries plus non-agricultural users of AgVet chemicals (α) + (β)	65% of total people employed currently trained (w) = 65% * [(α) + (β)]	37% of 65% would need AQF Level 3 competency (x) = (w) x 37%	15% of those that would need AQF Level 3 qualifications that need to be trained (y) = (x) * 0% (for VIC) (y) = (x) * 10% (for NSW) (y) = (x) * 15% (for other)	35% of total people employed in agriculture, forestry, fisheries plus non-agricultural users of AgVet chemicals need to be trained to a base AQF2 qualifications level (except for NSW) (z) = 35% * [(α) + (β)]
NSW	100581[128]	65378	24190	2419	0
VIC	83378	54196	20052	0	29182
SA	36348	23626	8742	1311	12722
WA	43764	28447	10525	1579	15317
QLD	78440	50986	18865	2830	27454
TAS	14835	9643	3568	535	5192
NT	3818	2482	918	138	1336
ACT	969	630	233	35	339
Australia	**362132**	**235386**	**87093**	**8847**	**126746**

[121] Includes: state forest; state school; zoological and botanical gardens; city rail; road traffic authority; water authority; port authority; elect association employees

[122] Based on an average of 5 users per council

[123] See http://www.golfselect.com.au and assumes that golf course have 3 employees using chemicals (based on information from OHE NSW).

[124] Based on a weighted average of 1.575 grounds keepers per bowling club (based on OHE NSW data). See http://bowlsclub.org for number of lawn bowl clubs

[125] Industry code 4251 Landscaping Services (See ABS (2007) Counts of Australian Businesses, including Entries and Exits, Jun 2003 to Jun 2007, Cat 8165.0)

[126] Assumption based on advice from relevant government departments.

[127] Estimates are presented in whole numbers of presentation purposes only and contain rounding of estimates.

[128] The total number of pesticide users needing training in the NSW Pesticides Regulation 2009 RIS was estimated to be 94,700 by the Office of Environment and Heritage.

Of the 65%, it is noted that 37%[129] would need to have a qualifications level of AQF Level 3 (see column (x) of Table A2.2) under Options A, B, C1, C2 and D. However, it is estimated that in all states and territories (except for VIC[130]), 15% of those who would need AQF3 qualifications do not possess it and, therefore, would need to be trained (see column (y) of Table A2.2). Furthermore, in NSW it is assumed that only 10%[131] of those who would need AQF Level 3 qualifications would need to be trained.

Finally the remaining 35% of total people employed in agriculture, forestry and fishery and the non-agricultural sector would need to be trained to a 'base level' of AQF Level 2 (see column (z) of Table A2.2) under Option C2, except for NSW where it is assumed that these groups of chemical users are already trained at this base level under current NSW regulations[132].

A2.3 – Training costs for AQF Level 3 and*1080* under Options A, B, C1, C2 and D

As shown in Table A2.3, approximately 8,847 chemical users across Australia would need to undertake AQF Level 3 training in order to achieve the required qualifications for RCP and S7 chemical use under harmonisation. The one-off 10-year cost for achieving qualifications to AQF Level 3 under harmonization (Options A, B, C1, C2 and D) and occurring in the first year is estimated to be ***$10,602,299*** in 2011-12 dollars using a 7% discount rate.

Table A2.3 – Estimated one-off qualifications training costs (AQF Level 3) by state and territory – Options A, B, C1, C2 and D

Jurisdiction	No. to be trained (y)[133]	Hrly rate (p)[134]	Duration of course (hours) (r)[135]	Time cost of attending AQF Level 3 course (a1) = (p) * (r)	Time cost of travel (b1) = (p) * 4 hours	Tran-sport cost (c1)	Tuition cost (q)[136]	Total cost per trainee (d1) = (a1) + (b1) + (c1) + (q)	Total one-off cost per state/ territory (e1) = (d1) * (y)
NSW	2419	$48	8	$387	$194	$113	$340	$1,034	$2,500,113
VIC	0	$55	16	$884	$221	$113	$320	$1,537	$0
SA	1311	$47	8	$373	$187	$113	$340	$1,013	$1,328,057
WA	1579	$53	16	$846	$212	$113	$425	$1,595	$2,518,282
QLD	2830	$48	16	$760	$190	$113	$350	$1,413	$3,997,873
TAS	535	$62	16	$999	$250	$113	$240	$1,602	$857,139
NT	138	$32	8	$254	$127	$113	$294	$788	$108,516
ACT	35	$45	8	$356	$178	$113	$340	$987	$34,481
Australia	**8847**								**$11,344,460**
NPV total cost 2011-12 dollars 7% discount rate									***$10,602,299***
Sensitivity Test									
3% discount rate									$11,014,039
10% discount rate									$10,313,145

Any further training for the group achieving qualifications under AQF Level 3, for *1080*, would involve an additional cost under Options A, B, C1, C2 and D. Estimates in Table A2.4

[129] Based on percentage of trained chemical users who have ACUPS in Victoria
[130] Due to Victorian regulation
[131] Recommended rate by NSW
[132] NSW Pesticides Regulation 2009
[133] See Table A2.2 of Appendix 2
[134] See Table A1.2 of Appendix 1
[135] See Table A2.1 of Appendix 2
[136] See Table A2.1 of Appendix 2

assume that approximately 15%[137] of those needing training at the AQF3 qualifications level would also need supplementary training for *1080*[138] except for Queensland where 5,000 additional users (i.e. landholders) have been identified who will need such training. This is not withstanding that there are 200 competent land protection officers in Queensland who are authorised to prepare and handle *1080* baits. Specific training may be required for fumigant products containing gaseous methyl bromide, chlorpicrin or phosphine; pindone concentrate; strychnine; and other vermin destroyers/avicides. However, based on discussions with NSW Office of Environment and Heritage, it is assumed that training for use of these chemicals (apart from *1080*) would typically be covered under AQF Level 3 training. The one-off 10-year cost for achieving qualifications for *1080* under harmonisation and occurring in the first year is estimated to be ***$3,198,211*** in 2011-12 dollars using a 7% discount rate.

Table A2.4 – Estimated one-off cost of supplementary training for *1080* by state and territory – Options A, B, C1, C2 and D

Jurisdiction	No. to be trained (f1) = (y)[139] * 15%	Hrly rate (p)[140]	Duration of course (hours) (v)[141]	Time cost of attending *1080* course (g1) = (p) * (v)	Time cost of travel (b1)[142]	Transport cost (c1)[143]	Tuition cost (u)[144]	Total cost per trainee (h1) = (g1) + (b1) + (c1) + (u)	Total one-off cost per state/ territory (i1) = (h1) * (f1)
NSW	363	$48	4	$194	$194	$113	$84	$584	$211,859
VIC	0	$55	4	$221	$221	$113	$84	$638	$0
SA	197	$47	4	$187	$187	$113	$84	$570	$112,124
WA	237	$53	4	$212	$212	$113	$84	$620	$146,724
QLD	5000[145]	$48	4	$190	$190	$113	$84	$577	$2,883,281
TAS	80	$62	4	$250	$250	$113	$84	$696	$55,887
NT	21	$32	4	$127	$127	$113	$84	$451	$9,313
ACT	5	$45	4	$178	$178	$113	$84	$553	$2,897
Australia	**1327**								**$3,422,085**
NPV total cost 2011-12 dollars 7% discount rate									***$3,198,211***
Sensitivity Test									
3% discount rate									$3,322,413
10% discount rate									$3,110,987

[137] This rate is based on the number of *1080* users in NSW as a proportion of the number of Agvet chemical users in this state.

[138] Products containing sodium fluoroacetate (*1080*) are of the highest risk in terms of adversely affecting the user's health, the environment and trade (see Department of Primary Industries (March 2002/updated September 2008), "Responsible Use and Handling of Farm Chemicals", *Agricultural Notes*, No. AG0520, Department of Primary Industries, Melbourne).

[139] See Table A2.2 of Appendix 2

[140] See Table A1.2 of Appendix 1

[141] See Table A2.1 of Appendix 2

[142] See Table A2.3 of Appendix 2

[143] See Table A2.3 of Appendix 2

[144] See Table A2.1 of Appendix 2

[145] It has been confirmed that there are 5,000 Queensland landholders who regularly use *1080* baits or have authorised the use of 1080 baits on their land – who will need competency training in *1080*.

A2.4 – Training costs for AQF Level 2 under Option C2

The number of users requiring AQF Level 2 training under Option C2 would include 35% of those employed in the agricultural, forestry and fishery sector (see column (z) under Table A2.2). Under Option C2, which is based on the NSW model of base level training, chemical users would not need to be trained if they only used small quantities of pesticides as part of their farm, business or work, provided that all of the following apply:

- they only apply pesticides that are ordinarily used for domestic purposes (e.g. in the home or garden), and
- are widely available to the general public at retail outlets (e.g. supermarkets, hardware outlets), and
- are applied by hand or by using hand-held equipment (but the equipment can be powered), and
- if used outdoors, entails no more than 5 litres/5 kilograms of concentrate or 20 litres/20 kilograms of ready-to-use product, or
- if used indoors, entails no more than 1 litre/1 kilogram of concentrate or 5 litres/5 kilograms of ready-to-use product.

This is measured on a 'per job' basis, with a common sense definition being applied as to what constitutes a 'job'.

Furthermore, the following groups would be exempt from AQF Level 2 training requirements (except where using RCP or S7 chemicals);

- home gardeners, household use and similar domestic-style use in work and business settings
- approved low risk domestic pet use and services providers, (e.g. pet grooming and worming)
- livestock producers who are trained and accredited under Approved QA scheme
- exhibited animal carers e.g. workers in zoos, animal displays
- registered veterinarians using veterinary chemicals if that qualifications is covered by the veterinary science degree, (e.g. veterinarians preparing and using *1080* baits would still need to be trained and licensed for use).

An estimated 96,074 chemical users across Australia would be required to undertake AQF Level 2 training under Option C2, as shown in Table A2.5. Furthermore, as shown in Table A2.5, the one-off 10-year cost for achieving qualifications for base AQF Level 2 training under Option C2, and occurring in the first year, is estimated to be ***$86,777,016*** in 2011-12 dollars using a 7% discount rate.

Table A2.5 – Estimated one-off qualifications training costs (AQF Level 2) by state and territory – Option C2

Jurisdiction	No. to be trained (z)[146]	Hrly rate (p)[147]	Duration of course (hours) (t)[148]	Time cost of attending AQF2 course (j1) = (p) * (t)	Time cost of travel (b1)[149]	Transport cost (c1)[150]	Tuition cost (s)[151]	Total cost per trainee (k1) = (j1) + (b1) + (c1) + (s)	Total one-off cost per state/ territory (l1) = (k1) * (Z)
NSW	0	$48	8	$387	$194	$113	$250	$944	$0
VIC	29182	$55	8	$884	$221	$113	$250	$1,025	$29,917,236
SA	12722	$47	8	$373	$187	$113	$240	$913	$11,612,121
WA	15317[152]	$53	8	$846	$212	$113	$250	$997	$15,272,815
QLD	27454	$48	8	$760	$190	$113	$250	$933	$25,606,490
TAS	5192	$62	8	$999	$250	$113	$250	$1,112	$5,773,446
NT	5867	$32	8	$254	$127	$113	$250	$744	$4,365,311
ACT	339	$45	8	$356	$178	$113	$250	$897	$303,987
Australia	**96074**								**$92,851,407**
NPV total cost 2011-12 dollars 7% discount rate									***$86,777,016***
Sensitivity Test									
3% discount rate									$90,146,997
10% discount rate									$84,410,370

[146] See Table A2.2 of Appendix 2
[147] See Table A1.2 of Appendix 1
[148] See Table A2.1 of Appendix 2
[149] See Table A2.3 of Appendix 2
[150] See Table A2.3 of Appendix 2
[151] See Table A2.1 of Appendix 2
[152] DAFWA noted a figure around 14,000 made up of a subset of the farmers/employees group based on an earlier draft document.

Appendix 3: Hourly time costs for state and territories (public sector)

A primary resource requirement of activities undertaken by the public sector in relation to chemical use auditing and monitoring or legislation development is time. The purpose of this appendix is to capture the dollar cost per hour and will be used in later appendices as relevant to estimate impacts of various options with respect to administrative requirements on state and territory governments.

A3.1 – Estimation of public sector hourly charge out rates

In order to estimate the hourly time costs (i.e. charge out rate) of the public sector across states and territories, a ratio of base salaries is used which compares salaries in other states and territories to that within VIC at the APS4 level[153], as shown in Table A3.1.

Table A3.1 – Ratio of base salaries in states and territories to base salary in Victoria

Jurisdiction	Ratio of base salaries in states and territories to base salary in Victoria (m1)
NSW	1.11
VIC	1.00
QLD	1.00
WA	0.76
SA	0.93
TAS	0.93
NT	1.01
ACT	0.80

Source: DAFF Aggregate Nov 2010.xls

This ratio is then applied to Victorian public service equivalent salaries in column (n1) in order to reflect variations in salary costs across jurisdictions (see column (q1) of Table A3.3). Moreover, where state and territory on-cost and overhead cost multipliers are not available a Victorian multiplier given as 2.015 is used (see column (s1) of Table A3.3.

Table A3.2 – Estimated hourly charge out rates Victoria[154]

Salary Category	Annual Salary 2011/2012 (n1)	Hourly Salary (o1) = (n1)/1718 hours/annum	Hrly Charge Out rate (p1) = (o1) x 2.015
VPS2	$47,780	$28	**$56**
VPS3	$61,734	$36	**$72**
VPS4	$72,972	$42	**$86**
VPS5	$87,168	$51	**$102**
VPS6	$113,126	$66	**$133**

[153]Information on relevant salaries across states has not been provided.
[154] Figures rounded to whole numbers for ease of presentation

Table A3.3 – Estimated hourly charge out rates all states and territories (excluding Victoria)

Salary Category	Annual Salary 2011/2012 (q1)= (n1) x (m1)[155]	Hourly Salary (r1) = (q1)/1718 hours/annum	Hrly Charge Out rate (s1) = (r1) x 2.015
NSW			
VPS2 - Equivalent	$52,877	$31	**$62**
VPS3 - Equivalent	$68,319	$40	**$80**
VPS4 - Equivalent	$80,756	$47	**$95**
VPS5 - Equivalent	$96,466	$56	**$113**
VPS6 - Equivalent	$125,193	$73	**$147**
QLD			
VPS2 - Equivalent	$47,780	$28	**$56**
VPS3 - Equivalent	$61,734	$36	**$72**
VPS4 - Equivalent	$72,972	$42	**$86**
VPS5 - Equivalent	$87,168	$51	**$102**
VPS6 - Equivalent	$113,126	$66	**$133**
SA			
VPS2 - Equivalent	$44,595	$26	**$52**
VPS3 - Equivalent	$57,618	$34	**$68**
VPS4 - Equivalent	$68,107	$40	**$80**
VPS5 - Equivalent	$81,357	$47	**$95**
VPS6 - Equivalent	$105,584	$61	**$124**
WA			
VPS2 - Equivalent	$36,313	$21	**$43**
VPS3 - Equivalent	$46,918	$27	**$55**
VPS4 - Equivalent	$55,459	$32	**$65**
VPS5 - Equivalent	$66,248	$39	**$78**
VPS6 - Equivalent	$85,976	$50	**$101**
TAS			
VPS2 - Equivalent	$44,595	$26	**$52**
VPS3 - Equivalent	$57,618	$34	**$68**
VPS4 - Equivalent	$68,107	$40	**$80**
VPS5 - Equivalent	$81,357	$47	**$95**
VPS6 - Equivalent	$105,584	$61	**$124**
NT			
VPS2 - Equivalent	$48,417	$28	**$57**
VPS3 - Equivalent	$62,557	$36	**$73**
VPS4 - Equivalent	$73,945	$43	**$87**
VPS5 - Equivalent	$88,330	$51	**$104**
VPS6 - Equivalent	$114,634	$67	**$134**
ACT			
VPS2 - Equivalent	$38,224	$22	**$45**
VPS3 - Equivalent	$49,387	$29	**$58**
VPS4 - Equivalent	$58,378	$34	**$68**
VPS5 - Equivalent	$69,734	$41	**$82**
VPS6 - Equivalent	$90,501	$53	**$106**

[155] See Table A3.1 for ratios associated with each state and territory

Appendix 4: Estimation of additional licence monitoring and auditing costs for government under harmonisation plus additional costs to industry – Options A, B, C1, C2 and D

The purpose of Appendix 4 is to estimate the additional licence monitoring and auditing costs on states and territories as a result of harmonisation under Options A, B, C1, C2 and D as compared to the base case, as well as, the incremental cost of industry needing to comply with additional auditing activity.

