

1 March 2007

Dr R Floyd  
CBRN Security Branch  
National Security Division  
Department of the Prime Minister and Cabinet  
PO Box 6500  
CANBERRA ACT 2600

Dear Dr Floyd

### **COAG REVIEW OF SECURITY SENSITIVE CHEMICALS**

The National Farmers' Federation is the peak farm lobby group in Australia and represents producers of all major agricultural commodities. As such, we represent one of the largest groups of responsible users of chemicals in Australia.

We welcome the opportunity to work with the Council of Australian Governments, government departments and other industries to develop an appropriate and effective means of controlling chemicals of security concern.

The NFF position aligns with submissions provided separately by NFF state-based member organisations, Croplife and the Agricultural and Veterinary Chemicals Network. We look forward to broadening this network of engagement and cooperation to work constructively with the representatives of all controlled chemicals users to ensure that a practicable and cost-effective security framework is achieved.

I would like to thank you for your consultation on this matter to date and reiterate our commitment to working closely with you to progress this important matter.

Yours sincerely

A handwritten signature in black ink, appearing to read 'Ben Fargher', written in a cursive style.

**BEN FARGHER**  
Chief Executive Officer



Response to Council of  
Australian Government (COAG)  
Review of Hazardous Materials:

A Discussion Paper on the Control of  
Chemicals of Security Concern

## **CONTENTS**

Introduction.....	page 2
Discussion Paper.....	page 2
Guiding Principles.....	page 2
Formulated Products of Security Concern.....	page 4
Security Control Measures.....	page 5
Management of Security Control Measures .....	page 6
Industry Self-Regulation .....	page 6
Government Regulation .....	page 12
Potential Unintended Consequences of a New Framework	page 16
Next Steps .....	page 18

## **ATTACHMENTS:**

- A. Table: A Joint Industry and Government Approach to Controlling Chemicals of Security Concern
- B. Description of the Agsafe Guardian Program
- C. Description of the Chemcert training program
- D. Case Study: Analysis Paper on Calcium Nitrate and Potassium Nitrate
- E. Economic Impact: Farmers as Price Takers
- F. Background Paper: Security Requirements in the Cotton Industry
- G. Freshcare Code of Practice

## **INTRODUCTION**

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The National Farmers' Federation (NFF) is made up of State farm organisations, national commodity councils and a range of associate and affiliate members. The NFF is the single voice for all Australian farmers, one of the largest legitimate user groups of chemicals in Australia.

As members of the Australian community, farmers are united in their condemnation of terrorist acts. The threat of terrorism on Australian soil threatens Australian values, quality of life and our right to go about our everyday pursuits free from fear and danger. The impact of terrorism on the agricultural and veterinary sector could result in personal, physical, reputational and economic loss to Australian agriculture.

The representative of over 210,000 legitimate chemical users and responsible members of the Australian community, the NFF welcomes the opportunity to participate in an ongoing dialogue with Government to appropriately manage the security risks associated with certain chemicals. The NFF seeks to work with Government to develop an affordable, practicable framework for controlling security sensitive chemicals that effectively counters opportunities for terrorist activities within Australia without impacting on the Australian economy.

## **DISCUSSION PAPER**

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The NFF has considered the *Discussion Paper on the Control of Chemicals of Security Concern* issued by the Council of Australian Governments (COAG) Review of Hazardous Materials on 30 November 2006. Using the guidelines provided within the Discussion Paper, the NFF has provided a response to each of the thirteen questions posed by government. The NFF welcomes the opportunity to further discuss each of these responses with government as we move closer towards developing a solution to the threats posed by chemicals of security concern.

## **GUIDING PRINCIPLES**

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*Q1. Are there any additional principles that should be included or adjustments made to those stated to guide the development of an appropriate control regime for chemicals of security concern?*

The NFF strongly supports the four guiding principles articulated within the discussion paper.

### Risk-based approach

The NFF believes the formula used to measure the risk of terrorist application of each chemical (a formula which is based on intelligence assessments, feasibility of use and impact of use) provides a strong basis for government and industry to jointly focus on those chemicals which

constitute the greatest risk to the Australian community – Tier One Chemicals.

Maintaining a risk-based approach allows government flexibility to consider the addition of new chemicals and/or the deletion of existing chemicals to the list as new intelligence information emerges. A 'living list' will help to ensure that farmers are only subjected to additional security controls where those controls are justified by the security threat. The NFF advocates that the list of controlled chemicals be regularly reviewed to ensure the appropriateness of ongoing controls.

#### National consistency and coordination

National consistency and coordination between Commonwealth and State/Territory governments, statutory bodies and industry groups is of paramount importance in the area of security sensitive chemicals. As evidenced by the willingness to self-regulate and work towards a security solution that may involve a greater cost and efficiency burden, the NFF is keen to be part of an effective security framework. However, this will not be possible without a nationally consistent and coordinated approach. There currently exists a level of inconsistency and ambiguity of agricultural chemical regulations caused by a lack of cohesion between government agencies. This issue presents an opportunity to incorporate national standards under State legislation, thereby reducing confusion and compliance difficulties. The NFF vehemently agrees with the assessment expressed by Dr Rob Floyd of the Department of Premier and Cabinet at the consultation sessions, namely that without a nationally consistent and coordinated approach it will not be possible to have an effective framework to control chemicals of security concern.

#### Build on appropriate existing arrangements

While arguing the case to streamline existing overly complex management arrangements, the NFF recognises that at the practical level there exists many programs, implemented primarily with chemical safety and responsible use in mind, which also meet security objectives.

An example of one such program is the Agsafe Guardian program. Since its commencement in 1994, Agsafe Guardian (previously the Agsafe Accreditation Program) has provided accreditation to 1,664 rural retail premises across Australia and annually delivers competency-based training and assessment to around 2,500 personnel in the agricultural and veterinary chemical supply chain. The introduction of individual staff accreditation has significantly improved compliance at the retail level and this is further enhanced through the requirement for staff to be reaccredited on a two-year cycle. It is a requirement for staff on Agsafe accredited premises to have 12 months of industry experience to be eligible to undertake the basic-level course. Generally three staff at each store will be trained and will be responsible for awareness raising and compliance within that store.

Compliance with the Guardian program ensures that there is responsibility, regulatory compliance and duty of care throughout the entire agricultural and veterinary chemical supply chain. The program has achieved this through assessing and accrediting manufacturers, distributors and rural retail outlets in relation to the storage, handling, transport, recommendation

and sale of agricultural and veterinary chemicals. Agsafe Guardian ensures compliance with Dangerous Goods and Hazardous Substances regulations in line with AS 1940, AS 3833 and AS 2807. Agsafe Guardian currently addresses many security concerns and could be slightly expanded to meet additional security requirements. For example, mandatory reporting of chemical losses, mandatory supply of chemical purchase information by Agsafe accredited retailers to an overarching body responsible for managing security sensitive chemicals. Another option could be to require the presentation of the Agsafe Premises Key by suppliers. For example, when a distributor purchases chemical, they could be required to prove that they are Agsafe accredited.

#### Cost-effectiveness

The NFF strongly endorses the principle that only a framework that involves a minimal or no additional cost burden to the legitimate users of security sensitive chemicals is feasible. Recognising the security application and value of the compliance measures already in place (driven variously by dangerous and hazardous goods regulations, United Nations conventions and occupational health and safety legislation) will be vital in achieving a cost-effective solution.

It is important to recognise the cost impost of the compliance measures already in place. Domestic and international economic viability and competitiveness should not be compromised by the need to counter terrorism. Should Australia institute measures which are significantly detrimental to the livelihood of the thousands of people that legitimately use security sensitive chemicals we can safely say that the terrorists have won. On this basis, the NFF will work with government to achieve an outcome that balances reducing the risk of the counter-terrorism threat with cost-effectiveness and the ongoing viability of the agricultural and veterinary sector.

Alternatively, should the counter-terrorism threat be judged now or in the future to warrant costly compliance measures, the NFF believes that the agriculture and veterinary sector which legitimately uses these chemicals to provide services, produce and economic growth to the Australian community must not bear this counter-terrorism cost alone. As a deliverable to the broader Australian community it is justifiable and appropriate for the community as a whole to bear the cost of national security measures.

### **FORMULATED PRODUCTS OF SECURITY CONCERN**

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*Q2. What consultation process should be put in place to assess and identify when formulated products containing chemicals of security concern are no longer a security risk based on concentrations, volumes and formulations?*

The consultation process should include a mechanism for industry, in particular chemical manufacturers and importers, to proactively submit a case for consideration to an authoritative body at any time. It would make sense for such a body to include intelligence analysts, government representatives and technical experts. Industry should be consulted, both

broadly and through a dedicated industry working group on proposed changes to the classification and handling of chemical products. It is imperative that:

- a) there be only one authoritative body with decision-making authority in this area;
- b) that an effective and timely mechanism exists to promulgate decisions concerning the management and handling of chemical products; and
- c) that the timelines for mandatory compliance with changed requirements be reasonable and appropriate, with due regard to balancing the terrorist threat with the ability to comply.

## **SECURITY CONTROL MEASURES**

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*Q3. Are there any other potential security control measures? How might they operate?*

The NFF does not see a requirement to consider additional potential security control measures at this time.

*Q4. What information do governments require to fully consider possible control measures for chemicals of security concern? What existing or new mechanisms would allow governments to obtain this information?*

The NFF considers that from a security perspective, Governments need to know the information below in order to make an informed and appropriate decision regarding the potential control of chemicals of security concern.

- a) The legitimate applications of the chemical;
- b) The concentration/volume/formula of the chemical required for legitimate use and an understanding of how this relates to the concentration/volume/formula required for potential terrorist applications of the chemical;
- c) That the individuals who participate in the supply chain and end-use of security sensitive chemicals are not individuals of security concern and will report any unaccounted losses of the chemical or suspicious activity to government; and
- d) That the legitimate use of chemicals of security concern is tracked and managed in accordance with authoritative guidelines.