A4.1 – Estimation of licence monitoring and auditing costs for government required under harmonisation – Options C1, C2 and D

Estimation of monitoring and auditing costs required under Options C1, C2 and D requires a measurement of licence and permit activity currently undertaken as shown in Table A4.1, as well as the level of monitoring of conditions undertaken by each state and territory (i.e. random audits). Investigations, tracebacks and other enforcement activities are not relevant and are therefore omitted.

Table A4.1 – Annual licence and permit activity by state and territory, including current monitoring of conditions (2010)

Licence or Permit activity	NSW	VIC^	QLD	SA	WA	TAS	NT	ACT	Australia
Issue of licence to users of veterinary medicines (schedule 4 and 8 of SUSMP equivalent state legislation)				110				34	144
Issue of licence to users of AgVet chemicals (schedule 5, 6 and 7 of SUSMP equivalent state legislation)	49	1876	4997[156]	1351	1900	403	328	95	10999
Pest management technician	600		1995[157]			134			2729
Issue of business registrations			538[158]		840				1378
Issue of exemption to minor user of AgVet chemicals (schedule 5, 6 and 7 of SUSMP equivalent state legislation)		4		188					192
Issue of licences for aerial crop sprayers (individuals)			46[159]	49	40				135
Issue of licences for aerial crop sprayers (businesses)	2^^		32[160]	14					48
Pilot (Chemical Rating) Licence (PCRL)	5^^	12				16			33
Agricultural Aircraft Operator Licence (AAOL)		7				8			15
Chemical Operator Licence (COL)		168				203			371
Issue of licence to businesses for application of AgVet chemicals (schedule 5, 6 and 7 of SUSMP equivalent state legislation)				386					386

[156] Annual new or renewal activity averaged over three years from a total of 8995 Commercial Operators Licences on issue (DEEDI - Herbicide spraying only)
[157] Annual new or renewal activity for over 3,500 licences issued by Queensland Health, based on 2010 figures. Renewal options are between 1 to 5 years.
[158] Annual new or renewal activity averaged over three years from a total of 969 Ground Distribution Contractor Licences on issue
[159] Annual new or renewal activity averaged over three years from a total of 84 Pilot Chemical Rating Licences on issue
[160] Annual new or renewal activity averaged over three years from a total of 57 Aerial Distribution Contractor Licences on issue

Issuing permits to allow the use of phenoxy herbicides near sensitive crops, under the Restricted Spraying Regulations.					30	10			40
Permit for Spraying in an agricultural chemical control area		15							15
Issue of licences to Manufacturers or Wholesalers of AgVet chemicals				138					138
Restricted chemical products							100		100
Total number of licences and permits issued annually (t1)	**656**	**2082**	**7608**	**2236**	**2810**	**774**	**428**	**129**	**16723**
Current annual number of audits/monitoring of licence and permit conditions (u1)	**20**	**290**	**360**	**97**	**0**	**0**	**62**	**0**	**829**

Source: DAFF Aggregate Nov 2010.xls.
^Data for Victoria based on average activity over 10 years.
^^Data taken from Copy of BCA Pesticides Reg (2).xls supplied by OEH NSW.

According to the minimum requirements[161] under the cross-jurisdictional licence and Options C1, C2 and D, general users including farmers in Victoria, Tasmania and Northern Territory would no longer require a licence for RCPs and S7 poisons (only competency). Furthermore, general users and other non-fee for service users in Queensland would no longer require a licence (only competency). The relevant number of audits that would be required under the cross-jurisdictional licence would therefore be determined by the projected activity for licenses and permits. In Table A4.1(b), the projected annual licensing and permit activity for aerial and fee-for-service users of AgVet chemicals is determined to be 19[162] plus 10.89% of the remaining 2063 licenses for Victoria in Table A4.1 giving 244 licences/permits [see row (t1') of Table A4.1(b)].

The assumption that fee-for-service chemical users represents 10.89% of all non-aerial chemical users is based on the proportion of total commercial operator's licences currently issued in Victoria (698) plus the average number of current pesticide operators (1,350) as a proportion of total licences and permits currently issued in Victoria (18,810) (excluding aerial spray operator and pilot's licences):

$$(698 + 1{,}350)/18{,}810 = 0.10887$$

In Table A4.1(b) the projected annual licensing and permit activity in Tasmania for aerial and fee-for-service users of AgVet chemicals is determined to be 24[163] plus 10.89% of the remaining 750 licenses for Tasmania in Table A4.1 giving 106 licences/permits [see row (t1') of Table A4.1(b)].

For the purpose of estimation and due to lack of data, the same proportion of 10.89% is used to determine non-farm licences and permits for the Northern Territory (i.e. 50 per annum), as shown in Table A4.1(b). Table A4.1(b) also assumes that best practice proportion of random audits regarding licence conditions is 10%[164].

[161] The minimum requirements of the proposed national scheme do not prevent jurisdictions from doing more to address regional risk.
[162] This is the sum of PCRL, AAOL
[163] This is the sum of PCRL, AAOL
[164] Agreed to by PSIC

Finally, with respect to Queensland, 15% of the 4997 licences for commercial operators licences (see Table A4.1) include occupational licensing for State Government agencies, local government, utilities providers, golf and bowling clubs – all of which are not fee-for service providers. Therefore, these are removed from the projected annual licence and permit activity figures in Table A4.1(b).

Table A4.1(b) – Projected annual licence and permit activity by state and territory with removal of farmers and occupational users who use agricultural chemicals and RCPs and S7 poisons (Options B, C1, C2 and D)

Licence or Permit activity	NSW	VIC	QLD	SA	WA	TAS	NT	ACT	Australia
Total number of licences and permits issued annually (excluding farmers and occupational users who use agricultural chemicals and RCPs and S7 poisons) (t1')	**656**	**244**	**6858**	**2236**	**2810**	**106**	**50**	**129**	**13055**
Best practice number of audits (u1') = (t1') x 10%	**66**	**24**	**686**	**224**	**281**	**11**	**5**	**10**	**1305**

Table A4.2 shows a shortfall between current practice and best practice by state and territory.

Table A4.2 – Estimated annual shortfall of monitoring and auditing of licence and permit conditions between current and best practice by state and territory

Jurisdiction	Current number of audits (monitoring licence conditions) (u1)[165]	Best practice number of audits (monitoring of licence or permit conditions) (u1')[166]	Audit shortfall (annual) (w1) = (u1') – (u1)
NSW	20	66	46
VIC	290	24	-266
QLD	360	686	326
SA	97	224	127
WA	0	281	281
TAS	0	11	11
NT	62	5	-57
ACT	0	10	10
Australia	**829**	**1305**	**476**

Table A4.3 represents the estimated weighted cost of additional audits/monitoring of licence and permit conditions required under harmonisation. The number of weighted hours required for meeting the shortfall in audit activities is based on 66%[167] of audit work being field audits and requiring 10 hours[168] (including 4 hours of travel to and from audit destination) and 44% of audit work being desk based requiring 4.5 hours[169] of time [see column (y1) in Table A4.3]. The formula for weighted hours becomes:

Total weighted hours = audit shortfall * [(66% * 10 hours) + (44% * 4.5 hours)]

[165] See Table A4.1 of Appendix 4.
[166] See Table A4.1(b) of Appendix 4.
[167] Includes audit and re-audit activities for an ACUP in Victoria. This is a *conservative* estimate as Qld has advised that their split between desk audits/field audits is 70%/30% and NSW has advised that their split for desk/field audits is approximately 67%/34%.
[168] Based on detailed data supplied for an ACUP in Victoria.
[169] Based on detailed data supplied for an ACUP in Victoria.

Weighting is undertaken in column (z1) of Table A4.3 by assuming that 20% of the work is undertaken by a VPS2 equivalent and 80% is carried out by a VPS4 equivalent staff category[170]. The kind of work involved would include:

- Identify new licence or permit holders from database
- Arrange audit date and time
- Travel to and from audit location (usually done on way to somewhere or as a group in a region)
- Conduct field based audit of records. Discuss issues with licence or permit holder.
- Conduct desk based audit of records following field visit and decide on appropriate course of action.
- Require additional information from auditee and further follow-up
- Write letter, upload audit form and letter to database
- Assessment of audit findings

The formula for weighted cost of additional audits becomes:

Total weighted cost = weighted hours * [(20% * hrly charge out rate for VPS2 equivalent) + (80% * hrly charge out rate for VPS4 equivalent)]

Subsequently, as shown in Table A4.3, it is estimated that the additional annual cost of auditing/monitoring for government under harmonisation would most likely be **$260,438** per annum. Over 10 years and in 2011 present value dollars this would be equivalent to an estimated ***$1,829,208*** using a 7% discount rate.

Table A4.3 – Estimated additional annual and 10-year cost of additional audits/monitoring required for harmonisation as compared to the base case – by state and territory (Options C1, C2 and D)

Jurisdiction	Audit shortfall (w1)[171]	Ratio of field audits to total audits[172] (x1)	Weighted hours required to meet shortfall (y1) = (w1)*{[(x1)*10 hours] + [(1-(x1)*4.5 hours]}	Weighted cost of additional audits required 20% VPS2 equivalent and 80% VPS4 equivalent (z1) = (y1)*[(20%*[s1][173]) + (80%* [s1])]
NSW	46	66%	371	$32,684
VIC	-266	66%	-2160	-$172,045
QLD	326	66%	2649	$211,038
SA	127	66%	1029	$76,528
WA	281	66%	2285	$138,315
TAS	11	66%	86	$6,387
NT	-57	66%	-463	-$37,389
ACT	10	66%	77	$4,922
Australia	**476**		**3874**	**$260,438**
NPV total 10-year cost 2011-12 dollars 7% discount rate				***$1,829,208***
Sensitivity Test				

[170] Based on detailed data supplied for an ACUP in Victoria.
[171] See Table A4.2 of Appendix 4
[172] Includes audit and re-audit activities for an ACUP in Victoria
[173] See Table A3.3 of Appendix 3

Jurisdiction	Audit shortfall (w1)[171]	Ratio of field audits to total audits[172] (x1)	Weighted hours required to meet shortfall (y1) = (w1)*{[(x1)*10 hours] + [(1-(x1)*4.5 hours]}	Weighted cost of additional audits required 20% VPS2 equivalent and 80% VPS4 equivalent (z1) = (y1)*[(20%*[s1][173]) + (80%* [s1])]
3% discount				*$2,221,590*
10% discount				*$1,600,279*

A4.2 – Estimation of additional compliance costs to industry resulting from additional government licence monitoring/auditing activity under harmonisation – Options C1, C2 and D

Estimation of compliance costs to industry of additional licence monitoring and auditing activity required under harmonisation requires an assumption for the amount of time required to comply with a desk audit as opposed to a field audit.

With respect to a desk audit individuals/organisations are offered the option of returning a completed declaration in a pre-paid envelope with either copies of records, or their original records, which the relevant government agency would make copies of and return[174]. Therefore, a conservative assumption of an average of 30 minutes is made regarding the amount of time it would take for a reasonably efficient individual/organisation to make relevant records available to government (not including the need to make copies).

With respect to field audits, a range of average times required for compliance has been provided from various jurisdictions including: 1.75 hours; 1.25 hours and 1.5 hours from New South Wales Office of Environment and Heritage; Department of Primary Industries Victoria and the Australian Government Department of Agriculture Fisheries & Forestry, respectively. For the purposes of estimating compliance costs to industry an estimate of an average of 1.5 hours is therefore used.

Subsequently, as shown in Table A4.4, it is estimated that the additional annual compliance costs to industry of additional auditing/monitoring activity by government under harmonisation would most likely be **$34,909** per annum. Over 10 years and in 2011 present value dollars this would be equivalent to an estimated ***$245,188*** using a 7% discount rate.

Table A4.4 – Estimated additional annual and 10-year cost of compliance costs to industry from the need of additional audits/monitoring required for harmonisation as compared to the base case – by state and territory

Jurisdiction	Audit shortfall (w1)[175]	Ratio of field audits to total audits (x1)[176]	Weighted hours required to meet shortfall (y") = (w1)*{[(x1)*0.5 hours] +[(1-(x1)*1.5 hours]}	Cost of compliance to industry of additional audits under harmonisation (z") = (y")*(h)[177]
NSW	46	66%	53	$3,594
VIC	-266	66%	-308	-$18,520
QLD	326	66%	378	$21,816
SA	127	66%	147	$9,326

[174] Based on advise given from, Department of Primary Industries, Victoria.
[175] See Table A4.2 of Appendix 4
[176] See Table A4.3 of Appendix 4
[177] See Table A1.1 of Appendix 1

Jurisdiction	Audit shortfall (w1)[175]	Ratio of field audits to total audits (x1)[176]	Weighted hours required to meet shortfall (y") = (w1)*{[(x1)*0.5 hours] +[(1-(x1)*1.5 hours]}	Cost of compliance to industry of additional audits under harmonisation (z") = (y")*(h)[177]
WA	281	66%	326	$20,855
TAS	11	66%	12	$773
NT	-57	66%	-66	-$3,729
ACT	10	66%	11	$795
Australia	**476**		**553**	**$34,909**
NPV total 10-year cost 2011-12 dollars 7% discount rate				***$245,188***
Sensitivity Test				
3% discount				*$297,784*
10% discount				*$214,503*

A4.3 – Estimation of licence monitoring and auditing costs for government required under harmonisation – Options A and B

Under Options A and B Victoria, Tasmania and the Northern Territory would still be required to obtain licences and therefore the number of licences affected by audits are therefore taken from Table A4.1 row (t1).

Table A4.5 again assumes that best practice proportion of random audits regarding licence conditions is 10%[178] and shows a shortfall between current practice and best practice by state and territory.

Table A4.5 – Estimated annual shortfall of monitoring and auditing of licence and permit conditions between current and best practice by state and territory

Jurisdiction	Total number of licences and permits issued annually (t1)[179]	Current number of audits (monitoring licence conditions) (u#)[180]	Best practice number of audits (monitoring of licence or permit conditions) (v#) = (t1) x 10%	Audit shortfall (annual) (w#) =(v#) – (u#)
NSW	656	20	66	46
VIC	2082	290	208	-82
QLD	7608	360	761	401
SA	2236	97	224	127
WA	2810	0	281	281
TAS	774	0	77	77
NT	462	62	46	-16
ACT	95	0	10	10
Australia	**16723**	**829**	**1672**	**843**

Subsequently, as shown in Table A4.6, it is estimated that the additional annual cost of auditing/monitoring for government under harmonisation would most likely be **$482,221** per annum. Over 10 years and in 2011-12 present value dollars this would be equivalent to an estimated ***$3,386,920*** using a 7% discount rate.

[178] Agreed to by PSIC
[179] See Table A4.1 of Appendix 4
[180] See Table A4.1 of Appendix 4

Table A4.6 – Estimated additional annual and 10-year cost of additional audits/monitoring required for harmonisation as compared to the base case – by state and territory

Jurisdiction	Audit shortfall (w#)[181]	Ratio of field audits to total audits[182] (x1)	Weighted hours required to meet shortfall (y#) = (w#)*{[(x1)*10 hours] +[(1-(x1)*4.5 hours]}	Weighted cost of additional audits required 20% VPS2 equivalent and 80% VPS4 equivalent (z#) = (y#)*[(20%*(s1)[183]) + (80%* (s1))]
NSW	46	66%	371	$32,684
VIC	-82	66%	-665	-$70,840
QLD	401	66%	3259	$259,583
SA	127	66%	1029	$76,528
WA	281	66%	2285	$138,315
TAS	77	66%	629	$46,787
NT	-16	66%	-128	-$5,758
ACT	10	66%	77	$4,922
Australia	**843**		**6856**	**$482,221**
NPV total 10-year cost 2011-12 dollars 7% discount rate				***$3,386,920***
Sensitivity Test				
3% discount				*$4,113,445*
10% discount				*$2,963,040*

A4.4 – Estimation of additional compliance costs to industry resulting from additional government licence monitoring/auditing activity under harmonisation – Options A and B

As shown in Table A4.7, it is estimated that the additional annual compliance costs to industry of additional auditing/monitoring activity by government under harmonisation would most likely be **$60,328** per annum. Over 10 years and in 2011-12 present value dollars this would be equivalent to an estimated ***$423,715*** using a 7% discount rate.

Table A4.7 – Estimated additional annual and 10-year cost of compliance costs to industry from the need of additional audits/monitoring required for harmonisation as compared to the base case – by state and territory

Jurisdiction	Audit shortfall (w#)[184]	Ratio of field audits to total audits (x1)[185]	Weighted hours required to meet shortfall (y#2) = (w#)*{[(x1)*0.5 hours] +[(1-(x1)*1.5 hours]}	Cost of compliance to industry of additional audits under harmonisation (z#2) = (y#2)*(h)[186]
NSW	46	66%	53	$3,594
VIC	-82	66%	-95	-$5,703
QLD	401	66%	465	$26,835
SA	127	66%	147	$9,326
WA	281	66%	326	$20,855
TAS	77	66%	90	$5,660

[181] See Table A4.5 of Appendix 4
[182] Includes audit and re-audit activities for an ACUP in Victoria
[183] See Table A3.3 of Appendix 3
[184] See Table A4.5 of Appendix 4
[185] See Table A4.3 of Appendix 4
[186] See Table A1.1 of Appendix 1

Jurisdiction	Audit shortfall (w#)[184]	Ratio of field audits to total audits (x1)[185]	Weighted hours required to meet shortfall (y#2) = (w#)*{[(x1)*0.5 hours] +[(1-(x1)*1.5 hours]}	Cost of compliance to industry of additional audits under harmonisation (z#2) = (y#2)*(h)[186]
NT	-16	66%	-18	-$1,034
ACT	10	66%	11	$795
Australia	**843**		**978**	**$60,328**
NPV total 10-year cost 2011-12 dollars 7% discount rate				***$423,715***
Sensitivity Test				
3% discount				*$514,606*
10% discount				*$370,687*

Appendix 5: Estimation of additional reporting costs required under harmonisation – Options A, B, C1, C2 and D

A5.1 – Estimation of additional reporting costs

The purpose of Appendix 5 is to estimate the additional reporting costs for chemical users as under harmonisation with Options, A, B C1, C2 and D - as compared to the base case. Maintaining 'records of the application of AgVet chemicals provides opportunities for users to better manage the risks associated with AgVet chemical use'[187]. With harmonisation, various states and territories which do not currently have a reporting requirements and chemical users in those jurisdictions would be affected by additional administrative costs. As discussed in the base case (see Part 4.2) there is no general requirement for farmers and other individual users to keep records in South Australia, Western Australia, and the Australian Capital Territory. The estimation of providing auditable records costs involves estimating the total number of users affected, the time taken to keep records and the hourly charge out rate of administrative/clerical workers.

A5.1.1 Total number of farmers and individual users affected by additional reporting requirements

The total number of farmers and individual users affected by recordkeeping requirements under harmonisation is 2,925 per annum, as shown in Table A5.1. The estimates for South Australia and Western Australia are based on the number of untrained users on advice from these two jurisdictions. The estimates are *very* conservative as some farmers and individual users may keep records as part of good business practice – however the extent of such practice is unknown. The estimate for users affected for the ACT is established using the same methodology.

Table A5.1 – Estimated total number of famers and individual users affected by recordkeeping with harmonisation over 10 years by state and territory

Jurisdiction affected under harmonisation	Total number of annual number of farmers and individual users affected by recordkeeping (t1) = (y)[188]	Total number of farmers and individual users over a 10 year period affected by recordkeeping 2001-11 (a2) = (t1) * 10
SA	1311	13113
WA	1579	15788
ACT	35	350
Australia	**2925**	**29250**

A5.1.2 Time requirements for maintaining auditable records regarding AgVet *chemical use*

For the purpose of estimation it is assumed that keeping records about the use of AgVet chemicals requires filling in a form at an average of five minutes and with a median frequency of nine[189] applications per annum. The amount of work that would be required to adhere to reporting requirements is therefore given as 45 minutes or roughly 0.75 hours per annum.

[187]Department of Primary Industries, (July 2008), *Auditing DPI Chemical Use for Compliance with the Agricultural and Veterinary Chemicals (Control-of-Use) Act 1992. Audit & survey report*, Department of Primary Industries, Melbourne, p.4.
[188] See Table A2.2 of Appendix 2 (estimates recommended by SA and WA).
[189]Estimate number of annual applications per year taken from OHE NSW data.

A5.1.3 Estimation of additional recordkeeping costs under harmonization

The estimate of additional recordkeeping costs as compared to the base case is given by the product of column (a2) of Table A5.1 (total number of users affected over 10 years); the time taken per user for maintaining auditable records (20 minutes); and column (e2) of Table A5.2 (estimated clerical hourly charge out rate), as shown in Table A5.2. Under Options A, B, C1, C2 and D, it is estimated that the additional annual cost to chemical users would most likely be around **$1,401,029**. Over 10 years and in 2011-12 present value dollars this would be equivalent to an estimated ***$9,840,241*** - using a 7% discount rate.

Table A5.2 – Estimated annual additional cost of recordkeeping with harmonisation as compared to the base case – by state and territory

Jurisdiction	**Total number of farmers and individual users over 10 years affected by recordkeeping 2001-11(a2)[190]**	**Hours required for recordkeeping per annum 5 min @ 9 applications / annum (b2)[191]**	**Hourly charge out rate Clerical/ administrative (h)[192]**	**Annual cost of recordkeeping (c2) = (a2) * (b2) * (h)**
SA	13113	0.75	$64	$624,544
WA	15788	0.75	$64	$757,575
ACT	350	0.75	$72	$18,910
Australia	**29250**			**$1,401,029**
NPV total 10-year cost 2011-12 dollars 7% discount rate				***$9,840,241***
Sensitivity Test				
3% discount rate				*$11,951,061*
10% discount rate				*$8,608,717*

[190] See Table A5.1 of Appendix 5.
[191] See Part A5.1.2 for discussion of estimate.
[192] See Table A1.1 of Appendix 1.

Appendix 6: Estimation of maximum potential cost savings (benefits) under a cross-jurisdictional licence – Options B, C1, C2 and D

The purpose of Appendix 6 is to estimate the costs savings or benefits under a cross-jurisdictional licence for chemical users, who would otherwise be affected by the regulatory burden of needing multiple licences or permits under the base case across multiple jurisdictions. Chemical users benefiting from a national licensing model would include those who work on a fee-for-service or other paid basis including pest management technicians; aerial sprayers; ground sprayers; and fumigators. Other beneficiaries would include occupational users (namely, farmers) using RCPs and S7 poisons in Victoria, Northern Territory and Tasmania who are not licensed in the above categories. Farmers in NSW, Queensland, South Australia, Western Australia, and the Australia Capital Territory do not require AgVet chemical licenses under the base case (see Table A12.1 in Appendix 12) and therefore the cross-jurisdictional licence would not have any impact on these states for occupational users.

A6.1 – Estimation of maximum potential cost savings additional benefits to aerial sprayer operators and pilots resulting from cross-jurisdictional licence under Options B, C1, C2 and D

Aerial Agricultural Association of Australia (AAAA) currently has a membership of 130 active Australian agricultural aircraft operators (including 30 helicopter operations and 100 fixed wing operations), which represents 100% of all operators in Australia.[193] Under the base case these operators would need to obtain an Agricultural Aircraft Operator Licence or equivalent once every three years for four jurisdictions on average. There are 350 pilot members of the AAAA[194] representing 100% of all aerial spraying pilots currently in Australia. These pilots would need to obtain a Pilot (Chemical Rating) Licence or equivalent typically once every three years and for seven jurisdictions on average.

The number of estimated agricultural aircraft operators and pilots is not apportioned by state and territory due to lack of data on exact numbers and has been omitted based on advice from the AAAA. Furthermore, it is assumed that operators potentially need three fewer 'duplicate' licences [see column (f2) in Table A6.1] and pilots would need six[195] fewer 'duplicate' licences [see column (i2) in Table A6.2] in order to work across relevant jurisdictions as compared to the base case.

Table A6.1 – Estimated maximum potential number of aerial spraying operators affected by the proposed cross-jurisdictional licence and the number of additional licences saved per annum as compared to the base case

Jurisdiction	Number of aerial operators (d2)	Saving of 3 licences every 3 years (f2) = (d2) * 3 * 3	Annual number of additional licences saved by operators (g2) = (f2)/10
Australia	**130**	**1170**	**117**

[193] Confirmed with the AAAA
[194] Confirmed with the AAAA
[195] The number of duplicate pilot licences required is changed from 7 to 6 per state as Queensland recognises these licences.

Table A6.2 – Estimated number of aerial spraying pilots affected by cross-jurisdictional licence and number of additional licences saved per annum as compared to the base case

Jurisdiction	Number of pilots affected by cross-jurisdictional licence (h2)	Saving of 6 licences every 3 years (i2) = (h2) * 6 * 3	Annual number of additional licences saved by pilots (j2) = (i2)/10
Australia	**350**	**6300**	**630**

Estimated annual dollar benefits comprise both fee savings to operators and pilots, as well as the cost of time for making an application. It is assumed that the time required for the preparation of an application for both the aerial sprayer operator's and pilot's licence is 20 minutes[196]. Furthermore, the fee for an aerial spraying pilot's licence ranges from:

- $50 for a Pilot – Pesticides Rating licence in NSW[197];
- $198 for an Application for Pest Management Technician's Licence: Aerial Agricultural Pest Control in South Australia; and
- $274.95 for a Pilot (Chemical Rating) Licence in Victoria[198].

However, all these fees are based on partial cost recovery and are not appropriate for estimating incremental change of the cross-jurisdictional licence as this would neither reflect the true opportunity cost of activities nor the fact that the intention of the cross-jurisdictional licence is to move towards full cost recovery. Current work in Victoria has established that a Pilot (Chemical Rating) Licence based on full cost recovery would be around $1,260. Therefore, this is used for estimating incremental costs savings for pilots.

Similarly, the Victorian aerial operator's licence is currently $701.65[199] however, it has been established that the full cost recovery figure for an operator's licence is likely to be around $2,150. For the purpose of comparing like with like, these full-cost recovery estimates are used as a proxy for the full cost recovery fees for an aerial sprayers pilot and operator's licence in columns (k2) and (n2) in Table A6.3.

The time and fee cost that would potentially be saved under a cross-jurisdictional licence as compared to the base case for aerial operators and pilots is therefore estimated to be **$1,061,064** per annum, as shown in Table A6.3. Over 10 years and in present value terms this would be equal to an estimated ***$7,452,468*** using a 7% rate of discount.

[196] Applications vary between 3 to 5 pages in length.
[197] http://www.license.nsw.gov.au/Licence_Launchpad_Pesticide.htm.
[198] http://new.dpi.vic.gov.au/agriculture/farming-management/chemical-use/agricultural-chemical-use/licenses-permits/agricultural-aircraft-operator-licence-and-pilot-chemical-rating-licence.
[199] <http://new.dpi.vic.gov.au/agriculture/farming-management/chemical-use/agricultural-chemical-use/licenses-permits/agricultural-aircraft-operator-licence-and-pilot-chemical-rating-licence as at 1 July 2012>

Table A6.3 – Estimated annual additional cost savings of cross-jurisdictional licence for aerial spraying operators and pilots by state under Options B, C1, C2 and D

Jurisdiction	Full cost recovery fees saved for aerial spraying operators (k2) = (g2)[200] * $2150	Time cost saved by aerial spraying operators (l2) = 20min*(g2) *(h)[201]	Total cost savings for aerial spraying operators (m2) = (k2) + (l2)	Full cost recovery fees saved for aerial spraying pilots (n2) = (j2)[202]* $1260	Time cost saved by aerial spraying pilots (o2) = 20min*(j2) *(h)[203]	Total cost savings for aerial spraying pilots (p2) = (n2) + (o2)	Total annual cost savings both categories of users (q2) = (m2) + (p2)
Australia	$251,550	$2,461	$254,011	$793,800	$13,253	$807,053	$1,061,064
NPV total 10-year cost 2011-12 dollars 7% discount rate							***$7,452,468***
Sensitivity Test							
3% discount rate							*$9,051,089*
10% discount rate							*$6,519,777*

A6.2 – Estimation of cost savings (additional benefits) to chemical users (non-aerial) resulting from removal of duplication of licences with cross-jurisdictional licence under Options B, C1, C2 and D

Benefits in Part A6.2 are calculated for who are not licensed as aerial spray operators or pilots, namely pest management technicians; ground sprayers; and fumigators, as well as, other occupational users (i.e. farmers) using RCPs and S7 poisons. For the purpose of estimation it is assumed that under a cross-jurisdictional licence it would be likely that there would be a reduction in the duplication of licences by at least 10%[204] which takes account of technicians, ground sprayers, fumigators, and occupational users operating across multiple jurisdictions. In addition, it is also assumed that licences need to be obtained once over a 10-year period [similar to an Agricultural Chemical User Permit (ACUP)]. Due the variability of licencing periods between jurisdictions, once every 10 years is used as a conservative assumption.

The number of licences and permits affected by a reduction in duplication (i.e. reduction in regulatory burden) under Options B, C1, C2 and D, as shown in column (r2) of Table A6.4, is assumed to be 10% of those in column (t")[205] – not including licences/permits for pilots or aerial spraying operators.

All non-aerial licences and permits issued in New South Wales, South Australia, Western Australia and the Australian Capital Territory are taken to be 100% fee-for-service, as there is no licensing of general users including farmers.

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[200] See Table A6.1 of Appendix 6.
[201] The national average of charge out rates of $63 (See Table A1.1 of Appendix 1).
[202] See Table A6.2 of Appendix 6.
[203] The national average of charge out rates of $63 (See Table A1.1 of Appendix 1).
[204] Agreed to by PSIC. This assumption was made in consultation with government departments in the relevant jurisdictions. The proportion of 10% was not seen as significant and would take account of the larger chemical users (including farmers and fee-for-service chemical users) who operate across borders.
[205] Total number of licences/permits in column (t") is based on column (t1') of Table A4.1(b) of Appendix 4 *less* aerial spray operators and pilots licences/permits: 7 for NSW; 19 for VIC; 78 for QLD; 63 for SA; 40 for WA and 24 for TAS.