The emphasis should be on directing government counter-terrorism efforts and resources to where they are most needed. This information will allow government to have a true picture of whether the chemicals it seeks to control actually constitute a potential terrorist threat in the forms they are accessed by legitimate users. Additionally, government should seek an appropriate level of assurance that chemicals of security concern are handled by people competent to deal with the accompanying responsibilities. This may be demonstrated by a background check on individuals combined with the proven record of users to appropriately manage the other risks associated with using high risk chemicals. For instance, a history of

compliance with the many obligations of occupational health and safety and hazardous and dangerous goods legislation.

Existing or new mechanisms for governments to obtain this information are outlined below.

- The legitimate applications of the chemical can be obtained from the manufacturers and users of chemicals.
- The concentration/volume/formula of the chemical required for legitimate use can be obtained from the manufacturers and users of chemicals.
- An understanding of how the concentration/volume/formula of the chemical required for legitimate use relates to the concentration/volume/formula required for potential terrorist applications of the chemical can be obtained through existing government agencies.
- Confirmation that the individuals who participate in the supply chain and end-use of security sensitive chemicals are not individuals of security concern can be obtained by making existing Agsafe and ChemCert database information available to government agencies for cross-checking against police and/or other government databases.
- The legitimate use and management of chemicals of security concern can be tracked through random audits and/or visits by the state/territory departments responsible for AgVet Control of Use Regulations at no additional cost to individuals.

## **MANAGEMENT OF SECURITY CONTROL MEASURES**

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*Q5. Are there any other mechanisms for managing security control measures that should be considered?*

The NFF does not at this stage have additional control measure to propose for consideration.

## **INDUSTRY SELF-REGULATION**

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*Q6. Which existing self-regulatory arrangements should be examined? How could existing arrangements be improved or linked?*

In line with the recommendations of the 'Rethinking Regulation: Report of the Taskforce on Reducing Regulatory Burdens on Business' in January 2006, the NFF supports the review of the efficacy of all existing regulatory measures. Recommendation 4.58 of the report calls for the development of an integrated, national chemicals policy and an independent, public review of regulation in the chemicals and plastics sector. Until such time as a national chemicals policy is developed, the current mix of mandatory and self-regulatory measures will continue to burden the industry as users struggle to make sense of the complex web of overlapping government

regulations. A proposed framework based on existing industry self-regulatory arrangements, with security measures enhanced through Commonwealth and state/territory governments is at Attachment 1.

In making the case for industry self-regulation, the NFF notes the limitation of any industry response regarding national security when based on a limited awareness of the true nature of the threat. The NFF would support any measure that works to address this information gap in an appropriate and security-conscious way, but which recognises the need of industry (or parts thereof) to be ‘in the loop’ and trusted in order to deliver better targeted advice and solution options to government. The NFF recognises that such a path may involve granting security clearances to members of peak industry association bodies, and would not allow the sharing of information or include the sharing of highly classified information.

*Q7. What are the advantages and disadvantages of using industry self-regulation schemes?*

The NFF believes that the appropriate solution for managing chemicals of security concern will be one that builds on the existing framework of industry self-regulation, but incorporates a top layer of government-mandated requirement. For example, the information currently provided under industry regulation could be mandated to be passed to government for verification and tracking purposes. This would have the least impact on users and suppliers of chemicals while still providing government with sufficient information to counter terrorism. Such an approach would counter the disadvantages outlined below while retaining the advantages.

<b>Advantages</b>	<b>Disadvantages</b>
No additional costs to industry	Compliance not legally required
Transparency of regulations	Lack of Government oversight
Recognises strength of and utilises existing compliance measures	Existing measures are not security-specific, some adjustment required
Less Government overheads	
Quick to implement, with only minor adjustments required	
A truly joint approach by government and industry	

*Q8. Which security control measures identified in Section 6 could be managed through industry self-regulation? What are the advantages and disadvantages of this approach?*

## Section 6: Security Control Measures

### 6.1 Education, training and awareness-raising

Under the Guardian program and other existing competency-based chemical training programs delivered around Australia, there is scope to include a chemical counter-terrorism module with all existing training packages. This would effectively mean that trainers, users, retailers and suppliers of security sensitive chemicals undergo mandatory counter-terrorism focused

security training on a two-year cycle as part of their current training program. This module could be designed and/or delivered by government. Alternatively, existing trainers could be trained to deliver the counter-terrorist component of the course.

It would be feasible that all participants in the security sensitive chemicals framework include awareness-raising information on their public websites. This would assist government in raising community awareness of the risks associated with security sensitive chemicals and how these are being addressed.

### 6.2 Packaging and formulation

The packaging and formulation of agricultural chemicals is already covered by the capacity of the APVMA to list chemicals as Restricted Chemical Products. This means storage and record keeping requirements are outlined on the product label and adherence to these protocols is a legal requirement. In the case of 1080 (Sodium Fluoroacetate) access is restricted to sale only to authorised individuals. While these measures were primarily introduced to cover safety concerns, there is a valuable security dividend delivered through the Restricted Chemical Products list.

### 6.3 Reporting of unaccounted losses

Record keeping is a key component of good agricultural practice when applying farm chemical products and is a mandatory requirement in certain jurisdictions through each state/territories Control of Use Regulations. Farmers generally maintain stock control records (manifests) as well as chemical used records, both of which can assist in the tracking the purchase and use of farm chemical products.

These records are stored manually or electronically on farm with certain State agencies, such as the Department of Primary Industry Chemical Standards Branch in Victoria, retaining the legislated right to audit and verify such records at any time. In the majority of cases, the farm chemical records maintained on farm are sufficient to identify any stock losses and certainly capable of identifying any systematic theft of chemicals. Should additional reporting be required, existing chemical use records could provide an effective basis for supplying this information.

The NFF suggests that an incentive based scheme to encourage reporting of unaccounted losses could be introduced to promote accurate and timely record keeping and reporting.

### 6.4 Security of transport and storage in transit

It is clearly important to ensure the security of agricultural and veterinary chemicals when they are being transported through the supply chain. NFF envisages that many of the security sensitive agricultural and veterinary products may be classified as dangerous goods under the Australian Dangerous Goods Code, therefore requiring transport companies to comply with stringent security and safety requirements when transporting large quantities of these products. Farmers and other chemical users, who generally transport much smaller quantities of these products, are exempt from ADG obligations when transporting less than 1000kg/L.

It has been suggested that a regulated requirement should be introduced to mandate that farmers transport security sensitive chemicals in locked storage containers or at least under constant surveillance. The commercial reality is that given the high costs of agricultural and veterinary chemicals, farmers are acutely aware of the need to closely monitor their chemical products to avoid general theft, particularly during the transportation of such products.

NFF believes that additional assurance of the secure transport of security sensitive chemicals can be provided through the introduction of additional industry guidelines to build on Agsafe's "*Ute it don't boot it*" campaign.

The Chemcert National Training Resource (user application) already emphasises the importance of ensuring vehicles are locked and supervised when they are parked and during transport. There is an opportunity to enhance this aspect of current training to emphasise the importance of adhering to this principle from a national security perspective.

#### 6.5 Vetting of people handling chemicals of security concern

Over 210,000 Australian farmers and chemical users have successfully completed a Farm Chemical User Accreditation Course in the last 10 years. Currently these courses focus on managing the range of occupational health and safety risks associated with the storage, handling and use of farm chemical products. The majority of training courses align with nationally endorsed competency standards. After successfully completing a Farm Chemical User Accreditation Course, a farmer is competent in assessing and managing the risks associated with the farm chemicals used in their business. Future training modules could include guidelines on how to identify suspicious behaviour with respect to security sensitive chemicals (eg. by retailers, farm personnel) and include mandatory reporting of concerns.

Many agricultural industries have quality assurance systems in place. A key characteristic of these programs is an attention to all aspects of chemical handling, storage and use with a requirement for annual third party audits to verify compliance. One example, the Freshcare Code of Practice is attached for information at Attachment G.

#### 6.6 Security of premises

The requirements for storing farm chemicals are generally determined by farmers through an on-farm risk-assessment. Most farmers already store their chemical products in locked facilities to minimise unauthorised access (including by need children, pets and livestock), environmental risks and the risk of theft. That said, where alternate suitable risk mitigation methods are available, lockable storage may not be required.

Given the high cost of agricultural and veterinary chemicals, combined with the limited shelf life of certain products, farmers generally avoid storing large quantities of these products on farm, minimising risk.

Chemical labels for most higher risk chemical products specify direction on storage. Given that approved labels are legal documents, this effectively mandates that farmers store such products in lockable storage areas. It is possible to extend label storage instructions to all security sensitive

chemicals, thereby ensuring the mandatory secure storage of such chemicals on farm premises.

#### 6.7 Tracking of chemicals

In addition to ensuring that security sensitive chemicals are only sold to legitimate and competent users, from a national security viewpoint it may be appropriate to monitor the purchasing patterns of individual chemical users to detect any suspicious or irregular purchase of security sensitive chemicals. This monitoring and tracking capability could be achieved through the establishment of a national database to provide real-time tracking of the sale of security sensitive products nationally.

As mentioned, Agsafe Limited, through the Guardian program has direct links with around 1640 rural retailers nationally, constituting around 98% of known outlets where agricultural and veterinary chemicals are sold in commercial quantities. Agsafe already manages a large web-based database for the purpose of delivering web-based training to rural retailers, which potentially provides a suitable platform for a national industry-coordinated security sensitive chemicals sales database. Although managed by industry, it is envisaged that the database would be made available to police and security agencies to allow monitoring and background checking to take place, therefore removing the upfront requirement for farmers and chemical users to obtain an ASIO and/or police check.

This proposed approach aligns closely with the Pharmacy Guild of Australia's Project Stop, an industry initiative focused on overcoming security problems associated with the diversion of pseudoephedrine cold and flu product for the production of illicit drugs. Under Project Stop, the Guild, with financial assistance from the Attorney General's Department, has developed and implemented a national online recording and reporting system that gives pharmacists, police and health authorities real-time access to a database of suspicious pseudoephedrine purchase reports.

Additional point of sale support may be offered to retailers through the establishment of a 1800-support line for suspicious purchases, and by building on Agsafe's existing security protocols as these are already available and utilised by the 1640 retailers in the Agsafe industry network.

#### 6.8 Authorisation for access through the supply chain

In order to manage the range of risks associated with the supply of agricultural and veterinary chemicals, including potential national security risks, it is of critical importance that these products are only sold to legitimate users who have the competence and understanding to handle, store and use these products in a safe and effective manner. From a security viewpoint, it is also important that the identities of these users can be verified.