On the other hand, in order to determine the proportion of fee-for-service chemical users in Victoria, Northern Territory and Tasmania (where general users including farmers are licensed) - an assumption is made that this category represents 10.89% of all non-aerial chemical users. This percentage is based on the proportion of total commercial operator's licences currently issued in Victoria (698) plus the average number of current pesticide operators (1,350)[206] as a proportion of total licences and permits currently issued in Victoria (18,810) (excluding aerial spray operator and pilot's licences):

$$(698 + 1{,}350)/18{,}810 = 0.10887$$

In relation to Queensland, the estimated reduction in the number of duplicative licences for non-aerial fee-for-service users in column (s2) of Table A6.4 (i.e. 678) is determined by taking the number of commercial operators licences for QLD (4,997) (see Table A4.1) and subtracting non fee-for-service users (i.e. 15% of theses licences) and then adding the remaining licences in Table A4.1 (excluding the aerial spray operators and pilots licences/permits) and then multiplying the final figure by 10%.

The number of general (non aerial and non fee-for-service) users of RCPs and S7 poisons including farmers in Victoria, Tasmania and the Northern Territory affected by a reduction in duplication of licenses under the cross-jurisdictional licence is estimated by taking the total number of licenses affected [column r(2) in Table A6.4] subtracting the number for fee-for-service users [column s(2) in Table A6.4].

Table A6.4 – Estimated reduction in duplicate licences/permits required under cross-jurisdictional licence for (non-aerial) fee-for-service and non fee-for-service chemical users by state and territory

Jurisdiction	Total number of licences and permits issued annually (non-aerial) (t")	Total reduction in number of duplicative licences and permits issued annually (non-aerial) as a result of the cross-jurisdictional licence (r2) = (t") * 10%	Total reduction in the number of duplicative licences and permits issued annually (non-aerial) *fee-for-service* as a result of the cross-jurisdictional licence (s2) = (r2) x 10.89% (VIC, TAS and NT) or (s2) = (r2) * 100% (except for QLD)	Total reduction in the number of duplicative licences and permits issued annually (non-aerial and non *fee-for-service*) as a result of the cross-jurisdictional licence (t2) = [(r2) – (s2)]
NSW	649	65	65	0
VIC	2063	206	22	184
QLD	7530	753	678	75
SA	2173	217	217	0
WA	2770	277	277	0
TAS	750	75	8	67
NT	462	46	5	41
ACT	95	10	10	0
Australia	**16492**	**1649**	**1282**	**367**

Moreover, current work in Victoria has shown full cost recovery fee for an ACUP or equivalent permit (which represents 86.6% of all licences and permits) is around $2,425. Therefore this figure is used a proxy for full cost recovery fees across licences and permits to estimate the incremental benefit of going to a cross-jurisdictional licence which is based on

[206] Estimate of between 1200 and 1500 is provided by DHS Victoria

full-cost recovery. Again it is assumed that an application would take roughly 20 minutes on average to complete.

The time and fee cost that would potentially be saved under a cross-jurisdictional licence[207] as compared to the base case for non-aerial and non-fee-for-service chemical users (namely farmers) is therefore estimated to be **$896,794** per annum, as shown in Table A6.5. Over 10 years and in present value terms this would be equal to an estimated ***$6,298,708*** using a 7% discount rate.

Table A6.5 – Estimated annual additional duplicative licence cost savings of cross-jurisdictional licence for chemical users (non-aerial/non-fee-for-service) by state and territory – Options C1, C2 and D

Jurisdiction	Total reduction in the number of duplicative licences and permits issued annually for chemical users (non-aerial and non-fee-for-service) as a result of the cross-jurisdictional licence (t2)[208]	Full cost recovery fees saved for chemical users (non-aerial and non-fee-for-service) (u2) = (t2) * $2425	Annual time cost saved by chemical users (non-aerial and non-fee-for-service) (v2) = 20min * (t2) * (h)[209]	Total annual cost savings for chemical users (non-aerial and non-fee-for-service) (w2) = (u2) + (v2)
NSW	0	$0	$0	$0
VIC	184	$445,812	$3,683	$449,495
QLD	75	$181,766	$1,442	$183,208
SA	0	$0	$0	$0
WA	0	$0	$0	$0
TAS	67	$162,074	$1,405	$163,479
NT	41	$99,838	$774	$100,612
ACT	0	$0	$0	$0
Australia	**367**	**$889,490**	**$7,304**	**$896,794**
NPV total 10-year cost 2011-12 dollars 7% discount rate				***$6,298,708***
Sensitivity Test				
3% discount rate				*$7,649,837*
10% discount rate				*$5,510,413*

The time and fee cost that would potentially be saved under a cross-jurisdictional licence as compared to the base case for fee-for-service chemical users (non-aerial) is estimated to be **$3,135,787** per annum, as shown in Table A6.6. Over 10 years and in present value terms this would be equal to an estimated ***$22,024,453*** using a 7% discount rate.

Table A6.6 – Estimated annual additional duplicative licence cost savings of cross-jurisdictional licence for fee-for-service chemical users (non-aerial) by state and territory – Options B, C1, C2 and D

[207] This saving (as shown in Table A6.5) is not relevant under Option B as the NLS would apply to fee-for-service users only
[208] See Table A6.4 of Appendix 6
[209] See Table A1.1 of Appendix 1

Jurisdiction	Total reduction in the number of duplicative licences and permits issued annually for fee-for-service chemical users(non-aerial) as a result of the cross-jurisdictional licence (s2)[210]	Full cost recovery fees saved for fee-for-service chemical users (non-aerial) chemical users (x2) =(s2) * $2425	Annual time cost saved by fee-for-service chemical users (non-aerial) chemical users (y2) = 20min * (s2) * (h)[211]	Total annual cost savings for fee-for-service chemical users (non-aerial) (z2) = (x2) + (y2)
NSW	65	$157,383	$1,470	$158,852
VIC	22	$54,465	$450	$54,915
QLD	678	$1,644,259	$13,045	$1,657,304
SA	217	$526,953	$4,600	$531,552
WA	277	$671,725	$5,908	$677,633
TAS	8	$19,801	$172	$19,972
NT	5	$12,197	$95	$12,292
ACT	10	$23,038	$228	$23,266
Australia	**1282**	**$3,109,820**	**$25,967**	***$3,135,787***
NPV total 10-year cost 2011-12 dollars 7% discount rate				***$22,024,453***
Sensitivity Test				
3% discount rate				*$26,748,896*
10% discount rate				*$19,268,051*

A6.3 – Estimation of licensing cost savings (additional benefits) to general users of RCPs and S7 Poisons (including farmers) with the cross-jurisdictional licence under Options C1, C2 and D

Under the minimum standards of the proposed licensing scheme, farmers in Victoria, Tasmania and the Northern Territory using RCPs and S7 poisons, would no longer be required to obtain licences. Moreover, general occupational users in Queensland (such as weed control commercial operators) would similarly no longer be required to obtain licences. The number of licences affected over 10 years for the affected states and territory are given in Table A6.7 and are estimated by the subtraction of the figures in row (t1') in Table A4.1(b) from the figures in row (t1) in Table A4.1.

Moreover, current work in Victoria has shown full cost recovery fee for an ACUP or equivalent permit, and representing 86.6% of all licences and permits, is around $2,425. Therefore this figure is used a proxy for full cost recovery fees across licences and permits to estimate the incremental benefit of going to a cross-jurisdictional licence which is based on full-cost recovery. Again it is assumed that an application would take roughly 20 minutes on average to complete.

[210] See Table A6.4 of Appendix 6
[211] See Table A1.1 of Appendix 1

The time and fee cost that would potentially be saved under a cross-jurisdictional licence[212] as compared to the base case for non-aerial and non-fee-for-service chemical users (namely farmers) is therefore estimated to be **$8,967,943** per annum, as shown in Table A6.7. Over 10 years and in present value terms this would be equal to an estimated ***$62,987,076*** using a 7% discount rate.

Table A6.7 – Estimated annual additional licensing cost savings of cross-jurisdictional licence for farmers and occupational users using agricultural chemicals and RCPs and S7 poisons by state and territory – Options C1, C2 and D

Jurisdiction	Total reduction in the number of licences issued annually for farmers and occupational users using agricultural chemicals and RCPs and S7 poisons (z2^) = (t1)[213] – (t1')[214]	Full cost recovery fees saved for farmers and occupational users using agricultural chemicals and RCPs and S7 poisons (u2^) = (z2^) * $2425	Annual time cost saved by farmers and occupational users using agricultural chemicals and RCPs and S7 poisons (v2^) = 20min x (z2^) * (h)[215]	Total annual cost savings for chemical users (non-aerial and non-fee-for-service) (w2^) = (u2^) + (v2^)
NSW	0	$0	$0	$0
VIC	1838	$4,458,123	$36,830	$4,494,953
QLD	750	$1,817,659	$14,421	$1,832,080
SA	0	$0	$0	$0
WA	0	$0	$0	$0
TAS	668	$1,620,743	$14,045	$1,634,788
NT	412	$998,377	$7,744	$1,006,122
ACT	0	$0	$0	$0
Australia	**3668**	**$8,894,902**	**$73,041**	**$8,967,943**
NPV total 10-year cost 2011-12 dollars 7% discount rate				***$62,987,076***
Sensitivity Test				
3% discount rate				*$76,498,370*
10% discount rate				*$55,104,125*

[212] This saving (as shown in Table A6.5) is not relevant under Option B as the NLS would apply to fee-for-service users only
[213] See Table A4.1 of Appendix 4 for source of values
[214] See Table A4.1(b) of Appendix 4 for source of values
[215] See Table A1.1 of Appendix 1

Appendix 7: Estimation of the change in regulatory burden with respect to allowable variations on approved uses under Options C1, C2 and D as compared with the base case

Currently under the base case, unless state or territory legislation allows conditional access - a minor use permit must be obtained via the APVMA to allow for the use of:

- an unregistered product;
- a chemical product used at a rate higher than maximum rate on the label for that use;
- a chemical product used more frequently than the use intervals specified on the label for that use;
- uses in crops and situations not approved on the label;
- new application equipment; and/or
- a chemical product contrary to a specific restraint statement on the product label.

The APVMA minor use permit represents a regulatory solution to the economic disincentive for chemical manufacturers to register chemicals for use on minor crops *even if that chemical is suitable*. This disincentive stems from a lack or return to meet the costs involved in generating data for registration of a chemical for minor use including: residue; efficacy; environmental; and worker safety data. The lack of registration of chemicals for minor use presents problems for farmers seeking access to alternative chemicals to deal with risk of overuse and subsequent resistance of chemicals by pests and fungi.

Another solution to the aforementioned economic disincentive is to provide for allowable variations on approved uses of chemicals under certain conditions. Currently, the Northern Territory, Western Australia, and Queensland allow conditional off-label variation to the use of products without APVMA permits providing that the product is registered for use on the crop and the use is not contrary to a restraint statement on the label. South Australia provides for off-label use with similar conditions to Victoria. In Victoria off-label use permits are not required where chemicals are:

- registered; not 'restricted use' chemicals[216];
- used at or below the maximum application rate for that use;
- used at or less frequently than the use intervals specified on the label for that use;
- not used contrary to restrictive or prohibitive statements (i.e. those with a DO NOT warning) on the product label; and
- in the case of products or constituents prescribed by the regulations, used in the prescribed manner, or for the prescribed purposes, or in the circumstances prescribed.[217]

Allowable variations to approved uses of unrestricted chemicals represent an important feature of flexibility, which ensures that a more appropriate balance between risk and access to chemicals for users is achieved. Restrictions on allowable uses under the proposed model are outlined in Part 3.0. Where certain use conditions for unrestricted chemicals for these states and the territory are met, the cost of applying for certain minor use permits (including cost of applicant's time and permit fees) is avoided.

[216] Under section 25A of the Act.

[217] See section 19 of the Act. No chemicals have been so prescribed at this stage.

Under Options C1, C2 and D it is intended that there would be one set of conditions allowing for access to the use of unrestricted chemical products without the need to apply for an APVMA permit.

A7.1 – Estimation of the reduction in the number of minor use permits that would have to be obtained in Australia under Options C1, C2 and D as compared to the base case

To estimate future permit needs under the proposed model it is appropriate to examine the purposes for which those permits have been sought (from a control-of-use perspective). It is not appropriate to calculate potential need for permits issued in one state as a basis for estimating likely requirements in other states as in practice many permits are applied for and relevant to multiple jurisdictions and would be contrary to how permit applications are submitted and assessed by the APVMA and may duplicate the numbers of permits required. For example, permits sought for both major & minor crops are typically applied for by peak industry bodies who generally seek approval in all states where the crop is grown and/or where the target pest requires treatment. Variations exist as to the coverage of particular types of permits in states. For non-crop permits many involve issuance in only a single state. Non-crop uses are typically associated with addressing local needs in areas such as weed, vertebrate or invertebrate pest management and are commonly applied for by state government agencies. For crop permits it is the contrary where a large number of these permits are applicable to multiple states. For example five states were present in greater than 50% of permits issued and these applications are generally lodged by national peak industry bodies on behalf of all growers nationally. Therefore the analysis of reduction in minor use permits is conducted on a national basis.

In a PSIC 2005 paper reporting minor use statistics, the vast majority of permit applications sought were for uses in new crops or situations (71%). Other permits were for additional pests (16%), varied methods of application (5%), state extensions (5%), lower rates of application (2%) and higher rates of application (1%). The APVMA believes that these figures remain relatively indicative of current trends although requirements for permits for lower rates of applications ceased when the NSW COU legislation varied several years ago. In order to adjust from for lower rates of applications, the 2% is added to uses in new crops or situations bringing this up to 73%[218].

Between 2007-2011 (over 5 years) the APVMA issued on average 343 permits for minor & emergency use purposes. These were made up of:

- new use approvals[219] (60% or 206 permits) or renewals of previously issued permits (40% or 137 permits),
- use in cropping situations (74%) and non-crop purposes (26%),
- in cropping situations major crops were present in 58% permits and solely minor crops in 42% permits. Of new use approvals residue assessments were required for 38% of permits involving major crops and 85% of permits involving minor crops.

Based upon the statistics and trends associated with permit applications lodged with and assessed by the APVMA for the above two periods estimations have been made as to the

[218] Recommended by the APVMA

[219] New use approvals include 143 new permits and 63 amendments involving the addition of new crops, states, products or other refinements to an approved permit.

reduction in the number of permits required under the NLS and are summarised in Table A7.1.

Table A7.1: Reduction in the number of permits required under the cross-jurisdictional licence

Purpose of permit		Percentage (%) of total applications		Average number of annual permits under the existing scheme	Average number of annual permits expected under the cross-jurisdictional licence	Reduction in permits required
Varied methods/higher rate of application		6		21	21	0
Crop & Non crop	Including Major crops	73	31	107	107	0
	Solely Minor crops		23	78	66	12
	Non-crop		19	65	65	0
State extensions		5		17	12	5
Additional pests		16		55	0	55
Total		**100 %**		**343**	**271**	**72**

Varied methods/higher rate of application

The number of permits required for different methods of application and higher rates of application is given as 343 permits x 6% = 21**,** as shown in Table A7.1. According to the APVMA, under the cross-jurisdictional licence the same number of permits would be required and therefore the reduction in APVMA permits is given as 0 for this category.