Over the last decade, around 210,000 Australian farmers have completed the Farm Chemical User Accreditation either through Chemcert or equivalent training providers. On the completion of their Accreditation Course, in the majority of cases farmers are issued with a Statement of Attainment under the Australian Quality Training Framework (AQTF) from their Registered Training Organisation (RTO), and successful completion of the training course. RTOs are required to verify the identity of the student

before issuing a Statement of Attainment. Both Statements of Attainment and cards have unique identification numbers linked to the recipient, and so may form the basis of a national recording mechanism.

In the case of a number of States and Territories, farmers and other individuals must produce their Statement of Attainment and/or Card at the point of sale in order to purchase certain high risk chemicals. This requirement helps to ensure that agricultural and veterinary chemicals are sold only to people who have been deemed competent in the safe and effective use of such products.

The NFF suggests that the current two methods of statement of attainment and card be merged into a single system (eg an accreditation and identification card) to create a national model and database which will fulfil the non-security functions that these cards currently provide but also provide traceability and monitoring security benefits.

The APVMA has imposed a similar requirement on the sale of Endosulfan products, a chemical product restricted nationally since 2000. Endosulfan is labelled with a statement that it 'can only be supplied to or used by an authorised person.' In addition to ensuring that Endosulfan recipients are certified, rural retailers are also required to maintain detailed records relating to each Endosulfan sale and retain for a period of two years.

The inclusion of Endosulfan as a restricted chemical product and the associated point-of-sale restrictions have proved highly effective in managing the trade-related risks associated with this product.

NFF believes that the framework in place under certain State and Territory legislation to manage Endosulfan represents an appropriate framework through which to control the sale of security sensitive chemicals.

While NFF believes that the current framework represents a robust platform to develop a secure system, there may be opportunities to enhance the integrity of the system by requiring purchasers of security sensitive chemicals to provide 100 points of identification at the point of sale or through limited sales of such chemicals to account holders only.

## **GOVERNMENT REGULATION**

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*Q9. What are the advantages and disadvantages of government regulation to achieve an appropriate security environment?*

The NFF considers that a level of government regulation, or sanction or industry self-regulation, is required to achieve national consistency and an enhanced security environment. Government is best placed to provide leadership on this issue, and regulations are a typical mechanism to exercise this leadership. Industry supports a clear, minimalist and cost-effective regulatory regime led by government.

In exercising this leadership, however, the NFF cautions that regulation is typically an inflexible and less responsive tool. Given the nature of the security concerns to be addressed, a level of flexibility to add or remove chemicals to the control list according to the threat environment is necessary. Often government regulations can be developed without due regard for the true compliance impact of that regulation on the community. In this case, NFF notes a more proactive approach by government.

Inconsistent regulations between Commonwealth, State and Territory governments would be a worse outcome than no regulation. From a security perspective this is likely to create loopholes that can easily be exploited by terrorists. From a compliance perspective this will artificially create competitive anomalies between producers according to location.

*Q10. Of the existing regulation identified in Section 3, which of their elements could be effectively applied to achieve the security outcome?*

In terms of products being available to farmers and members of the general public, the simplest option would be to regulate the security sensitive chemical products as APVMA restricted products. This would mean that each state would apply its existing regulations on agricultural and veterinary chemicals and dangerous goods and hazardous substances.

The APVMA capacity to list a product as a restricted product could be used to impose purchase restrictions, record keeping and storage and handling restrictions. The Agsafe guardian program could be used in conjunction with APVMA requirements to keep records of product sales and purchasers.

The current occupational health and safety legislative requirements for dangerous goods and hazardous substances could be used as a means of reinforcing storage, handling and transport requirements.

NFF notes that the licensing regime imposed to control Security Sensitive Ammonium Nitrate (SSAN) has effectively led to a de facto ban on the product. As mentioned previously, the NFF does not support an SSAN-type solution for other security sensitive chemicals.

*Q11. Of the security control measures identified in Section 6, which might most appropriately be managed through government regulation? What are the advantages and disadvantages of this approach?*

Given the plethora of relevant government regulation referred to in this paper at Question 8, the NFF has interpreted this question to mean 'new' government regulation. The respective advantage and disadvantages are discussed at Questions 7 and 8.

Section 6.1, Education, training and awareness-raising, would benefit from the inclusion in existing courses for the handling of security sensitive chemicals of a government-mandated and developed component. This component would include a description of the potential misuse of chemicals,

an outline of the elements of a government/industry joint framework to counter-terrorism and provide guidance on recognising and reporting suspicious behaviour and unaccounted losses. Participation in education/training programs could be mandated for users of chemicals of security concern.

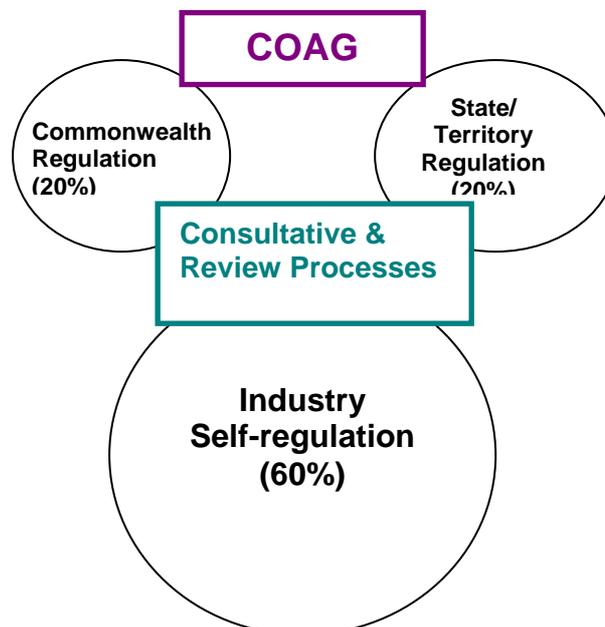
Section 6.5, Vetting of people handling chemicals of security concern, might benefit from a government regulation requiring participation in Agsafe Guardian program and further requiring that the information collected under that program be made available to government.

Section 6.6, Security of premises, could be improved by regulating that the labels for all security sensitive chemicals include storage instructions.

Section 6.8, Authorisation for access through the supply chain, might benefit from the compulsory provision at the point of sale of security sensitive chemicals of a recognised accreditation certificate (Statement of Attainment/Card issued by a registered training authority) to verify that the purchaser is authorised to handle the chemicals.

*Q12. Is it appropriate to have a combination of industry self-regulation and government regulation?*

The NFF strongly considers that the appropriate solution to manage chemicals of security concern is a combination of industry self-regulation and government regulation. The reasoning for this position is provided at Question 7. The key task will be getting the balance right between industry self-regulation and Government regulation at the Commonwealth and State/Territory levels. The NFF considers that the appropriate solution will be a 60-20-20 breakdown.



Under this model, the areas of responsibility would broadly be:

#### Commonwealth Government

- Participate in and contribute to the COAG endorsement process, including a binding COAG agreement, and appropriate COAG reviews.
- Monitoring the ongoing efficacy and integrity of the framework, including fine-tuning as appropriate.
- Coordinating regular, ongoing consultation processes with all stakeholders including responding to and addressing industry-initiated consultation.
- Commonwealth body (new or existing) to manage national database of information on chemical users, retailers, manufacturers and transporters.
- Security checking (eg ASIO), intelligence collection, threat assessments and development of industry security training module.

#### State/Territory Governments

- Participate in and contribute to the COAG endorsement process, including a binding COAG agreement, and appropriate COAG reviews.
- Involvement in monitoring the ongoing efficacy and integrity of the framework, including fine-tuning as appropriate.
- Legislate and introduce policies to reflect COAG framework and a commitment to maintain alignment to the framework.
- Participate in regular, ongoing consultation processes with all stakeholders including responding to and addressing industry-initiated consultation.
- Oversee the state/territory bodies that contribute to the framework to ensure:
  - ongoing alignment to the framework (amending charters if necessary); and
  - industry is complying with the requirements of the state/territory bodies and therefore complying with the framework.
- Security checking (eg police checks.)

#### Industry

- Participate in regular, ongoing consultation processes with all stakeholders including responding constructively to and addressing government-initiated consultation.
- Work proactively with the state/territory bodies that contribute to the framework to ensure:
  - ongoing alignment to the framework (amending charters if necessary); and
  - industry is complying with the requirements of the state/territory bodies and therefore complying with the framework.
- Delivery of government-developed counter-terrorism education and training to chemical users.
- Provision of competency-based training to chemical users.

- Collection of information, verification of competency (training) and maintenance of chemical-user databases (including for access by government.)
- Appropriate storage, labelling, transporting and handling of chemicals.
- Industry bodies to routinely audit individuals to confirm compliance with the framework. (Eg Agsafe audit)

There would need to be a full time standing committee with responsibility for reviewing the framework, proposing and responding to possible framework amendments. This would include intelligence-driven amendments, such as the removal or addition of chemicals to the list as well as industry

*Q13. In light of all aspects of this discussion paper and questions 1-12 above, are there any other issues you wish to raise?*

### **Potential Unintended Consequences of a New Framework**

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The introduction of new governance arrangements always brings with it a degree of unintended effects. Some of these may enhance the operation and efficacy of the prescribed arrangements, but the risk is that unintended consequences will act against the original principles and intent of the measures introduced.

The NFF asks COAG to examine and mitigate against potential unintended consequences of any new framework for the control of chemicals of security concern. These could undermine the efficacy of new measures from a counter-terrorism perspective, as well as have dire economic consequences for large sections of the Australian community. Should these occur, industry confidence in governments' ability to lead and achieve practicable security solutions would be dented, negatively influencing the capacity for government and industry to work effectively together.

- **Potential national inconsistency**

The COAG framework must guard against the potential for states and territories (and their agencies) to independently introduce differing levels of compliance measures and standards immediately or in the future.

Non-adherence to the agreed COAG framework by state and territory governments and agencies now would undermine the framework in the following ways:

- consultation with stakeholders is a pointless time and money wasting exercise
- inconsistencies between states increases the complexity of compliance and the potential for exploiting these differences by terrorists
- the cost of compliance and self-education increases for chemical users, particularly for those operating across state borders
- without a safeguard against 'breakaway' states and territories the value of the framework is undermined from day one as all parties will recognise that the agreed national security measures in place could be changed on a political whim.

The solution to this risk is that the framework ultimately endorsed by COAG must be accompanied by a legally binding commitment from COAG members and relevant authorities NOT to arbitrarily deviate from the agreed framework without following a prescribed consultation process. Similarly, industry bodies would be willing to sign up to maintain the industry self-regulation measures that will underpin the new framework.

- **Potential de facto ban on listed chemicals**

A risk that needs to be carefully managed within this process is working closely with manufacturers and retailers to ensure the continued access to chemicals listed as of security concern. Recently, access to a chemical (SSAN) subjected to additional security measures was severely reduced due to the additional cost and difficulty of compliance. In this case, manufacturers and retailers did not produce or stock the product due to a perception that the additional costs of compliance and use (incurred throughout the supply chain and passed on to the end-user) means that the product is unaffordable to most farmers. Although it is currently possible for credentialed customers to order this chemical, this takes time, and means reduced effectiveness and increased costs to farmers. Ultimately, it can be argued that the increased security controls resulted in a de facto ban on the product.

It is imperative that throughout this process, government and industry work together to identify and resolve increased civil liability risks, insurance implications, the cost of compliance in real terms, changes in business operating procedures and any other changes that may affect manufacturers and retailers decision to retain the product.

- **Potential Loss of Economic Viability**

Should the agreed framework include expensive and time-consuming compliance measures, and should the cost of compliance be borne by industry alone, it is likely that the ongoing economic viability of some industries will be under threat. These measures could include requiring end-users to pay for and undergo a police and ASIO check before they can purchase listed chemicals. The significant cost and excessive time delays usually associated with these measures could result in a flow-on loss of productivity as well as the direct compliance cost.

The long-term economic impacts of costly compliance would need to be studied and measured with due regard to the direct and indirect consequences on the Australian economy. Should such measures be considered within the draft COAG report, the NFF would seek to work with Government to measure the impact on agriculture. Currently agriculture accounts for around 20% of Australia's goods and services exports, contributes 12.3% (\$103 billion) of Australia's GDP and supports 1.6 million Australian jobs.

- **Potential perception that framework unfairly targets industry sectors of the Australian community**

In the second round of public consultations, it may be necessary to better explain the rationale for determining the list of chemicals. Specifically, and whether chemical products, such as petrol and pool chlorine, are not being

examined in a counter terrorism context simply because there would be no public acceptance of increased controls over chemicals used in a domestic context. Farmers are committed to increasing public security and expect that this commitment is valued and shared by government and other members of the Australian community. The NFF would be concerned if agricultural and veterinary chemicals were singled out for increased regulation if this did not materially alter the security risk to Australia.

## **Next Steps**

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The NFF sees this discussion paper as a means to open the dialogue on the issue but not the key area of focus. Further consultation on the concentration, volume and product formulation will be the critical next step in this process. The true impact of potential regulation in the area of security sensitive chemicals cannot be measured or adequately responded to until such time as government has developed and shared the detail on which formulations of chemicals may be subject to regulation with industry.

Consultation on the draft COAG paper should promote participation by the farming sector, taking account that the scheduled time coincides with harvesting, etc. To maximise community participation, the NFF advocates that:

- at least two months advance notice be provided of meetings times, dates and locations;
- an adequate number of meetings be held (at least five across each state or territory);
- the comments and views expressed by the public at these sessions should be recorded by government officials and responded to at the time or within a reasonable timeframe;
- the consultation process entail a level of robust dialogue, question and answer sessions and presumably lead to some constructive changes to draft paper.

The NFF recognises that consultation is a critical part of democratic process, informing and binding stakeholders to an agreed way forward. As such, the NFF seeks to participate fully in the consultative process.

**A Joint Industry and Government Approach to Controlling Chemicals of Security Concern**

<b>Security Control Measure</b>	<b>Industry Self-Regulation</b>	<b>State/Territory Government</b>	<b>Commonwealth Government</b>
Education, training and awareness-raising	Nationally accredited, competency-based chemical training packages currently delivered to around 95% of industry. Training currently meets some security objectives and could be expanded to include additional security-specific module/s.	Mandate successful completion of accredited chemical training as requirement to access security sensitive chemicals.	Develop counter-terrorism module for delivery in training package. Provide resources to deliver training (either to course participants or to 'train-the trainer'.)
Packaging and formulation	Compliance with APVMA requirements.		APVMA listing of tier one security sensitive chemicals on Restricted List, making adherence to label, record keeping and storage requirements a legal obligation.
Reporting of unaccounted losses	Maintain stock control and chemical usage records, report unaccounted losses to state/territory agencies.	Standardise legislation to require record keeping across all states and to allow state/territory agencies to audit and verify such records at any time. Liaise between States/territories and nationally to coordinate response to unaccounted losses if necessary.	National approach to recording and responding to unaccounted losses.
Security of transport and storage in transit	Promote and build awareness of requirement to ensure vehicles containing security sensitive chemicals are locked and supervised when parked and during transport. (eg build on existing industry safety awareness campaigns.)		
Vetting of people handling chemicals of security concern	Agsafe Guardian national stewardship program (currently 95% industry participation) includes individual accreditation of retail staff selling chemicals and includes a national database of chemical users and purchases.	Mandate participation in Agsafe Guardian program.  Periodically review Agsafe database, conduct police checks as required.	Determine any additional reporting fields to add to Agsafe database.  Conduct ASIO checks if required.
Security of premises	Comply with legal obligation to store chemicals in accordance with label instructions.	Mandate storage requirements of security sensitive chemicals be listed on labels.	
Tracking of chemicals	Maintain national database of chemical sales and purchasers to allow real-time tracking of chemicals. (Agsafe Guardian database would be a suitable platform.)	Mandate participation in Agsafe Guardian program.  Periodically review Agsafe database, take action as required	
Authorisation for access through supply chain	Requirement to produce Farm Chemical User Accreditation Statement of Attainment or Card at point of sale. Keep national database up to date.	Mandate participation in accredited training package. Require presentation of identification at point of sale.  Periodically review Agsafe database, take action as required	Consider adding tier one security sensitive chemicals to APVMA list of restricted chemicals.



**Personnel Accreditation**

**Student Handbook**

## **Agsafe Student Handbook**

# **TABLE OF CONTENTS**

<i>What is Agsafe and Personnel Accreditation?.....</i>	<i>3</i>
<i>Vocational education and training (VET) information.....</i>	<i>9</i>
<i>Agsafe Quality Assurance Process.....</i>	<i>12</i>
<i>Appeals and grievances.....</i>	<i>14</i>
<i>Feedback opportunities and forms.....</i>	<i>15</i>
<i>Other Useful Forms.....</i>	<i>15</i>
<i>Useful Contacts and other sources of information.....</i>	<i>15</i>

## What is Agsafe Ltd. and the Guardian program?

**Agsafe** is a non-profit independent subsidiary of CropLife Australia. It implements an agricultural and veterinary chemical industry co-regulatory compliance program which aims to:

- Have professional trained and accredited staff, with a commitment to the Agsafe Code of Conduct, throughout the distribution chain at all locations where agricultural and veterinary chemicals are commercially sold.
- Have all premises in the distribution chain where agricultural and veterinary chemicals are stored, handled, dispatched and sold meeting their accreditation obligations by:
  - having all eligible staff accredited
  - meeting all relevant regulations, standards and codes
  - demonstrating their duty of care
- Not trade with individuals or organisations which do not meet their accreditation obligations. This was authorised by an Australian Competition and Consumer Commission (ACCC) in a Determination made in June 1994 and renewed in Application numbers A90680 and A9068 in April 2006.
- Have regulatory authorities, through their input to the Code of Practice; endorse the Agsafe Accreditation program and the credibility of the program reflected by regulatory recognition in licensing and in the provision of general and individual exemptions to Agsafe accredited premises.

The Agsafe Guardian program ensures that agricultural and veterinary chemicals in the distribution chain - from manufacture, through to sale to the end user - are handled by industry personnel who:

- Understand all relevant safety and regulatory obligations;
- Can fulfil appropriate 'duty of care' obligations; and
- Can deliver to the end-user appropriate advice on chemical use, consistent with legal obligations and with advice from Departments of Agriculture or Primary Industries, which is increasingly disseminated via retail outlets.

Initially, all personnel new to industry complete the Personnel Accreditation and Training (Basic) course which provides an introduction into the co-regulatory regime of the industry. Individuals are also required to complete re-accreditation to maintain their accreditation status. Courses can be completed in the traditional face to face delivery or via the web. Re-accreditation training ensures that personnel are up kept abreast of industry programs, best practice and regulatory changes.

Introduced in October 2005, the **Agsafe Guardian** program provides increased value back to the Agricultural and Veterinary Chemical industry. The Guardian program provides more job specific training in an online format. In conjunction with the online training modules, each individual that completes online training must undertake a workplace assessment to confirm that competencies learnt online are being effectively carried out in the workplace.

Guardian also provides a tangible link between the premises and personnel programs. Individuals undertaking online training are able to see first hand how their training can apply to the safe operation of their premises.

## **Courses Available**

### **Agsafe Personnel Accreditation and Training Course (Basic)**

Individuals who handle, sell, take responsibility for the safety of, advise on the use of, transport or store agricultural and veterinary chemicals from point of manufacture through to point of sale need to enrol and complete the Agsafe Personnel Accreditation and Training Course (formerly known as basic). Agsafe Accreditation is achieved by successfully completing the course and;

- Having at least one year of industry experience\*; and
- Making a formal commitment to comply with the standards of professional conduct outlined in the Agsafe Code of Conduct.

**\*Note:** Students are given a Certificate of Attainment until they have twelve months industry experience. They may then apply for full accreditation.