Major, minor and non-crops

Where 73% of applications involve off-label uses in crops and non-crop situations, it is calculated that permits containing solely major crops are 31% (73% x 74% x 58%), those that include minor crops are 23% (73% x 74% x 42%) and non-crop are 19% (73% x 26%), as shown in Table A7.1.

Major and minor crops

Of the major & minor crop uses combined this is calculated as 343 x 73% (new crops or situations) x 74% (crop) = 185. Of these permits for crop uses, 58% will involve major crops (i.e. 107 permits) (see Table A7.1) and 42% will involve minor crops (i.e. 78 permits). The major crops will still be subject to the requirement for 107 permits both with and without the cross-jurisdictional licence, bringing about a reduction in APVMA permits of 0 for this category.

With respect to permits for the minor crop uses, and based on 85% of these needing residue assessment, the number of permits need under the cross-jurisdictional licence is estimated to be 78 minor crop use permits x 85% = 66 permits. This would mean a reduction in APVMA permits by 12 for this category per annum (see Table A7.1).

Non-crop uses

Permits for non-crop uses are calculated to be 343 x 73% (new crops or situations) x 26% (non-crop) = 65 permits and there would be no reduction in APVMA permits for this category.

State extensions

Permits for state extensions are calculated to be 343 x 5% (state extensions) = 17 permits under the existing system. Under the cross-jurisdictional licence the number of permits for state extensions is calculated to be 12 where permits would still be required for those seeking use in major crops and non-crop situations:

[343 x 5% (state extension) x 57% (major crops) x 74% (crops)] + [343 x 5% (state extension) x 26% (non-crop)] = 12

Therefore under the cross-jurisdictional licence there would be 5 fewer APVMA permits per annum.

Additional pests

Under the cross-jurisdictional licence, permits would no longer be necessary for 16% of applications or those seeking additional pests. Based upon on average of 343 permits issued per annum, it is estimated that this may see a reduction of 55 permits required per annum.

A7.1 – Estimation of the reduction in regulatory burden under Options C1, C2 and D as compared to the base case

The cost of minor use permits comprises:

- fees to chemical users. The current fee of $350 for off-label use is used to specifically recover the administrative costs of the application[220]; and
- the cost of time of making an application by a chemical user. It is assumed that the time required for the preparation of an application for an off-label use permit is 60 minutes.

As shown in Table A7.2, the annual net savings in regulatory burden in relation to allowable variations under the cross-jurisdictional licence is estimated to be **$29,744** and includes fee cost savings and time cost savings of otherwise needing to apply for the APVMA minor use permits. Monitoring and enforcement costs under allowable variations under the cross-jurisdictional licence would still be incurred, as conditions for such variations of use without a permit would still need to be monitored and enforced. Over 10 years and in present value terms this would be equal to an estimated ***$208,907*** using a 7% discount rate.

Table A7.2 – Estimated annual reduction in regulatory burden for users of chemicals off-label who meet conditions under Options C1, C2 and D, as compared to the base case

Jurisdiction	Estimated reduction in the number of permits required by users of chemicals off-label but meeting conditions (a3)	Full cost recovery permit fees saved annually (b3) = (a3) * $350	Annual time cost saved by chemical users in not having to obtain off-label use permits (c3) = 1hour * (h)[221]	Estimated total annual cost savings in regulatory burden (d3) = (b3) + (c3)
Australia	**72**	**$25,200**	**$4,544**	**$29,744**
NPV total 10-year cost 2011-12 dollars 7% discount rate				***$208,907***
Sensitivity Test				

[220] DAFF (March 2005) *Final Cost Recovery Impact Statement on the Proposed Revised Cost Recovery Framework for The National Registration Scheme for Agricultural and Veterinary Chemicals*

[221] See Table A1.1 of Appendix 1 (average of salaries taken to represent Australia as a whole).

3% discount rate	*$253,720*
10% discount rate	*$182,762*

Appendix 8: Estimation of one-off cost of harmonisation as compared with the base case – under Options A, B, C1, C2 and D

The purpose of Appendix 8 is to estimate the one-off additional cost of:

- harmonisation of relevant control-of-use Acts and Regulations;
- recognition of standardised competencies in licensing systems; and
- additional amendments to the IGA under Options A, B, C1, C2 and D.

For the purpose of estimation it is assumed that the staff resource requirement would potentially entail one legislation officer and one person from Parliamentary Counsel, reflecting VPS3 and VPS4 equivalent positions, respectively. Furthermore, it is estimated that the work would involve between 216 and 288 hours for the legislation officer and between 108 and 144 hours for a person from Parliamentary Counsel. The amendments to the IGA would be drafted by a *single government solicitor* acting for one of the parties to the IGA (e.g. the Australian Government) again at the VPS-4 equivalent position.

Based on these assumptions, it is estimated that the one-off additional cost of such legislative work over 10 years (and occurring in the first year) is estimated to be around ***$130,723*** using a 7% discount rate (see Table A8.1).

Table A8.1 – Estimated one-off additional cost of harmonisation and standardisation of competencies under the licensing system as compared with the base case under Options A, B, C1, C2 and D – by state and territory (2011)

Position (Jurisdiction)	Person weeks lower limit (e3)	Person weeks upper limit (f3)	Person hours lower limit (g3)	Person hours upper limit (h3)	Hrly charge out rate (s1)[222]	Cost lower limit (i3) = (g3) * (s1)	Cost upper limit (j3) = (h3) * (s1)	Average cost (k3) = [(i3)+(j2)]/2
Legislation officer - VPS3 equivalent	6	8	216	288	$80	$17,305	$23,073	$20,189
Parliamentary Counsel - VPS4 equivalent	3	4	108	144	$95	$10,228	$13,637	$11,932
Total Cost NSW						$27,532	$36,710	**$32,121**
Legislation officer - VPS3 equivalent	6	8	216	288	$72	$15,637	$20,849	$18,243
Parliamentary Counsel - VPS4 equivalent	3	4	108	144	$86	$9,242	$12,322	$10,782
Total Cost VIC						$24,879	$33,172	**$29,025**
Legislation officer - VPS3 equivalent	6	8	216	288	$72	$15,637	$20,849	$18,243
Parliamentary Counsel - VPS4 equivalent	3	4	108	144	$86	$9,242	$12,322	$10,782
Total Cost QLD						$24,879	$33,172	**$29,025**
Legislation officer - VPS3 equivalent	6	8	216	288	$68	$14,594	$19,459	$17,027
Parliamentary Counsel - VPS4 equivalent	3	4	108	144	$80	$8,626	$11,501	$10,063
Total Cost SA						$23,220	$30,960	**$27,090**
Legislation officer - VPS3 equivalent	6	8	216	288	$55	$11,884	$15,845	$13,865
Parliamentary Counsel - VPS4 equivalent	3	4	108	144	$65	$7,024	$9,365	$8,194
Total Cost WA						$18,908	$25,210	**$22,059**

[222] See Table A3.3 of Appendix 3

Legislation officer - VPS3 equivalent	6	8	216	288	$68	$14,594	$19,459	$17,027
Parliamentary Counsel - VPS4 equivalent	3	4	108	144	$80	$8,626	$11,501	$10,063
Total Cost TAS						$23,220	$30,960	**$27,090**
Legislation officer - VPS3 equivalent	6	8	216	288	$73	$15,845	$21,127	$18,486
Parliamentary Counsel - VPS4 equivalent	3	4	108	144	$87	$9,365	$12,487	$10,926
Total Cost NT						$25,210	$33,614	**$29,412**
Government solicitor - VPS4 equivalent	2	3	72	108	$86	$6,161	$9,242	$7,701
Total Cost Australian Government						$6,161	$9,242	**$7,701**
Total one-off cost Australia								**$203,524**
NPV total 10-year cost 2011-12 dollars 7% discount rate								***$190,210***
Sensitivity Test								
3% discount rate								$197,596
10% discount rate								$185,022

Appendix 9: Estimation of one-off cost of providing auditable records by chemical re-sellers as compared with the base case – under Options A, B, C1, C2 and D

The purpose of Appendix 9 is to determine the impact of Options A, B, C1, C2 and D in requiring chemical re-sellers to provide auditable records. Given that records of chemical sale would normally be kept by re-sellers for commercial reasons the additional cost under each of the options would simply be the one-off cost of acquiring software. Such software is estimated to cost around $200 and would allow re-sellers to provide records in the fashion required by auditors, as and when required.

Estimates of the number of re-sellers by state and territory are assumed to include: agricultural specialist suppliers (including insecticides, herbicides & fungicides). Data provided by Agsafe covers 90% of all stores (i.e. Agsafe locations) – therefore an estimate of the total number of resellers is around 1,772, as shown in Table A9.1.

Table A9.1: Estimated one-off cost of providing auditable records for re-sellers under options A, B, C1, C2 and D as compared to the base case – by state and territory

Jurisdiction	Estimated number of re-sellers (l3)[223]	One-off cost of providing auditable records (m3) = (l3) * ($200)
NSW	507	$101,333
VIC	387	$77,333
SA	210	$42,000
WA	250	$50,000
QLD	363	$72,667
TAS	39	$7,778
NT	16	$3,111
ACT	1	$222
Australia	**1772**	**$354,444**
NPV total 10-year cost 2011-12 dollars 7% discount rate		***$331,256***
Sensitivity Test		
3% discount rate		$344,121
10% discount rate		$322,222

As shown in Table A9.1, the one-off cost of providing for auditable records would potentially be around **$354,444** occurring in 2012-13. Over 10 years and in 2011 present value dollars this would be equal to ***$331,256*** – using a 7% discount rate.

[223] Data provided by Agsafe Limited + 10% to provide estimate of total number of resellers (including those not covered by Agsafe).

Appendix 10: Estimation of potential health cost savings under Options A, B, C1, C2 and D due to harmonisation of training

The purpose of Appendix 10 is to provide an estimation of the potential savings to health costs that would be provided by harmonisation of training up to AQF Level 3 under Options A, B, C1, C2 and D. It is assumed that harmonisation of training requirements up to AQF level 2 under Option C2 reflect basic requirements[224] and does not constitute a reduction in risk with regard to health issues. According to training providers across Australia, AQF2 is designed to provide only basic qualifications and that the use of RCPs and S7 chemicals would have to be undertaken with the supervision of a person trained at the AQF3 level. NSW found that base level AQF2 alone resulted in no change in the level of compliance before and after the introduction of such a requirement.

A10.1 – Estimation of the potential reduction in health care costs per trainee due to qualifications training at base level[225]

The estimate for the total annual health cost savings for 2011-12 for base level training was based on analysis previously undertaken by NSW Office of Environment and Heritage (OEH)[226] which found such savings to be approximately **$3.5m per annum**. Importantly OEH in NSW advise that the analysis assumed that almost all of those undertaking AQF Level 2 training would also obtain AQF Level 3 training. So whilst the estimate is given for base qualifications training, the health benefits are contingent on trainees 'effectively' having AQF Level 3 training.

The savings for 60,000 trainees in NSW under Part A10.1 are taken to be part of the base case – and estimates are used to determine the cost savings per trainee (see Table A10.1). The per trainee cost savings in Table A10.1 are then used to determine the incremental health cost savings under harmonisation across Australia under Part A10.2 for ***8,847*** additional users (see Table A10.2).

A10.1.1 Annual mortality cost savings for 60,000 trainees in NSW

Mortality costs are estimated based on data from NSW, which noted that:

- there were an average of 0.9[227] accidental deaths per annum in NSW from pesticide use under the base case with only 37,000 pesticide users trained; and
- there would be 0.5 fewer deaths[228] per annum after the introduction of mandatory qualifications training of an additional 60,000 chemical users. In the 2009 NSW Pesticides Regulation RIS the NSW OEH stated that:

> "Over the last 10 years, nine people died in NSW from accidental poisoning through pesticide exposure: almost one person per year on average (ABS 2008b). By requiring training of pesticides users, the proposed Regulation will help prevent unnecessary deaths from pesticide poisoning. It is assumed that the provisions in the Regulation will result in one less death every two years compared with the base case (under which significantly less training would occur)." (p.34).

[224]Based on discussions with OEH in NSW.
[225]OEH NSW advises that 90% of those undertaking AQF Level 2 training would also have AQF Level 3 training.
[226] See: *NSW Pesticides Regulation 2009 RIS*.
[227]ABS Causes of Death Data Collection (HOIST), Centre for Epidemiology and Research, NSW Department of Health.
[228]An assumption made in the NSW Pesticides Regulation 2009 RIS which was based on reducing the number of accidental deaths from pesticide use.

The assumption that mandatory training would result in one less death every two years as compared to the base case was derived from a simple extrapolation of expected levels of training in each scenario. Based on regulation data, the base case showed that around only 1/3 of pesticide users would undertake training and around 50% would keep some form of records. Therefore, it was assumed that the existence of the mandatory requirements under regulation would approximately halve the risk.

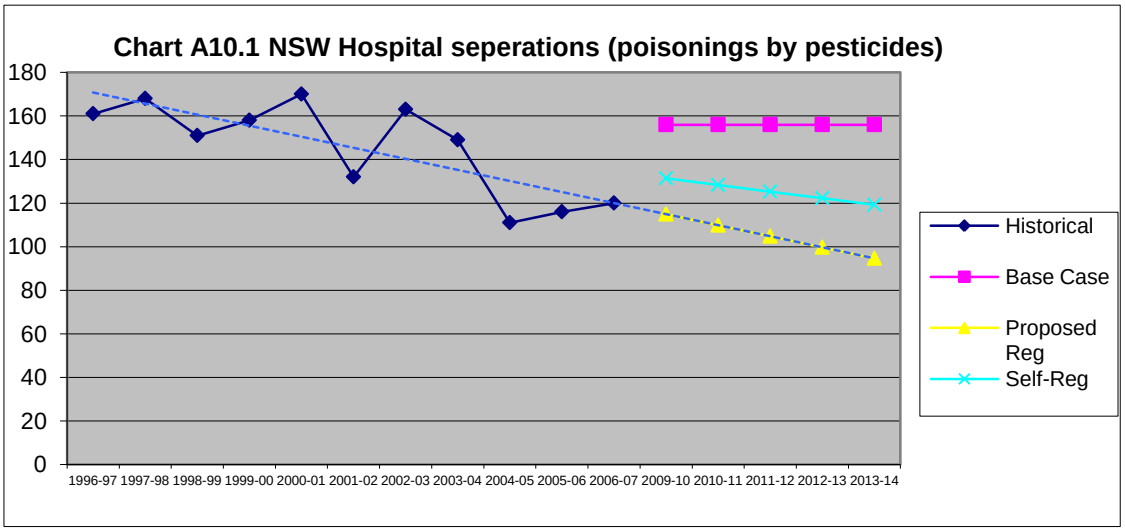
Based on a Value of Statistical Life (VOSL) of $3.5m (2007 dollars)[229] and a CPI adjustment factor[230] of 1.1184, additional mortality cost savings from mandatory training are estimated to be ***$2,004,450*** per annum:

0.5 deaths per annum x $3.5m x 1.1454

A10.1.2 Annual acute health cost savings for 60,000 trainees in NSW

Acute health cost of pesticide poisoning under is based on the following NSW data:

- annual NSW hospital admissions from pesticides poising of 156 (base case) which is based on a reported figure of 120 admissions in 2006-07[231] and is adjusted by 30%[232] to reflect a one-off increase in hospital separations prior to regulatory change in NSW;
- annual NSW hospital separations from pesticide poising in 2011-12 is estimated to be 105 with mandatory qualifications training of an additional 60,000 chemical users. This figure is estimated by reducing the number of hospital separations in 2009-10, 2010-11 and 2011-12 by a linear trend figure of 5.0727 per annum (fitted to the proposed mandatory qualifications requirements, i.e. proposed regulations in the NSW RIS) as shown in Chart A10.1:



Source: NSW Office of Environment and Heritage

- the average toxic effect of pesticides of an average of 3.0[233] days out of 365;

[229] Recommended by the OBPR
[230] Based on CPI index of 157.5 for June 2007 and 180.4 for June 2012 = 180.4.1/157.5 = 1.1454 (See ABS, *Consumer Price Index, Australia, June 2012*, Cat.6401.0)
[231] NSW Health
[232] This adjustment reflects the average number hospital separations prior to NSW Regulation provisions compared to the years after their introduction.
[233] AIHW National Hospital Morbidity Database - <http://www.aihw.gov.au/hospitals/datacubes/index.cfm>

- a poison incident resulting in a disability factor of 0.392[234];
- a Value of Life Year of $151,000 (2007 dollars)[235]; and
- a CPI adjustment factor of 1.1454.