This training course is an introductory course, which aims to teach the regulatory and safety responsibilities relating to farm chemicals, including topics such as:

- Introduction to Pests and Pest Management
- The Product Label
- Safe Transport of Farm Chemicals
- Safe Handling and Storage of Agricultural and Veterinary Chemicals
- Toxicity Health and First Aid
- Fire, Spill and Transport Emergencies
- Farm Chemicals and the Environment

### **Agsafe Personnel Re-accreditation**

All eligible personnel are obliged to undergo re-accreditation training to maintain their accreditation status. Re-accreditation courses are available in a mixture of face to face and online formats::

- Labels & Legals
- Chemical Handling, Storage and Transport (online and face to face)
- Emergency Planning and Response
- Principles of Pest Management
- Fercare Level B or Level C
- Occupational Health & Safety (Online and face to face)
- Chemical Warehousing (online)
- Application Technology (Crop)

#### **Labels and Legals**

Labels and Legals refreshes and adds to the complexity from the Basic Accreditation course by updating participants on relevant legislative changes and focusing on current issues.

#### **Chemical Handling, Storage and Transport**

This module builds upon the Basic Accreditation Training course with reinforcement, practical implementation and on-going compliance with legislation, Standards and Codes of Practice particularly relating to transport and storage of dangerous goods.

### **Emergency Planning & Response**

This module builds on an individual's ability to prepare, test and implement plans for emergencies occurring at chemical distribution centres.

### **Principles of Pest Management**

By completing this module participants will be able to select and apply chemicals in specific pest management situations by using integrated pest management and modes of action of agricultural and veterinary chemicals.

### **Fertcare Level B**

Individuals, on completion of this module, will be able to discuss existing nutrient management plans with customers, identify environmental risks and suggest management actions that will reduce this risk. Participants will gain a general knowledge of soils, nutrients and fertilizer products useful in the sales role.

### **Fertcare Level C**

This module develops the ability to be able provide detailed plant nutrition advice based on soil and plant testing.

### **Occupational Health & Safety**

This module allows individuals to assist in the development, implementation and maintenance of effective mechanisms for consultation and communication of relevant health and safety issues in the workplace.

### **Chemical Warehousing**

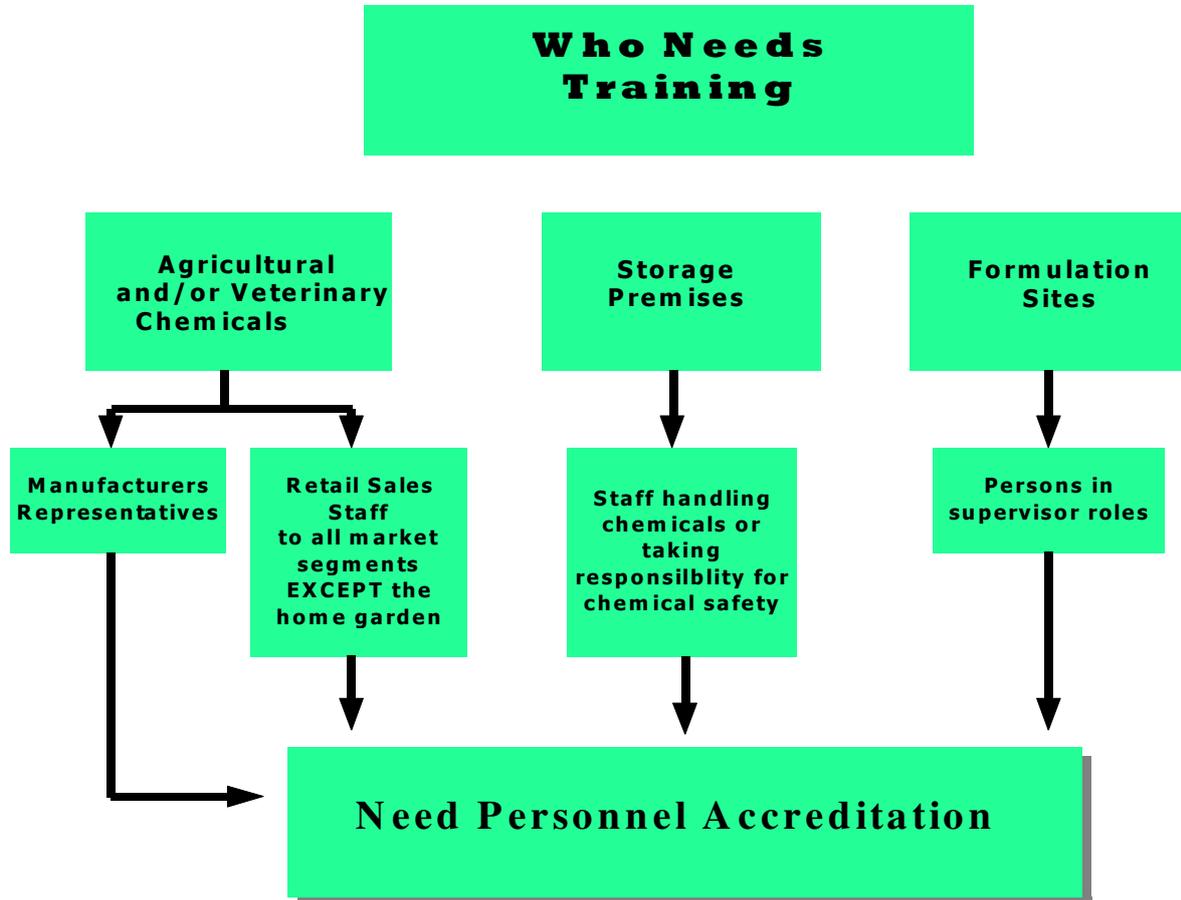
This module builds upon the Basic Accreditation Training course with reinforcement, practical implementation and on-going compliance with legislation, Standards and Codes of Practice particularly relating to transport and storage of dangerous goods

### **Application Technology (Crop)**

This course focusses on water based spray application technology. It aims to ensure that those involved in the sale and handling of Agricultural & Veterinary Chemicals supply chain achieve Industry established competencies.

## **Eligibility**

Personnel involved in handling, selling, recommending, advising and/or taking responsibility for the safety of agricultural and veterinary chemicals are eligible for Agsafe Personnel Accreditation. Accreditation does not apply to: Vets who prescribe a veterinary product or Individuals who sell products exclusively for domestic use or staff members who work purely in administration.



## Eligibility for Manufacturers

Below are some guidelines for manufacturing businesses to establish who requires Agsafe Accreditation.

<b>Personnel</b>	<b>Eligible?</b>
GM/CEO (to set example but not obligatory)	Yes
Agronomist	Yes
Technical Officer	Yes
Sales Reps	Yes
Marketing	Yes
Customer Service	
-Gives product advice	Yes
-Logistics	No
Admin - personnel/finance	No
Regulatory Affairs personnel	Yes
Formulators	
▪ Supervisors	Yes
▪ Others	Recommended
Formulation Chemist	No
Production Manager	Recommended
Site Manager	Yes
Warehouse Supervisor	Yes
Transport Supervisor	Yes
Distribution Manager	Yes
Dispatch Supervisor	Yes

## **Access and Equity**

Agsafe Limited is committed to the principles of access and equity in the delivery of training and assessment services. Agsafe's code of conduct and contract with its trainers ensures fair and reasonable access to courses and complies with equity principles through the fair allocation of resources and the creation of learning and working environments that are free from discrimination.

Agsafe policy ensures that all staff and contractors are not only suitably qualified but also are sensitive to the cultural and learning needs of participants. All Agsafe staff, including contractors, are responsible for providing information on Access and Equity to clients. To discuss further please contact the Accreditation Coordinator on 02 6230 4799 or via email [guardian@agsafe.com.au](mailto:guardian@agsafe.com.au).

The Agsafe Code of Conduct and participant information is issued to all participants prior to attendance at the course and staff (as part of staff orientation procedures) and is available to all clients through Agsafe's website and participant information material.

### **Course Entry Requirements**

Entry to pre course assignments requires that participants have:

- A minimum of six-twelve months relevant work experience
- Access to a suitable workplace to undertake the required assignments; and
- Literacy and numeracy skills to Year 10 level or equivalent

Entry to course work and assessments requires that participants have:

- Successfully completed the Pre course assignments; and
- Access to a suitable workplace

### **Course Delivery Modes**

The Agsafe delivery strategy is based on meeting the needs of a diverse range of participants. Therefore, a mixed-mode model is preferred. This incorporates learning activities that can be undertaken in-class or in the workplace and a core training workshop that can be conducted in-class or on-line. The delivery model offers a range of options to address different learning styles and to ensure that learning occurs in the most appropriate form and environment.

- on-job tasks
- in-class training sessions
- supervised practical activities
- private study
- self-paced learning
- online learning
- Workplace assessment

All Agsafe staff and contractors confirm if participant(s) require additional support and undertake appropriate action to provide suitable support where possible.

## **Cost of Courses**

Fees associated with Agsafe training relate directly to the mode of training chosen by the individual (i.e. Face to face or online/workplace assessment)

Fees for Face to face training are required in advance of the course commencement date to be paid directly to the trainer. Trainers have their own refund policies that are available at the time of booking.

Guardian online training and workplace assessment fees are not required to be paid in advance, however cancellation of consultations may incur a charge of \$135 per hour or individual if notice to cancel is given less than two weeks prior to the consultation.

## **Vocational education and training (VET) information**

Vocational education and training (VET) is post-compulsory education and training, excluding degree and higher level programs delivered by higher education institutions, which provides people with occupational or work-related knowledge and skills. VET also includes programs which provide the basis for subsequent vocational programs. VET provides skills and knowledge for work, enhances employability and assists learning throughout life.

Training Packages provide the central ‘architecture’ of the VET system. Training Packages are sets of nationally endorsed standards and qualifications for recognising and assessing people’s skills. In industry areas where there are not yet Training Packages, accredited courses are used instead. Who runs it? Australian, state and territory governments agreed in 1992 to have a national training system, replacing the separate state and territory systems. The Australian National Training Authority (ANTA) and its board were established to advise ministers on national policy and regulation. The ministers meet to make decisions, on the advice of the ANTA Board. State and territory governments implement the decisions ministers make. States and territories are also responsible for registering and monitoring training providers.

### ***What is a Qualification, Certificate and Statement of attainment?***

**Qualification:** certification awarded to a person on successful completion of a course in recognition of having achieved particular knowledge, skills or competencies.

**Certificate:** the formal acknowledgement of successful achievement of a defined set of outcomes in form of a document.

**Statement of attainment** certification issued to a student for partial completion of a qualification, including, where relevant, the units of competency achieved under nationally endorsed standards. Achievements recognised by statements of attainment can accumulate towards a qualification within the Australian Qualifications Framework (AQF).

**Australian Qualifications Framework (AQF)** a nationally consistent set of qualifications for all post-compulsory education and training in Australia

### **Why Agsafe is ‘accredited’ training?**

Accredited training is quality training. It is based on the Australian vocational and education training system which is:

- nationally-based
- industry-led
- client-focused

The system ensures the accredited training your business receives is:

- relevant to your business and industry
- of high quality
- recognised nationally

While all training is valuable, non-accredited training cannot guarantee the above factors. It is certainly not nationally recognised, which leaves your employees without a valued qualification or statement of attainment at the end of their training.

### **Training benefits all businesses**

The success of training doesn’t depend on the size of your business or the industry you are in. It comes from an understanding of your business' needs, the skills gaps that exist and then closing the gap with targeted training.

### **Improved performance, productivity and profitability**

Training increases a company’s performance. For example: Training employees in Occupational Health and Safety reduces claims in workers compensation costs due to reduced accidents. Staff benefit too, learning new skills and becoming a valued asset in any organisation. Training brings direct benefits to business and can be calculated as a return on investment.

### ***What Agsafe courses can lead to***

Participants who complete Agsafe Accreditation courses receive industry certification and are eligible to pursue higher level accreditation through Agsafe Limited and/or other related industry certifying bodies.

Successful completion of the course will also provide participants with nationally recognised workplace competencies that can be used to:

- enhance their employment opportunities; and/or
- complete a relevant Training Package qualification; and
- pursue a Training Package qualification at a higher level

## ***Which Agsafe courses are Nationally Recognised Training***

The following courses are Nationally Recognised Training and provide participants with Statements of Attainment:

- Agsafe course in Chemical Handling Storage and Transport
- Agsafe course in Personnel Accreditation and Training
- Agsafe course in Emergency Planning and Response
- Agsafe Home Garden Chemical Awareness for Resellers (ChemWise)

## ***Legislation and RTO's***

Vocational education and training (VET), in Australia is regulated by a variety of state, territory and Australian laws. Employment, workplace and equity issues are also covered by a range of state and territory and Australian legislation. Where the state or territory and Australian laws deal with the same situation differently, Australian law has jurisdiction.

### **Vocational Education and Training (VET) legislation**

Fundamental to the training system are Australian laws such as:

- The Australian National Training Authority Act 1992, which established the functions and powers of the Australian National Training Authority
- The Vocational Education and Training Funding Act 1992 which sets out the funding of vocational education and training in Australia.
- The Workplace Relations Act 1996 that provides for awards, certified agreements and Australian Workplace Agreements.

States and territories also have laws which govern vocational education and training in their particular jurisdictions. These laws establish and grant powers to training authorities, and provide mechanisms for the planning, funding, coordination and evaluation of vocational education and training.

**Registered training organisations:** Training organisations that must meet Australian Quality Training Framework (AQTF) standards to become registered. Only Registered Training Organisations (RTOs) can issue nationally recognised qualifications and deliver training and assessment. Agsafe is an RTO; therefore Agsafe needs to adhere to the legislations as set out by ANTA and VET.

## ***Mutual recognition***

Agsafe recognises Australian Qualifications Framework Qualifications & Statements of Attainment issued by any other RTO that are a direct equivalent to those issued under any Agsafe training course. Recognition is granted at the discretion of the Agsafe Accreditation Manager on satisfactory completion of all Quality Assurance checks.

## **Agsafe Quality Assurance Process**

*“All planned and systematic actions necessary to provide adequate confidence that goods or services will satisfy given requirements”.*

Agsafe Limited is a Registered Training Organisation (RTO) and complies with Australian National Training Authority (ANTA) guidelines for the provision of nationally recognised Vocational Education and Training (VET).

### **Quality Assurance of course material**

As part of compliance with Australian Quality Training Framework (AQTF) standards, Agsafe monitors continuous improvement and applies a quality assurance process to any improvements or revisions made to training materials.

Agsafe Accreditation provides training courses to a consistently high standard. To facilitate the continuous improvement of training courses Agsafe follows the “Review Process” detailed below:

### **Resource Material Review Process**

1. Materials reviewed by Agsafe Training Committee in conjunction with Agsafe Accreditation
2. Final revisions signed off by Agsafe Training Committee
3. Final revisions signed off by Agsafe Accreditation Manager
4. Email advising all Agsafe staff & trainers of revisions
5. Version control document updated and published to Agsafe web site

External parties wishing to provide feedback on course content should contact the Agsafe Accreditation Manager or send submissions via [guardian@agsafe.com.au](mailto:guardian@agsafe.com.au). Where appropriate, any feedback will be discussed with the Agsafe Training Committee. All course participants are also provided with feedback forms on the completion of training.

### **Quality Assurance of Trainers and delivery of courses**

As part of its program to ensure continuous improvement, Agsafe Accreditation monitors all trainers to guarantee a high standard in the delivery of its courses. All trainers hold nationally recognised qualifications in Training and Assessment and in keeping with Agsafe’s requirements attend annual training sessions provided by Agsafe Accreditation.

Agsafe is committed to improving, wherever possible, the delivery of courses and encourages feedback. Feedback concerning a trainer or the delivery of a course can be provided directly to the Agsafe Accreditation Manager or via [info@agsafe.com.au](mailto:info@agsafe.com.au). All course participants are also provided with feedback forms on trainer conduct and course content on completion of all training courses.

## ***Trainer qualifications***

Agsafe ensures that Trainers have the following qualifications and experience to make certain that top quality training is performed:

- Tertiary qualifications must be either a diploma or degree, or an acceptable equivalent, in an area related to the training program;
- At least three years of relevant industry experience;
- Demonstrable education delivery experience, through industry training experience or program extension experience.
- Certificate IV in workplace training and assessment will be required for all competency based training and assessment.
- Hold current Agsafe accreditation at least to the Basic Agsafe Accreditation Training Course level;
- Attendance, at regular intervals, at Agsafe seminars on Use, Storage and Transport Regulations is essential for Course Providers who are teaching the whole of the course themselves. However, some course providers may choose to use relevant safety experts or the Regulatory Authorities themselves to teach the regulations components of the course. In these cases it would be possible for a course provider to continue providing courses without regular update of the currency of his knowledge of regulations.

# Appeals and grievances

## ***Agsafe Grievance Procedure***

All participants of Agsafe courses have rights and responsibilities that are integral to the resolution of problems. In the event that a participant has a grievance with Agsafe or any Agsafe contractor, Agsafe Accreditation will endeavour to resolve the issue in one of three ways:

- Informal
- Formal
- Using external resources

### **Informal resolution**

In the first instance, Agsafe will strongly encourage the complainant to resolve the matter directly with the respondent and will offer assistance to facilitate this. The complainant is not obliged in any way to agree to an informal resolution process.

### **Formal resolution:**

If the issue is not resolved directly with the respondent or a formal process is requested:

- Complaints should be sent in writing to the Agsafe Accreditation Manager within 5 days of completion of the course
- The Accreditation Manager may seek advice from other appropriate persons or suggest mediation to resolve the issue.
- If mediation is not required and only after due consideration of all information received from both parties, the Accreditation Manager will make a recommendation as to how to resolve the complaint. If the outcome is agreeable to both parties, written confirmation of the resolution is forwarded to both parties. At this point, the complaint is officially closed.

### **Resolution using external resources**

If the resolution is not acceptable to both parties Agsafe will endeavour to find a more acceptable solution, however if necessary other external parties can be included in discussions.

### ***Definitions***

#### **Grievance**

A "grievance " is a real or perceived cause for complaint, disagreement, conflict, dispute or similar problem.

#### **Complainant**

A "complainant " is an individual or several individuals who claim to have experienced a negative or unfavourable impact arising from a stated grievance.

#### **Respondent**

A "respondent" is a person against whom a grievance is made.

## Feedback opportunities and forms

Agsafe is committed to continuous improvement of its programs, delivery and administration. Please help us by letting us know what you like and don't like. Participant feedback forms provide an opportunity for Agsafe to improve its services to its clients. Participants have rights and responsibilities which are integral to the resolution of problems.

You can provide feedback to Agsafe anytime by e-mailing your comments or suggestions to [guardian@agsafe.com.au](mailto:guardian@agsafe.com.au).

## Other Useful Forms

- Change of address
- Web training enrolment
  - Accreditation (basic)
  - Chemical Handling storage & Transport
- Accreditation Application form
- Re-accreditation Application form

## Useful Contacts and other sources of information

### *Vocational Education and Training*

#### **ACT Accreditation and Registration Council**

Address                                      Level 5, 40 Allara Street Canberra City  
Phone Number                              02 6205 8555  
Fax Number                                    02 6205 7045  
Postal Address                                PO Box 985 Civic Square ACT 2608  
[www.decs.act.gov.au/services/trainingARC.htm](http://www.decs.act.gov.au/services/trainingARC.htm)

#### **ANTA (Brisbane Office)**

Address                                        Level 17, 200 Mary St, Brisbane Qld 4001  
Phone Number                                07 3246 2300  
Fax Number                                    07 3246 2490  
Postal Address                                GPO Box 3120  
[www.anta.gov.au](http://www.anta.gov.au)

National Training Information Service

[www.ntis.gov.au](http://www.ntis.gov.au)