Therefore the savings in acute health costs are estimated to be ***$28,420*** per annum:

51 fewer hospital admissions (compared to the base case) x $151,000 (VOLY) x 0.392 x 3/365 x 1.1454

Based on the estimates in Parts A10.1.1 and A10.1.2 the annual total health cost savings per trainee is estimated to be **$33.42**.

Table A10.1 – Annual heath cost savings estimate for base qualifications training contingent on training at AQF level 3

Additional health cost savings for 60,000 trainees	
Annual acute health costs savings	$28,420
Annual mortality costs savings	$2,004,450
Annual acute health cost savings per trainee	$0.47
Annual mortality cost savings per trainee	$33.41
Annual total health cost saved per trainee	**$33.88**

A10.2 – Estimation of the potential reduction health care costs that would be obtained under Options A, B, C1, C2 and D with AQF level 3 training as compared to the base case

Under Options A, B, C1, C2 and D, there would be potentially be 8,847 additional chemical users trained at the AQF level 3 (see Table A2.3) over 10 years. Based on the estimate of $33.42 of health cost savings per trainee per annum (see Table A10.1), this would potentially provide an annual incremental benefit of **$299,735** – as shown in Table A10.2. Over 10 years and in 2011-12 present value dollars this would potentially give rise to ***$2,105,212*** – using a 7% discount rate.

Table A10.2: Estimated annual health cost savings for additional qualifications training at AQF level 3 under options A, B, C1, C2 and D – by state and territory

Jurisdiction	**No. to be trained (y)[236]**	**Annual health cost savings (n3) = (y) * ($33.88)**
NSW	2419	$81,959
VIC	0	$0
SA	1311	$44,428
WA	1579	$53,490
QLD	2830	$95,875
TAS	535	$18,133
NT	138	$4,665
ACT	35	$1,184
Australia	**8847**	**$299,735**
NPV total 10-year cost 2011-12 dollars 7% discount rate		***$2,105,212***

[234] Australian Government (2008), The Health of Nations: The value of a statistical life, prepared by Access Economics for the Australian Safety and Compensation Council.
[235] Recommended by the OBPR
[236] See Table A2.3 of Appendix 2

Jurisdiction	No. to be trained (y)[236]	Annual health cost savings (n3) = (y) * ($33.88)
Sensitivity Test		
3% discount rate		$2,556,798
10% discount rate		$1,841,740

Appendix 11: Estimation of cost of increased, targeted produce and traceback providing a nationally consistent approach to residue monitoring and compliance under options C1, C2 and D

Under options C1, C2 and D it is proposed that the Australian Government will provide funding for additional produce monitoring services,[237] as well as, sample analysis and traceback services. One of the key targets of this national harmonised approach to produce monitoring and traceback activities will be to minimise the risks from off-label use without a permit in relation to unrestricted chemicals[238] on health and trade – notwithstanding that a minor use permit is:

> "usually issued for the use of an AgVet chemical in a small, emerging or niche industries…[which]…are often horticultural industries but also for relatively uncommon animal industries, such as alpacas."[239]

Based on a recent survey of control-of-use activities completed by all states and territories, it was determined that total produce monitoring costs; traceback costs; and laboratory analysis costs/sample testing costs under the base case were $188,413; $110,530[240]; and $1,051,434 per annum - respectively (see Table 1 in this RIS). The total cost of produce monitoring, traceback and laboratory services is, therefore, given as ***$1,350,377*** per annum ***under the base case***.

A11.1 – Estimation of the cost of produce monitoring, tracebacks and sample analysis under Options C1, C2 and D

Due to lack of current data or activity on traceback activities across states and territories[241], produce monitoring costs are estimated in a way to reflect a national system similar to the most extensive state produce monitoring system currently in operation, applied pro-rata nationally to the percentage of total weighted crop area for each state and territory. Victorian expenditure for this category of cost is applied pro-rata, using the share of total crop area dedicated to fruit and vegetables as a proxy for the level of intensity of chemical use. As shown in Table A11.1, the total cost of traceback activities if undertaken across all states and territories would be approximately $384,474 per annum.

This is similar to the projection by DAFF that there would be at least one person per state at a maximum APS6 level for a maximum of about 25% of the year required to undertake this type of work giving *$332,145* per annum of cost:

$$8 \times \$82{,}541 \text{ (APS6)} \times 2.012^{242} \times 25\% = \$332{,}144.98$$

[237] This proposed additional funding does not as yet include environmental monitoring, which may be added at a later date.
[238] Without permits where certain conditions have been met.
[239] DAFF (March 2005) *Final Cost Recovery Impact Statement on the Proposed Revised Cost Recovery Framework for The National Registration Scheme for Agricultural and Veterinary Chemicals*
[240] See Table A11.1 of Appendix 11 for source of estimate
[241] Currently reported as nil for all states except Victoria (see Table 1 in this RIS).
[242] Overhead cost and on cost multiplier

Therefore, the pro-rata estimate of *$384,474* per annum in Table A11.1 is adopted as a likely cost of national traceback activities. However, decentralised states like QLD may experience higher average costs for traceback activities due to longer travel times required to undertake investigations.

Table A11.1: Estimated pro rata cost of monitoring and traceback activities – by state and territory

Jurisdiction	Total crop area (ha)[243] (o3)	% of crops dedicated to fruit and vegetables[244] (p3)	Weighted crop area (ha) dedicated to fruit and vegetables (q3) = (o3) * (p3)	% of total weighted crop area dedicated to fruit and vegetables (r3)	Estimated cost pro rata based on Victorian cost of traceback monitoring and % of total weighted crop area (s3) = (r3) * $110,530/28.75%
NSW	6,939,686	5.96%	413,847	18.90%	$72,653
VIC	3,989,334	15.78%	629,603	28.75%	$110,530
SA	4,079,789	9.58%	390,662	17.84%	$68,582
WA	8,563,966	2.08%	178,524	8.15%	$31,341
QLD	2,321,207	22.10%	512,907	23.42%	$90,043
TAS	65,713	86.77%	57,018	2.60%	$10,010
NT	7,469	99.57%	7,437	0.34%	$1,306
ACT	565	10.05%	57	0.003%	$10
Australia	**25,967,730**		**2,190,054**	**100.00%**	**$384,474**

A11.2 – Estimation of the cost of analytical costs for test samples under Options C1, C2 and D

Due to lack of current data or activity on analytical costs for test samples across states and territories[245], Victorian expenditure of $222,000 per annum (see Table 1 of this RIS) is applied pro-rata, using the share of total crop area dedicated to fruit and vegetables as a proxy for the level of intensity of chemical use (see Table A11.1). These models do not reflect costs which would be associated with monitoring of animal and crop industries other than fruit and vegetables. An exception is made for Queensland where there is a greater amount of minor use crops and the level of analytical costs required would more closely resemble current expenditure of $559,434 as reported (see Table 1 of this RIS). As shown in Table A11.2, the total cost of analytical costs if undertaken across all states and territories would be approximately **$1,150,801** per annum.

Table A11.2: Estimated pro rata analytical costs of test samples – by state and territory

[243] ABS 2011(a), *Agricultural Commodities, Australia, 2009-10* Cat. 7121.0. http://www.ausstats.abs.gov.au/ausstats/subscriber.nsf/0/12B85486C3C8DD65CA25786C00158822/$File/Agricultural%20commodities%20by%20state%20and%20territory.xls

[244] ABS 2011(a), *Agricultural Commodities, Australia, 2009-10* Cat. 7121.0. http://www.ausstats.abs.gov.au/ausstats/subscriber.nsf/0/12B85486C3C8DD65CA25786C00158822/$File/Agricultural%20commodities%20by%20state%20and%20territory.xls

[245] Currently reported as nil for all states except Victoria and Queensland (see Table 1 in this RIS).

Jurisdiction	Estimated cost pro rata based on Victorian analytical costs of test samples and % of total weighted crop area (t3) = (r3)[246] * $222,000/28.75% (except for QLD)
NSW	$145,924
VIC	$222,000
SA	$137,749
WA	$62,948
QLD	$559,434
TAS	$20,105
NT	$2,622
ACT	$20
Australia	**$1,150,801**

A11.3 – Estimation of the cost of produce monitoring under Options C1, C2 and D

Due to lack of current data or activity on produce monitoring across states and territories[247], Victorian expenditure of $155,597 per annum (see Table 1 in this RIS) is applied pro-rata, using the share of total crop area dedicated to fruit and vegetables as a proxy for the level of intensity of chemical use (see Table A11.1). As shown in Table A11.3, the total cost of produce monitoring if undertaken across all states and territories would be approximately **$541,240** per annum.

Table A11.3: Estimated pro rata cost of produce monitoring – by state and territory

Jurisdiction	Estimated cost pro rata based on Victorian produce monitoring costs and % of total weighted crop area (u3) = (r3)[248] * $155,597/28.75%
NSW	$102,276
VIC	$155,597
SA	$96,546
WA	$44,120
QLD	$126,757
TAS	$14,091
NT	$1,838
ACT	$14
Australia	**$541,240**

A11.4 – Estimation of the incremental cost of a 'feedback mechanism' for produce monitoring under Options C1, C2 and D – as compared to the base case

A critical aspect of the produce monitoring program is a 'feedback mechanism' at the national level. A national produce monitoring program is needed to support and provide feedback to the proposed regulatory framework, particularly the proposed uniform approach to access to chemicals. The proposed program would require at least five staff, consisting of a

[246] See Table A11.1 for source of estimates for (r3)
[247] Currently reported as nil for all states except Victoria and Northern Territory (see Table 1 in this RIS).
[248] See Table A11.1 for source of estimates for (r3)

manager with technical expertise, a quantitative risk analyst, and analytical chemist, a liaison officer and an analytical services coordinator (see Table A11.4). All the executive level positions would preferably possess postgraduate qualifications in statistics, analytical chemistry and/or agricultural science. Non-executive level staff should possess a comprehensive understanding of agricultural production systems, AgVet chemical use patterns and analytical methodology. All staff would need to be familiar with the AgVet chemical aspects of international trade and public health.

Table A11.4: Staffing requirements for the proposed feedback mechanism for produce monitoring

Rate	Salary*	Number of staff	Activities
EL 2	$129,464	1	Program manager
EL 1	$104,217	2	Quantitative risk analyst Analytical chemist
APS 6	$82,583	2	Liaison officer Analytical services coordinator

* Top Science salary from DAFF 2011-2014 Enterprise Agreement

Funding for targeted sampling to supplement existing monitoring programs is also needed. The total required would depend on the nature of the risk analyses, but could be in the order of several hundred thousand dollars per year. Based on Table A11.4, the estimated cost of the feedback mechanism would be **$503,064** per annum. This is a relatively minor amount of funding when compared to amounts spent by the NRS for assessing residues in major crops.

The program manager (EL2) would work closely with the states and territories, the APVMA, peak industry grower groups and other relevant agencies, and provide technical expertise in risk analysis and management. The manager would design, develop and provide ongoing delivery of the national produce monitoring program. The manager would also oversee the development of a national network of key stakeholders in state and territory governments and Australian government agencies, to ensure that risks associated with the regulatory framework are identified and monitored to provide the feedback necessary for continuous improvement of the system.

The quantitative risk analyst (EL1) would design and deliver risk profiling and quantitative risk analysis of the data, and conduct analyses to inform the direction of future monitoring. The risk analyst's role is critical in prioritising sampling regimes within the program and determining the strategic goals of the program. The risk analyst would undertake pre-investigation analysis, liaise with other agencies, report the outcomes to key stakeholders, the APVMA and the states and territories and provide input to complementary programs, such as the National Residue Survey.

The analytical chemist (EL1) would provide expert technical advice on analytical methods for AgVet chemicals in a diverse range of matrices. The officer would assist the risk analyst to develop systems of sample analyses for produce types and chemicals. This officer would work closely with the analytical services officer to ensure analytical testing is delivered to an appropriate standard and coordinated across the whole program. The analytical chemist would interpret results, assist in generating reports for stakeholders and liaise with key stakeholders to design, develop and provide ongoing delivery of the analytical services and procedures.

The liaison officer (APS6) would work closely with peak industry grower groups, research and development organisations, state and territory governments and Australian government agencies to ensure that sufficient input is obtained to comprehensively develop the program.

This officer would liaise with relevant industry groups and key stakeholders and work closely with the analytical staff to ensure the risk analyses and the sampling regimes correctly account for how food production systems are managed and the associated use pattern of AgVet chemicals.

The analytical services officer (APS6) would develop contracts, coordinate sample processing schedules and report on analytical contracts. The officer would develop and manage national networks of analytical service providers (private laboratories, state and territory government laboratories, universities and Commonwealth research institutions) and ensure that the laboratories are appropriately accredited to meet the expectations of the key stakeholders. The officer would also liaise with relevant laboratories and sampling agents and assist with developing publications.

A11.5 – Estimation of the incremental cost of produce monitoring, as well as, traceback activities and analytical tests under Options C1, C2 and D – as compared to the base case

As shown in Table A11.5, the total cost of produce monitoring (including a feedback mechanism), traceback monitoring and analytical tests under Option C1, C2 and D (i.e. under the cross-jurisdictional licence) is estimated to be $2,218,644 per annum. The base case level of expenditure on these aforementioned activities is summarised in Table A11.4 for each state or territory and is given as $1,085,450 per annum. Therefore, the annual incremental cost of produce/traceback monitoring (including a feedback mechanism) and analytical testing under Options C1, C2 and D as compared to the base case is given as **$1,229,201** and is to be funded by the Australian Government. Over 10 years and in 2011-12 dollars this is estimated to be equal to ***$8,633,395***.

Table A11.5: Estimated net additional produce monitoring (including feedback mechanism), traceback monitoring and analytical test costs under Options C1, C2 and D – as compared to the base case

Jurisdiction	Annual total cost of produce monitoring (including feedback mechanism), traceback monitoring and analytical costs under the cross-jurisdictional licence (v3) = (s3)[249]+(t3)[250]+(u3)[251] (except for feedback mechanism value)	Annual expenditure on produce monitoring (including feedback mechanism), traceback monitoring and analytical costs under the base case (w3)[252]	Annual incremental produce monitoring (including feedback mechanism), traceback monitoring and analytical costs of the cross-jurisdictional licence as compared to the base case (x3) = (v3) – (w3)
NSW	$320,852	$14,000	$306,852
VIC	$488,127	$488,127	$0
SA	$302,877	$0	$302,877
WA	$138,409	$0	$138,409
QLD	$776,235	$559,434	$216,800
TAS	$44,205	$230,000	-$185,795
NT	$5,766	$58,816	-$53,050
ACT	$44	$0	$44
Australian Government	$503,064	$0	$503,064

[249] See Table A11.1 for source of estimate
[250] See Table A11.2 for source of estimate
[251] See Table A11.3 for source of estimate
[252] See Table 1 in this RIS for source of figures.