## Agsafe Course Providers

STATE	NAME	COMPANY	PHONE	MOBILE	FAX	Principles of Pest Management	Chemical Handling Storage & Transport	Emergency Planning & Response	Labels & Legals	FERTCARE Level B or C
National	Gerard Fullerton	Nutrient Management Systems	07 3206 2105	0409 992 356	07 3206 2135					●
NSW	Ian Johnson & Ian Barnett	IJ Ag Services	02 4658 0206	0407 580 851	02 4658 0851	●	●	●	●	
NSW	Mike Barrett	Mike Barrett & Associates	02 9875 3087	0407 062 494	02 9980 1662	●	●		●	
NSW	Martin Collett	Agrisearch Services Pty Ltd	02 6362 4539	0427 247 431	02 6362 7844	●				
NSW	Neil Cooper	Bayer Australia Ltd	02 9391 6218	0418 970 351	02 9391 6225	●	●		●	
NSW	John Kent	Charles Sturt University, School of Agriculture	02 6933 2489	0419 691 218	02 6933 2812	●				
NSW	Reg Kidd	AgAssist	02 6361 7061	0407 892 614	02 6361 7065	●	●	●	●	
NSW	George Kinniburgh	Kinniburgh & Associates	02 9488 9331	0407 703 016	02 9449 4981	●	●	●	●	
NSW	Paul Martin	Virbac Australia Pty Ltd	02 9717 2000	0438 731 943	02 9683 5973	●				
NSW	Robert Wythes		02 6859 3519	0427 593 519	02 6859 3519	●				
NT	Mick Donnelly	Charles Darwin Uni, School of Science & Prim Ind.	08 8946 7157	0408 892 225	08 8946 6690	●	●		●	
QLD	Allan Blair	Dept Primary Industries	07 4064 1130	0427 588 561	07 4064 2249	●	●	●	●	
QLD	Geoff Paton	Countryco Training Pty Ltd	07 4639 4919	0428 667 939	07 4639 4920	●	●	●	●	
QLD	Allan Porter		07 5495 3675	0407 741 414	07 5495 3675		●	●		
QLD	Phil Sayer	Garrards Pty Ltd	07 3881 1693	0419 911 700	07 3881 1781	●	●			
QLD	Wayne Sear	Barmac Industries Pty Ltd	07 3280 3000	0408 874 374	07 3280 3030		●		●	
QLD	William Welch	W G Welch Consultants	07 3263 7474	0407 203 099	07 3263 8889	●				
SA	David Jesse	David Jesse & Associates	08 8554 7268	0409 834 113	08 8554 7268	●	●		●	
TAS	Laurie Miller	Institute of TAFE Tasmania	03 6233 4608	0419 579 634	03 6233 7983	●	●	●	●	
VIC	Bryan Balmer	BR Training	03 5430 4480	0419 870 158	03 5474 2795		●		●	
VIC	Rob Durant	Glenormiston Campus, Uni of Melbourne	03 5557 8253	0428 829 397	03 5557 8268	●			●	
VIC	Alan Evered	Evered Enterprises,	03 9874 2219	0412 521488	03 9872 5961	●	●	●		
VIC	Rosemary Henderson	Protech Consulting	03 9435 0129	0418 366 000	03 9432 0516	●	●	●	●	
WA	Iain Chalmers	TPE (WA) Pty Ltd	08 9336 4910	0429 963 391	08 9433 6101		●	●	●	
WA	Guy Izzett	ESIX	08 9350 5154	0414 707 046	08 9350 9469	●	●			

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## **ChemCert Australia**

### **Overview**

*The ChemCert Australia program is a national program that offers training to those involved in rural and related industries on the safe and responsible use of pesticides and veterinary medicines, often referred to collectively as agvet chemicals. Formerly known as Farmcare, it was originally developed jointly by the National Farmers' Federation (NFF) and the Rural Training Council of Australia (RTCA) in 1990.*

*ChemCert is a voluntary program with over 230,000 Accreditations having been issued over more than a decade. ChemCert is dedicated to providing training in a way that meets the needs of industry by being practical and relevant.*

*ChemCert Australia is a non-profit industry organisation managed nationally by a Board comprising representatives of:*

- State *ChemCert* organisations
- the National Farmers' Federation (NFF)
- the Rural Training Council of Australia (RTCA)

*ChemCert provides training resources to accredited instructors and Registered Training Organisations (RTOs) for the delivery of the national farm chemical competency standards as defined in the Agricultural & Horticultural training packages.*

*Training and assessment is conducted by a national network of around 600 qualified, trained and accredited instructors.*

*While the ChemCert Australia program has been industry driven from the outset, its development and implementation has been very much a partnership of agricultural industries, producers, government and educators. This partnership and the cooperation it brings, means that strengths and expertise are combined so that industry needs and government regulatory requirements are met by a high quality, educationally sound training and accreditation program. The national structure has been developed to ensure common policies and coordination of course content, resources and delivery.*

### **Importance of ChemCert Accreditation**

*ChemCert Accreditation is recognised as the national industry standard qualification for users of agricultural, veterinary and related chemicals. It is accepted as a requirement for access to and use of restricted chemical products. It is also accepted by industry quality assurance and best management practice programs requiring training and accreditation in chemical use, as well as by those States requiring commercial users of agricultural, veterinary and related chemicals to be trained to a minimum standard.*

*ChemCert Accreditation is a key link which enables all users of farm chemicals to continue to responsibly use these products to manage pests. It therefore contributes to continuous improvement in the production of clean, safe and high quality food and natural fibre. This is an important contribution to product marketing, protection of the environment, and the safety and sustainable development of Australian agriculture, horticulture and communities.*



## Links with National Competency Standards

Under the national training framework, new competency standards for agvet chemical users were introduced in 2002. *ChemCert* Accreditation meets the requirements of these standards for independent operators.

## Links with QA Programs

*ChemCert* Australia is also recognised as an integral part of many quality assurance programs. The holder of *ChemCert* Accreditation is recognised as having demonstrated competency in the key areas relating to the use of agvet chemicals.

## *ChemCert* Reaccreditation

*ChemCert* Accreditation is valid for five years. A range of reaccreditation options is available including a one-day reaccreditation course, skills recognition or a specialist course. Accreditation holders are encouraged to register for a reaccreditation course, or other option, at least 12 months prior to the expiry date to ensure that accreditation does not lapse.

## National Training Resource

*ChemCert* Australia launched a new National Training Resource, in 2006, that assists users of agvet chemicals build knowledge and understanding in the area of best management practice. Importantly the resource has a number of 'Take Home Tools', which provide checklists to enable participants to assess their chemical management performance in the workplace and identify any areas for corrective action.

- ❑ **A Summary Hazard and Risk Identification Checklist** which will enable participants to check risks and hazards relevant to occupational health and safety; facilities and equipment; integrated pest management; chemical selection; buying, transporting and storing chemicals; mixing; application; record keeping and clean-up.
- ❑ **A Checklist for the Safe Use of Agvet Chemicals** which summarises best practice management for the use of pesticides.
- ❑ **A Chemical Storage Record (Stock Control) Template**
- ❑ **A Chemical Application Record Template** with separate templates for agricultural, horticultural and veterinary chemical use.
- ❑ **A Self Assessment Checklist** that participants can use at any time to ensure they are 'on-track' with their chemical use practices. It should be used to evaluate current storage facilities and identify where improvements are needed.

## *ChemCert* Accreditation and the National Training System

The nationally endorsed training standards for agvet chemical users (which underpin *ChemCert* Accreditation) require assessment of skills in the following areas:

### **FOLLOW BASIC CHEMICAL SAFETY RULES (Competency Standard RTC1701A)**

This standard covers skill requirements for:

- ❑ Following workplace requirements and instructions concerning chemicals.
- ❑ Recognising risks associated with chemicals.
- ❑ Following chemical handling and storage rules.



### **APPLY CHEMICALS UNDER SUPERVISION (Competency Standard RTC2706A)**

This standard covers skill requirements for:

- Following instructions to check and maintain application and personal protective equipment.
- Using application and personal protective equipment.
- Applying chemicals.
- Following instructions to empty and clean equipment and containers according to directions.
- Completing chemical records.
- Transporting, handling and storing chemicals according to instructions and legislative requirements.

### **PREPARE AND APPLY CHEMICALS (Competency Standard RTC3704A)**

This competency standard covers the process of preparing and applying chemicals for the control of weeds, pests and diseases. It requires knowledge of the chemicals related to the workplace, the hazards and risks involved in their use, and the specific safety procedures prescribed for working unsupervised within organisational guidelines. It requires the ability to handle and apply chemicals ensuring minimum risk to self, others and environment and accurately record their use. It covers the skills needed to:

- Determine the need for chemical use
- Prepare the appropriate chemical
- Prepare to use chemicals according to the label and MSDS
- Apply chemicals
- Clean up following chemical application
- Record application details

### **TRANSPORT, HANDLE AND STORE CHEMICALS (Competency Standard RTC3705A)**

This competency standard covers the process of transporting, handling and storing chemicals safely without supervision. It requires minimizing risks, including avoiding spills and accidents, and following procedures, safety and environmental regulations, and Occupational Health and Safety (OHS) requirements to protect the health and safety of everyone in the workplace when handling chemicals. It requires knowledge of the chemicals used in a particular environment and the hazards involved in their handling and storage. It covers the skills needed to:

- Transport and handle chemicals and biological agents.
- Store chemicals in the workplace.
- Record storage details.

To provide all the information necessary to cover the requirements of these national training standards in the most useful format, the reference part of the National Training Resource is presented under the following Chapter headings;

- Integrated Pest Management
- The Product Label
- Agvet Chemical Formulations
- Chemical Residues
- Human Health and Personal Safety
- Transport, Handling and Storage
- Environmental Safety
- Legislation
- Risk Management
- Record Keeping
- Application



### **Assessment and Accreditation**

Assessment is a vital component of the *ChemCert* Accreditation process. Six assessments are completed within the workshops.

- ❑ *Assessment 1* Legislation
- ❑ *Assessment 2* Label Interpretation
- ❑ *Assessment 3* Hazard Identification
- ❑ *Assessment 4* Application Records
- ❑ *Assessment 5* Calibration
- ❑ *Assessment 6* General (at end of the course)

In addition to these assessments, further simulated or actual assessment against the chemical competencies may be required. Further evidence in the form of spray diaries, storage records etc. may be required before accreditation is granted. The trainer will advise of any of these requirements.

### ***ChemCert* Accreditation**

After successfully completing all sections of the program, participants will be eligible to receive both of the following:

- ❑ An accreditation card issued by *ChemCert* Australia. This gives national recognition that the necessary competencies for *ChemCert* Australia Accreditation have been completed.
- ❑ A Statement of Attainment issued by the Registered Training Organisation for completion of the *ChemCert* Australia Chemical Accreditation Program. (Further training may be completed which can lead to the successful completion of Certificates in Horticulture, Pest Control or Agriculture).