Jurisdiction	Annual total cost of produce monitoring (including feedback mechanism), traceback monitoring and analytical costs under the cross-jurisdictional licence (v3) = (s3)[249]+(t3)[250]+(u3)[251] (except for feedback mechanism value)	Annual expenditure on produce monitoring (including feedback mechanism), traceback monitoring and analytical costs under the base case (w3)[252]	Annual incremental produce monitoring (including feedback mechanism), traceback monitoring and analytical costs of the cross-jurisdictional licence as compared to the base case (x3) = (v3) – (w3)
spending on feedback mechanism for produce monitoring[253]			
Australia	**$2,579,578**	**$1,350,377**	**$1,229,201**
NPV total 10-year cost 2011-12 dollars 7% discount rate			***$8,633,395***
Sensitivity Test			
3% discount rate			*$10,485,336*
10% discount rate			*$7,552,910*

[253] See Table A11.4 for source of estimate

Appendix 12: Summary of changes under the proposed national scheme

Table A12.1: Changes required for each jurisdiction by stakeholder category

Note: the columns under the various jurisdictions show the existing requirements under each jurisdiction. The final right-hand column shows the minimum requirements under the proposed national scheme. The differences between the existing and proposed minimum requirements are listed in a narrative form under the table.

Category		VIC	NSW	NT	WA	QLD	SA	TAS	**Proposed national scheme**
Pest Controllers	Business	×	×	×	✓	×	✓	✓	✓
	Operator	✓	✓	✓	✓	✓	✓	✓	✓
Aerial sprayers	Business	✓	✓	✓	×	✓	✓	✓	✓
	Operator	✓	✓	✓	✓	✓	✓	✓	✓
Ground sprayers	Business	✓	**C**	✓	✓	✓	✓	✓	✓
	Operator	×	**C**	✓	✓	✓	✓	✓	✓
Farmers	All Farmers-Business	×	×	×	×	×	×	×	×
	All Farmers-Individuals not using RCPs	×	**C**	×	×	×	×	×	×
	Farmers using S7 and RCPs (as registered businesses)	×	×	×	×	×	×	×	×
	Farmers using S7 and RCPs (individuals)	✓	**C**	✓	**C**	**C (NOT ALL S7)**	**C**	✓	**C**
Others	General Chemicals	×	**C**	×	×	×	×	×	×
	RCP	✓	**C**	✓	**C**	✓	**C OR LICENCE**	✓	**C**

Key

✓	Licence for category
×	No licence for this category
C	Qualifications requirement only
	Jurisdictions current licensing requirements align with proposed requirements under national scheme

Summary of changes required for each jurisdiction according to proposed national scheme	
VIC	Pest Controllers-Business, Ground Operators, Farmers RCPs-Individual, Others RCP.
NSW	Pest Controllers-Business, Ground -Business and operator, Farmers General Chemicals
NT	Pest Controllers-Business , Others-RCP, Farmers RCPs-Individual
WA	Aerial-Business, Others-General Chemicals
QLD	Pest Controllers-Business, User competency obligations for all S7 products
SA	Nil
TAS.	Farmers-RCPs, Others-RCPs

Note: Jurisdictions may choose to implement or retain certain requirements outside the proposed national scheme.

Exemptions from competencies requirement or for the C category above (unless using RCPs or S7 chemicals):

- fee or reward users that provide an service to household pets (e.g. dog wash operators or pet groomers and horses [farriers] that also worm horses for owners);
- home gardeners;
- domestic pets and livestock kept as a hobby including: poultry, birds, dogs, cats, horses, sheep, goats, pigs, fish , native species and exotic pets;
- livestock producers that are in a Livestock Production Assurance or equivalent QA scheme or a Food Safety Scheme administered by a Food Safety Authority;
- exhibited animal carers (e.g. workers in zoos, animal displays); and
- veterinarians using veterinary chemicals, only if veterinary qualifications are covered by the veterinary science degree (i.e. veterinarians preparing *1080* baits would need an additional licence or competency)

Table A12.2: Training and Classes of users partially based on commonalities of current states and territory requirements under the proposed national scheme

Class of User	Class of Use/Chemical	Licence/Permit	Units of Competency	Training Package
Farmers/other individuals	Home Garden	-	-	-
	Non-restricted chemicals	-	RTC2706A – apply chemicals under supervision	From the Conservation and Land Management Training Package
			Exempt users	-
	Restricted Chemical Product (RCP) type 1 general/default RCPs plus S7s	-	RTC3704A - Prepare and apply chemicals; and RTC3705A -Transport, handle and store chemicals	From the Conservation and Land Management Training Package
	RCP type 2 - *1080* and pindone conc.	-	RTC3704A - Prepare and apply chemicals; and RTC3705A -Transport, handle and store plus- RTE3406A Implement vertebrate pest control program or equivalent State *1080* training for (for *1080* use only)	From the Conservation and Land Management Training Package
	RCP type3 pre-construction termiticides	-	See Pest Control Licence (general) below	
	RCP type 4 – CCA	-	Not yet finalised	
	Future RCP type 5 – specified fumigants?	-	RTC3704A - Prepare and apply chemicals; and RTC3705A - Transport, handle and store chemicals; plus PRMPM11 Conduct Fumigation	From the Conservation and Land Management Training Package From the Certificate III in Asset Maintenance (Pest Management)
	Other future RCP types -	-	To be determined	
Commercial Ground Business	All	Licence	-	
Commercial Ground Applicator (Agriculture/Horticulture/non domestic	General	Licence	RTC3704A - Prepare and apply chemicals; and RTC3705A - Transport, handle and store Chemicals; and RTC3401A Control Weeds; and	From the Conservation and Land Management Training Package

land management)			RTC3404A Control Plant Pests, Diseases and Disorders	
	Weeds only	Licence	RTC3704A - Prepare and apply chemicals; and RTC3705A - Transport, handle and store Chemicals RTC3401A -Control Weeds	From the Conservation and Land Management Training Package
	non RCP/non S7 by hand held equip only	Licence exemption	RTC3704A - Prepare and apply chemicals; and RTC3705A - Transport, handle and store chemicals	From the Conservation and Land Management Training Package
	Pest Animal/Vertebrate Pests	Licence	RTD2101A Apply animal trapping techniques RTD2126A Recognise animals RTD4403A Develop a pest management action plan within a local area RTE3406A Implement vertebrate pest control program	From certificate III of the Conservation and Land Management Training Package
	1080	Licence	As above plus State determined training for *1080* use as necessary	-
	Fumigation	Licence	RTC3704A - Prepare and apply chemicals; and RTC3705A - Transport, handle and store or PRMPM 06 - Apply Pesticides to Manage Pests and PRMPM 18 - Maintain an equipment; and consumables storage area plus PRMPM11 Conduct Fumigation	From the Certificate III in Asset Maintenance (Pest Management)
	CCA	Licence	Yet to be determined	
Aerial Business	All	Licence	SpraySafe Accreditation or assessed as equivalent	From the Aerial Agricultural Association of Australia
Aerial Applicator Pilot	All	Licence	Pilot SpraySafe Accreditation or equivalent exam	From the Aerial Agricultural Association of Australia
Pest Controller (Domestic and Commercial premises)	General	Licence	PRMPM 05 - Modify Environment to Manage Pests PRMPM 06 - Apply Pesticides to Manage Pests PRMPM 18 - Maintain an equipment and consumables storage area	From the Certificate III in Asset Maintenance (Pest Management)
	General plus timber pests	Licence	PRMPM08: Inspect & report on timber pests PRMPM10: Control timber pests	From the Certificate III in Asset Maintenance (Pest Management)
	Pest Animal/Vertebrate	Licence	RTD2101A Apply animal trapping techniques	From certificate III of the Conservation and

	Pests		RTD2126A Recognise animals RTD4403A Develop a pest management action plan within a local area RTE3406A Implement vertebrate pest control program	Land Management Training Package
	Fumigation	Licence	PRMPM06 Apply Pesticides to Manage pests PRMPM11 Conduct Fumigation PRMPM 18 - Maintain an equipment and consumables storage area	From the Certificate III in Asset Maintenance (Pest Management)

Table A12.3(a): PESTICIDE (Agricultural Chemicals) 'OFF - LABEL USE' PROVISIONS UNDER EXISTING STATE CONTROL-OF-USE

Controls		**QLD**	**NSW**	**ACT**	**VIC**	**TAS**	**SA**	**WA**	**NT**
RATES	Use a **lower rate** than that shown on the approval product label	YES (unless instruction states must not be used at lower rate)	YES	NO	YES (subject to conditions and certain restrictions)	YES	YES	YES Agric. Uses only	Yes (unless prohibited on-label or RCP)
	Use at a **lower frequency** than that shown on the approval product label	YES (unless instruction states must not be used at lower rate)	YES	NO	YES (subject to conditions and certain restrictions)	YES	YES	YES Agric. Uses only	YES (unless prohibited on-label or RCP)
	Use a **higher rate** than that shown on approved product label	NO	NO	NO	NO	NO	NO	NO	NO
	Use at a **higher frequency** (i.e. More often) than that shown on the approved product label	NO	NO	NO	NO	NO	NO	NO	NO
PESTS	Use on a **different pest** in a crop/situation already shown on the approved product label	YES (unless instruction states must not be used to control the differed pest)	NO	NO	YES (Unless a RCP or S7 and contrary to a prohibition on-label)	NO	YES (unless prohibited on-label)	YES Agric. Uses only	YES (unless prohibited on-label or RCP)
	Use on a **different crop or**	NO	NO	NO	YES	NO	YES	NO	NO

Controls		QLD	NSW	ACT	VIC	TAS	SA	WA	NT
CROPS & SITUATIONS	**situation** not shown on the approved product label				(Unless a RCP or S7 and contrary to a prohibition on-label))		(where a members of a QA scheme approved by Minister)	Agric.Uses[254]	
APPLICATION EQUIPMENT	Use via **different applications equipment** and or method than shown on the approval product label	YES (unless instruction states the alternate method must not be used	NO	NO	YES (Unless a RCP or S7 and contrary to a prohibition on-label)))	NO	YES (unless prohibited on-label)	NO	YES (provided no restraints against alternate method or RCP)

[254] Only if the chemical is authorised for use on the same crop/pest combination in another jurisdiction and for which a risk assessment was done.

Table A12.3(b): OTHER LEGISTATIVE REQUIREMENTS FOR THE USE OF PESTICIDES

Controls		QLD	NSW	ACT	VIC	TAS	SA	WA	NT
RECORD-KEEPING	**Records of use must be maintained**	YES • Commercial & contractors • Sugar growing and cattle grazing in prescribed Reef catchments • Where required by label or permit	YES	NO	YES	YES (Commercial & Occupational only)	NO (unless required on-label)	YES (all licensed contractors)	Yes
TRAINING AND LICENSING OF USERS AND OPERATORS	General **user (farmer/commercial) training required**	NO	YES	YES (Commercial only)	YES (S7 & RCP only)	YES (S7 & RCP only)	YES (S7 & RCP only)	NO	NO
	Licensing of commercial operators required	YES	YES (Aerial & PCO's only)	YES	YES	YES	YES	YES	YES
NEIGHBOUR NOTIFICATION	Required for general pesticide use	No (unless required by label)	YES (but only for aerial, public authority and some urban PCO uses)	YES (S7 only)	YES (but only near schools, aged care facilities, etc)	YES (but only for aerial, proposed for ground in certain circumstances)	NO (unless required by label)	No	NO (unless required by label)
	Required for vertebrate poisons	YES	YES (only if specified in a control order)	YES (only if required by label	YES (*1080* only)	YES (*1080* only)	YES (*1080* only)	YES (*1080* and strychnine only)	YES (*1080* or direction in approval for S7 or RCP)

Users of this table should check the information with their respective State legislation and use the information as a guide only as requirements and legislation are subject to change. In addition, the information in this table is not to be taken as legal advice in any specific situation.

Appendix 13:Summary of stakeholder views on specific issues

A13.1 Additional qualifications training

AQF3 level training for specified users (all options)

Stakeholders supportive of additional qualifications training at Australian Quality Framework (AQF)3 level included the Aerial Agriculture Association of Australia (AAAA), Australian Ground sprayers' Association (AGA), Nursery and Garden Industries Australia (NGIA) World Wildlife Fund Australia (WWF-Australia), the National Toxics Network (NTN) and Choice. AAAA also suggested that training from Registered Training Organisations (RTOs) should not be the only qualifications requirement and that training requirements should be mandatory for agronomists and other professionals who recommend AgVet chemical uses.

Chemcert Australia supported mandatory training for all users of AgVet chemicals, with managers and decision makers holding AQF Level 3 units of qualifications and those who apply the chemical under the direction or supervision of a manager to hold AQF Level 2 training. They also recommended that end user training would need to be updated in some form every five years.

Chemcert Western Australia(WA) noted that AQF Level 3 has been adopted for many years by 'Chemcert WA and most quality trainers as the benchmark for their base training to farmer owner-managers, farm workers, shire workers and government agency workers' to work without direct supervision with AgVet chemicals. They stated that 'developing a parallel system to the well-entrenched AQF for base training is impractical' and suggested enabling legislation was needed to allow the AQF (or other body) to distinguish between quality and sub-standard training. The resulting proposed option (Option C1) suggests that uniform training requirements recognise existing accreditation standards and qualifications. Chemcert WA also stated that a requirement for chemical users to be trained would be seen as yet another 'imposition' by many farmers and suggested that a 'course-cost subsidy scheme may need to be considered and costed to run in parallel with any introduced legislation'.

The New South Wales Farmers Federation (NSW FF) expressed support for mandatory qualifications training generally at the minimum AQF level 3 level but did 'not support additional requirements at cost to the user if there is no benefit in terms of improved risk management'. They suggested that users of pindone and sodium (mono) fluoroacetate (*1080*) should not be included in the AQF3 requirement but instead be required to complete a short training course in use of *1080* and pindone (as adopted by NSW).

Mandatory base level training (Option C2)

Croplife and the Animal Health Alliance or AHA supported mandatory training at AQF2 level.

Stakeholders such as the Cattle Council of Australia (CCA) and Coles were supportive of mandatory training but did not specify a particular training level. The CCA also highlighted the need for mandatory training and competencies to be targeted to the particular user group, as training in use of agricultural chemicals for example, is unlikely to be relevant to users who predominantly use veterinary products.

On the other hand, the Victorian Farmers Federation (VFF) and National Farmers Federation (NFF) were unconvinced about the need for additional qualifications training by general AgVet chemical users.

A13.2. Environmental and health issues (all options)

Manufacturers

CropLife have stated that 'misuse of agricultural chemicals can lead to environmental and health issues through drift, occupational exposure, residues and environmental contamination.' CropLife further stated that 'the extent of these potential problems is not well known, but that even one incident is too many' and suggested that the term 'AgVet chemicals' should also include important products used to protect the environment (e.g. from environmental weeds) and human health (e.g. from mosquito borne diseases such as dengue fever and malaria')

CropLife supported proposals to implement nationally consistent competencies for all users as 'the misuse of agricultural chemicals might have impacts at long ranges from the point of application'. They also suggested that increased monitoring and surveillance through an enhanced APVMA Adverse Experience Reporting Program (AERP), National Residue Survey (NRS) and other programs should also assist in managing the environmental, trade and health risks associated with chemicals.

Horticulture and other grower groups

Horticulture Australia Limited (HAL) stated they would support improvements which would benefit the health and safety for horticulture and other pesticide users.

The nursery industry noted that best farm management programs and integrated pest management also assist in managing environmental issues. Other user groups (such as the dairy industry) noted that existing supply chain monitoring and enforcement by industry minimise environment, health and trade risks for their sectors.

General user/primary industry views

The NFF stated they support 'effective measures which improve farm safety, and recognise that farmers should be able to demonstrate the capability to handle and use chemicals properly. This has good outcomes for farmers, and is important for consumer confidence in domestic and export markets.' On this basis the NFF expressed support for nationally agreed qualifications requirements for users, with the requirements to be based on risk and to be consistent with the levels assumed in the assessment and registration process.

They also suggested that 'modern farmers are taking on the responsibility of learning about the use of chemicals and their chemical application equipment. A greater focus should be placed on making information freely accessible and available to farmers, and that the format of the information is appropriate. In these circumstances farmers will take on the responsibility of keeping themselves informed'. They also suggested that 'a national strategy needs to be able to cope with different competencies and have measures in place to deal with issues such as operators from non-English speaking backgrounds'. The NFF highlighted the need to ensure that 'safe and effective chemicals continue to be available to chemical users while minimizing the cost of regulation'.

The NSW FF stated that the national regulatory scheme needed to ensure that chemicals that are safe and effective remain available, that it encourage registration of new chemistry particularly those that are suitable for integrated pest management (IPM) systems and that it encourage safe use of chemicals. They also noted that AgVet chemical use is an integral component of sustainable farming allowing Australian farmers to 'produce agricultural commodities using world-leading good agricultural practice'.

The NWF FF also supported establishment of a national monitoring system for residues in agricultural produce, commodities and the environment combined with auditing and surveillance, aimed at 'providing assistance to industry to address chemical management gaps' rather than for prosecution. They suggested that the current Queensland monitoring and compliance system could be implemented nationally.

The VFF stated that they 'rejected the use of terms such as high and low risk chemicals. These terms become emotive and are unhelpful when looking at the overall spectrum of chemicals used on farms. Using current terminologies such as scheduled, unscheduled and restricted provides a more meaningful framework.' They suggested that a regime of monitoring and compliance must be developed in line with the future control-of-use system with at least a minimum national standard of compliance, with encouragement for States and Territories to act above this level. This would enable common reported use practices to be monitored by the States and the APVMA. The VFF also stated that 'Victoria is already ahead of other states in the control-of-use and monitoring programs. The results of these monitoring programs need to be somehow incorporated back into the evaluation of minor use/off-label provisions'. Consequently, the proposed option (Option C1) includes a model for allowable variations to approved uses supported by an enhanced produce monitoring program.

Environment and consumer groups

Environmental and consumer groups expressed concerns with environmental and health impacts related to AgVet chemicals and supported increased and nationally coordinated monitoring, enforcement and compliance activities to address these issues.

The World Wildlife Fund for Nature (WWF) Australia stated that 'a major problem with the regulation of AgVet chemicals is reliance on complex, extensive and often unenforceable label conditions to attempt to manage human health and environmental risks. Another problem is inadequate resources for states and territories to conduct proper monitoring and compliance activities. They expressed support for nationally coordinated monitoring of pesticides in agricultural produce and the environment, particularly in Australian ground and surface waters.WWF supported better integration with the APVMA Adverse experience reporting program (AERP and other monitoring systems to allow for appropriate regulatory and policy actions. They also stated there was a need for a 'comprehensive set of powers to enforce product label conditions including buffer and exclusion zones' and in addition to general enforcement powers consideration should also be given to including powers for issuing direction notices, clean-up notices and cost recovery notices (as currently under Queensland environmental production legislation).

The National Toxics Network (NTN) stated that environment and human health protection should be the highest regulatory priority. They also suggested that 'no case has made that the majority of use is currently compliant with labels or all health and environmental standards'. NTN were supportive of a national monitoring and surveillance program, noting that 'consumer expectations around monitoring and surveillance of the food supply to ensure its safety are increasing' and increasing volumes of food being imported and changing requirements in exporting countries, it is critical that a nation–wide, independent and consistent surveillance program is implemented'.

Choice has suggested the need for an overarching strategy on sustainable use of pesticides. This would include clear direction on Australia's attitude to certain classes of chemicals, encouragement of low–input or pesticide free farming including integrated pest management and organic production, and national consistency and improved controls in relation to chemical use.

Taking into account these varying views, the resulting proposed Option (C1) includes nationally consistent minimum licensing and training requirements for fee-for service agvet chemical users, similar to the current Australia drivers' licence approach. Under Option C1, the details of any additional licensing or training requirements due to regional need would be addressed by the proposed new strategic policy committee during implementation.

A13.3 Increased recordkeeping and auditing requirements (Options C1, C2 and D)

During the consultation process, all stakeholder groups indicated support for harmonised recordkeeping requirements. However most did not discuss increased time requirements in detail.

The Australian Ground Sprayers Association noted that costs of recordkeeping in agricultural spraying with ground rigs currently absorb 17% of gross income. These records require details such as: time, temperature, humidity, wind speed and direction, rates, pressure, product, property and paddock as well as Occupational Health & Safety records, with this information being stored for two years. They state that they are not opposed to recordkeeping but that regulators need to be aware of the costs of recordkeeping and the fact that the more detail that is required, the higher the cost. Some information required is not static i.e. wind speed, temperature, humidity and pressure. Rate controllers are constantly varying pressures within set parameters.

The NFF and others have highlighted the need to minimise regulatory overlap or recordkeeping requirements where these already exist. WA Farmers also suggested that farm businesses should be required to keep records in a nationally consistent format and that they be able to report in a format which is consistent and compliant with the requirements of their Quality Assurance System(s). Some groups (such as the Forest Industries Association of Tasmania) do not support mandatory auditing of records by regulators.

Environment and consumer groups suggested that recordkeeping should also be auditable and linked to a publically available pesticide use database.

A13.4 National licensing (Options B, C1, C2 and D)

CropLife stated that 'currently, differences in training and licensing regimes can lead to confusing requirements for users that operate across state and territory borders, and can hinder the transferability of competencies and licences between states, increasing costs for businesses'. They however advised that the Consultation RIS did not provide sufficient detail on costs and benefits for national licensing for CropLife to give a firm opinion on any option.

The Aerial Agriculture Association of Australia (AAAA) have expressed support for nationally consistent licensing and training arrangements for aerial sprayers (pilots), namely

- The removal of individual pilot licensing
- The requirement for aerial application businesses to be licensed
- The requirement for aerial application businesses to only employ competent staff (e.g. Spraysafe trained)
- The requirement for businesses to comply with a set of simple national operating standards that have been agreed with industry.

The Australia Ground spraying Association (AGA) stated that 'it is critical to have a national system of licensing, training and accreditation' and that this should take a similar model as for to vehicle driver licensing.

The National Farmers' Federation (NFF) supported the principle of greater consistency in licensing requirements for fee-for-reward users. At present these arrangements vary between jurisdictions, and further information is required as to how fee-for-reward users may be defined and the fee-for-reward user services which would be covered. They highlighted that required level of qualifications must also be considered as well as the 'cost of the transition to new arrangements as this may impose significant costs in different jurisdictions.'

The New South Wales Farmers' Federation (NSWFF)stated that licensing requirements for fee-for-service users should be 'harmonised nationally' but that careful consideration is needed as to which activities require a licence (such as aerial operators, urban pest control and contract ground sprayers). They stated that licences must be transferable across jurisdictions and meet agreed national competencies. The NSW FF was not supportive of licensing for ground sprayers and noted this is not currently required in NSW. They stated that they could not support any option for fee-for-service licensing until activities for licensing have been determined, but supported in 'principle the need for development and adoption of a national licensing system for fee-for-service users for those activities deemed to require licensing (where licensing addresses a risk').

The Victorian Farmers' Federation (VFF) supported development and adoption of a cross-jurisdictional licence for all fee-for-reward users of AgVet chemicals which could embrace dual business/operator and/or business only licensing. They noted that contractors in other states do not need to be licensed at present and that this option could bring all contractors up to the Victorian requirement, particularly for operators across borders and also 'provide some consistency and protection for farmers utilising contractors'. They also expressed in principle support for recognising an approved accreditation of the business to meet licensing requirements**.**

The National Toxics Network (NTN) also supported national licensing of all fee-for-service users on the basis that untrained or poorly trained users of pesticides can have significant impacts on the environment and community health through misuse and misapplication of pesticides. They suggested that it was 'reasonable to approach it in terms of qualifications criteria for each occupational category as long as the bar is never set too low'.

Choice expressed support for a national training and licensing scheme for fee-for-reward users, including an approach that involves the development of qualifications criteria for each occupational category, provided standards are set at a level that ensures a sound level of competence. They noted that 'a national scheme would benefit workers especially those who move interstate'.

A13.5 Changes in allowable variations to approved uses (Options C1, C2 and D)

The NFF, VFF and the dairy industry were supportive of increased off-label use as per the current Victorian system. However, they may not support the proposed access to chemical model which places increased restraints on use for growers in Victoria. The dairy industry also suggested that the minor use/off-label system requires reconsideration from 'first principles' and could potentially include recognition of any chemical that is registered in a trading country (e.g. China), in relation to products being traded subject to world health and food safety standards or models such as the NZ 'Generally Recognised as Safe' Register.

The plantation forestry sector also supported the current Victorian approach to chemical access on the grounds that state monitoring programs have not shown any increased environmental or other risks under the system.

Fee-for-service operators (AAAA and AGA) also expressed support for increased allowable variations to approved uses and note that current arrangements do not allow for rapid response to disease or pest incursions. Retailers, such as Coles, have suggested they may support an off-label use where this use was recommended by an accredited agronomist

The nursery and garden industry expressed support for 'a flexible instrument that allows responsible off-label use of pesticides within appropriate parameters based on a crop by crop assessment'. Both the plantation forestry and nursery-and-garden sector have also highlighted the need for special consideration of AgVet chemical uses for non-edible crops.

On the other hand, a number of Australia's 'minor use' industries (Australian Banana Growers' Council, Australian Herb & Spice Industry Association, Australian Mushroom Growers' Association, CropLife Australia, New Rural Industries Australia, Nursery & Garden Industry Australia, Protected Cropping Australia and Strawberries Australia) in their joint submission questioned claims that the Victorian off-label system does not lead to increased residue violations. They highlighted that the Victorian residue analysis relies on the total number of tests and not the number of samples in which violations (where residues exceed MRL or where no MRL exists) were detected, as the basis for its analysis. Analysis based on the number of violations per sample results in non-compliance rates of 8.5%, 85x greater than the 0.1%, reported on the basis of the number of tests for 2007-8.

They also note that some commodities, regularly tested over a number of years within the program, had consistent residue violations. They suggested that under the flexible system for off-label use, a large number of pesticides were used without an MRL for that situation and 'an alarming number of excessive violations and violations where no MRL exists were identified'.

The minor use industries submission also notes that 'no information is provided as to where compliances achieved may have been as a result of existing registrations on-label or uses covered by APVMA permits valid in other states". Therefore, whilst off-label uses may be permissible in Victoria and legally a permit may not be required from the APVMA, the off-label provisions are beneficiaries of approvals granted in the first instance by the APVMA due to regulations in other States.

They suggest that'leaving producers solely with legal off-label use as the suggested solution to the minor use problem, could see producers of minor crops in an even more precarious situation than they already are in. It is clear that approaches need to provide mechanisms for the establishment of MRLs in minor crops and where users have available clear guidance in the form of use instructions to ensure compliance as currently afforded by product labels and permits'.

Manufacturers do not support increased off-label use but are likely to be in favour of incentives to increase registration and permitting of minor uses. CropLife have stated that 'reliance on permits and other off-label access to chemicals is an unsatisfactory solution to the problem of insufficient incentive to add uses to labels. They have also expressed support for existing risk assessment processes for agricultural chemical products, as these remain as the 'the best mechanism to ensure that all the risks associated with the permissible applications of agricultural chemicals can be safely and responsibly managed'. CropLife also stated that 'allowing chemicals to be used in a manner other than that described on a label has potential liability implications for registrants should the use result in an adverse impact. Further, allowing permissible uses diminishes the value of the data protection that is critical to encouraging innovation, research and development necessary to add new products onto label'.

CropLife have also expressed concerns that approaches allowing use at lower rates or frequency of application or on a different pest to that listed on the label may damage industry stewardship activities such as resistance management strategies, reduce the value of data protection for registrants of competitive products for use on that pest and queried how efficacy can be assured when products are applied to different pest species.

The APVMA raised concerns that the proposed tiered access to chemicals model may result in increased risk to the general public because of the potential reduction in applications for APVMA permits, leading to a potential reduction in the number of MRLs established. Additionally, concerns were raised that monitoring and testing after use may not adequately protect the general public, particularly regarding dietary exposure in children. Efforts to address these potential risks may result in more conservative risk analysis frameworks, leading to greater restrictions on available products and uses.

DSEWPaC noted that off-label use should not be permitted where the method of application is not clearly stated, and that some methods of application should not be permitted for off-label use. Additionally, chemicals that are for terrestrial use should not be used off-label even in the absence of a statement prohibiting aquatic use. Concerns were also raised that off-label use could pose a risk to the environmental safety of areas of high conservation or environmentally sensitive regions, such as RAMSAR wetlands and other matters of national environmental significance.

Both the APVMA and DSEWPaC also raised the need for a common understanding of minor use, suggesting that the method of application, label rates and frequency of application should also be incorporated into the common understanding, and not just whether the crop is defined as minor.

Environment and consumer groups are also strongly opposed to increased flexibility for off-label use on the grounds of increased unassessed risk and undermining of product registration/assessment processes.

WWF-Australia, for example stated that ‘WWF does not support off-label and so called minor uses of pesticides which are, by definition, unassessed uses. The current off-label use arrangements administered by the states and territories and minor use permits issued by the APVMA undermine the integrity of the assessment and registration process, which is supposed to ensure that chemicals are approved for use in a manner that is safe for users, the community and the environment’. They suggest the focus should be on a ‘reduced risk program’ that provides incentives for low risk products with limited use rates and also a national minor use program similar to the US IR-4 approach. They did not support the proposal to establish a list of chemicals ‘Generally Regarded as Safe’.

Choice has stated that ‘the approval process must remain focused on the safety of chemical use for human health and the environment. Current off–label use systems undermine this fundamental goal of the system and have arisen to deal with the minor use problem…we do not support off-label uses, nor do we support agronomists being empowered to allow off-label uses’.

To help address these concerns, any option which includes the off-label (or allowable variations on approved uses) model also includes a number of risk management elements, such as minimum competency requirements and an enhanced produce monitoring program.

A13.6 Access to auditable records by chemical re-sellers (Options C1, C2 and D)

CropLife and the AHA suggested that ‘APVMA’s compliance functions with respect to retailers and distributors should remain limited. While the APVMA must retain the

appropriate tools, industry stewardship programs, as well as significant regulatory attention from other regulators (such as the Australian Competition and Consumer Commission and Safe Work Australia) mean that there is limited need for the APVMA to extend its functions into the retail sector'.

Some stakeholders including the NFF and NSW FF stated that further information on issues with regard to chemical importers, manufacturers and retailers/distributors including extent and cost of non-compliance is required in order understand the magnitude of the issue.

A number of submissions have also suggested that agronomists should be required to maintain auditable records on chemical use recommendations, while stockfeed manufacturers suggested that licensing of feed mill manufacturers should form part of the regulatory framework.