# FERTILIZER INDUSTRY FEDERATION OF AUSTRALIA, INC.

Registration No. A0025290C ABN 71 395 757 876 ARBN 106 743 015

## Analysis Paper on Calcium Nitrate & Potassium Nitrate

### 1. Executive Summary

This analysis paper presents information to support the case that calcium nitrate and potassium nitrate represent a significantly lower risk than Security Sensitive Ammonium Nitrate (SSAN) products and should therefore not be subject to the same level of controls.

Information is presented on the agronomic and economic importance of the products and analysis of the possible substitutes. This analysis indicates additional value of \$1.6 billion to Australian agriculture as a direct result of the use of these products compared to the closest alternatives. It also highlights a range of factors that illustrate the problems with finding suitable alternative products.

Experience with the regulation of SSAN products has shown that a significant reduction in use and availability is likely to occur as a result of farmers and suppliers perceptions of the cost and complexity of the licensing regime. Problems encountered in the implementation and processing of the SSAN licensing regime would be exacerbated by adding additional products and should only be considered if there is commensurate risk of misuse.

Any security regulation in Australia is likely to have global implications as Governments look to other countries to determine best practice. 3.5 million farmers globally are potentially effected by decisions on regulation of Calcium and Potassium Nitrate made in Australia.

It is the considered view of the Fertilizer Industry Federation of Australia (FIFA) that these products should not be classified as SSAN fertilizers. If additional controls on either of these products are deemed to be necessary then strong consideration should be given to the use of voluntary reporting and or recording schemes. The efficacy of these types of measure has been well proven in schemes such as that in place for chemical diversion for illicit drug manufacture, schedule seven poison sales and the Fertcare and Agsafe programs.

### Product Description

#### 1.1. Calcium Nitrate

Calcium Nitrate (CN) fertilizer provides two essential nutrients for plant growth – fully soluble calcium and readily available nitrate nitrogen. Calcium Nitrate provides a range of unique benefits not seen in other fertilizer products and adds significant value to Australian agriculture through the growth of higher quality produce.

The Norwegian based fertilizer manufacturer, Yara International supplies approximately 88% of the global production of CN. Other countries producing significant volumes are Portugal, South Africa, China and the Czech Republic.

Calcium Nitrate starts life as insoluble calcium phosphate or rock phosphate. It is transformed into a highly soluble product using nitric acid in the nitro-phosphate process. Stringent quality control procedures ensure consistent high quality fertilizer that enables accurate fertilizer application and subsequent high crop quality, yield, and environmental safety.

## 1.2. Potassium Nitrate

On a global basis, Potassium Nitrate has wide application in industry and as an agricultural fertilizer.

Potassium Nitrate fertilizer provides two of the major nutrients essential for plant growth, potassium and readily available nitrate nitrogen. As with Calcium Nitrate, Potassium Nitrate provides a range of unique benefits not seen in other fertilizer products and adds value to the farmers' business, through the growth of higher quality agricultural produce.

Two global manufacturers, the Chilean based SQM and the Israeli based Haifa Chemicals supply in excess of 80% of the global production. Other countries producing significant volumes of Potassium Nitrate are Jordan & China.

There are two main production methods for manufacturing potassium nitrate. Approximately 40% of the world's potassium nitrate is manufactured from naturally occurring caliche ore and salar brines from the Chilean desert. The other 60% is manufactured by reacting mined potassium chloride with nitric acid. Under both production methods the product is purified and stringent quality control procedures ensure high quality fertilizer that enables accurate fertilizer application and subsequent high crop quality, yield, and environmental safety.

## 2. International Usage

### 2.1. Calcium Nitrate

The global production of Calcium Nitrate is forecast to be 1,364,000 tonnes in 2006. Of this, approximately 1,200,000 tonnes is forecast for consumption in global agriculture to grow high value crops. The remaining 164,000 tonnes is consumed by industry.

Table 1 provides the forecast usage in agriculture around the world.

<b>Table 1. Global usage of Calcium Nitrate</b>		
<b>Continent</b>	<b>Volume (Tonnes)</b>	<b>%</b>
Asia	96,000	8
Europe	456,000	38
North America	456,000	38
Latin America	156,000	13
Africa	36,000	3
<b>Total</b>	<b>1,200,000</b>	<b>100</b>

## 2.2. Global Demographics of Calcium Nitrate

It is estimated that Calcium Nitrate fertilizer is used on approximately 7 million hectares of agricultural cropping land world-wide at an estimated consumption rate of 170 kg per hectare.

According to FAO statistics, the average size of a farm in Europe is about 3.5 hectares. On a world basis however, the average size is approximately 2 hectares. On the basis of these statistics it is estimated that 3.5 million farmers globally use Calcium Nitrate fertilizer on their crops (i.e. 7 million hectares / 2ha (average size farm) => 3.5 million farmers.)

## 2.3. Potassium Nitrate

Globally, there is approximately 1,400,000 tonnes of potassium nitrate manufactured. Of this, approximately 1,200,000 tonnes is consumed as potassium nitrate fertilizer to grow high value agricultural crops. The remaining 200,000 tonnes is consumed in various industrial applications. The global use of Potassium Nitrate fertilizer for use in agriculture is growing at between 5%-7% per annum.

Table 2 provides the global usage in agriculture around the world.

Table 2. Global usage of potassium nitrate.		
Continent	Volume (Tonnes)	%
Asia	168,000	14
West Europe	420,000	35
North America	168,000	14
Latin America	240,000	20
Remainder	204,000	17
<b>Total</b>	<b>1,200,000</b>	<b>100</b>

## 2.4. Global Demographics of Potassium Nitrate

On the basis of the information above, it is estimated that Potassium Nitrate fertilizer is used on approximately 6.5 million hectares of agricultural cropping land worldwide at an average application rate of 185 kg per hectare.

Given that on a world basis the average farm size is approximately 2 hectares, it is estimated that 3.25 million farmers globally use Potassium Nitrate fertilizer on their crops (i.e. 6.5 million hectares / 2ha (average size farm) => 3.25 million farmers).

### 3. Australian Use Statistics

#### 3.1. Australian Imports / Consumption

Table 3 lists the volumes of Calcium Nitrate and Potassium Nitrate imported (consumed) in Australia over the 2004 / 05 financial year, according to ABS statistics.

Table 3. Imports of Calcium and Potassium Nitrate 2004-5 (ABS Data)		
	Calcium Nitrate Imports	Potassium Nitrate Imports
ABS statistics (t)	30,306	12,922

However, the fertilizer industry believes that due to importers using incorrect customs item numbers when recording imports, these ABS figures are significantly understated. The fertilizer industry estimates of the imports / consumption of these fertilizers are those stated in table 4 in the "industry estimate" columns.

Table 4. Australian Consumption Statistics in metric tonnes				
	Calcium Nitrate (ABS statistics)	Calcium Nitrate (Industry Estimate)	Potassium Nitrate (ABS statistics)	Potassium Nitrate (Industry Estimate)
Industrial Use	12,706	23,000	220	220
Agricultural Use	17,600	17,600	12,702	15,200
Total	30,306	40,600	12,922	15,420

#### 3.2. Australian Consumers

##### 3.2.1. Agricultural Users

Calcium Nitrate and Potassium Nitrate fertilizers are mainly used by farmers growing horticultural crops. Some use is also made of potassium nitrate in low volume foliar sprays in cotton.

##### 3.2.2. Demographic Impact of Australian Horticulture

On the basis of 2001/02 ABS statistics there are 21,084 Australian farmers growing horticultural crops (Table 5). As Potassium Nitrate and Calcium Nitrate fertilizers are integral to the health and quality of the crops and produce grown by these farmers, it can be safely assumed that a significant proportion of these farmers would use these products in their fertilizer programs.

Included in these statistics are 1,585 hydroponic and greenhouse producers who almost entirely depend on calcium nitrate and potassium nitrate fertilizers. Only small quantities of other forms of nitrogen can be used in hydroponic production systems.

<b>Table 5. The number of Horticultural Farmers in Australia (ABS 2001/02)</b>									
<b>Establishment Type</b>	<b>QLD</b>	<b>NSW / ACT.</b>	<b>Vic.</b>	<b>Tas.</b>	<b>S.A</b>	<b>N.T</b>	<b>W.A</b>	<b>Total</b>	<b>Use CN/PN</b>
Plant Nurseries	530	778	309	45	123	21	168	1,974	Yes
Cut flowers & seed growers	162	241	190	39	65	6	130	833	Yes
Vegetable growing	1,379	720	905	490	422	7	468	4,391	Yes
Grape growing	180	1,161	2,111	118	2,235	5	588	6,378	Yes
Apple & pear	49	170	254	143	113		161	890	Yes
Stone fruit	105	426	355	42	217		165	1,310	Yes
Kiwi fruit		33						33	Yes
Other Fruit	1939	1,984	470	33	530		319	5,275	Yes
<b>Total growers</b>	<b>4324</b>	<b>5,513</b>	<b>4,594</b>	<b>910</b>	<b>3,705</b>	<b>39</b>	<b>1,999</b>	<b>21,084</b>	

Along with the 1,585 hydroponic and greenhouse producers, it is estimated that approximately 25% (or 4,875) of the open-field horticultural producers would also be affected by a regulation that treated Calcium Nitrate and Potassium Nitrate fertilizer in the same way as SSAN products.

Therefore in Australia, it is estimated that in excess of 6,000 farmers would potentially be directly affected by a regulation that treated Calcium Nitrate and Potassium Nitrate fertilizer in the same way as SSAN products. On top of this, many people employed by these farmers would be affected. As an example, it is estimated by the AHGA that the hydroponic industry employs approximately 10,000 people (including the 1,585 farm owners). Therefore, on the basis of these statistics a further 8,415 people employed in the Hydroponic industry would also be effected.

### 3.2.3. Economic Impact of Australian Horticulture

In 2004, the gross value of Australian horticultural production was \$6.78 billion (Table 6). This has increased from \$3.53 billion in 1993, a growth of 92%.

<b>Table 6. Gross Value of Australian Horticultural Production (A\$M)</b>						
	<b>1993</b>	<b>1994</b>	<b>1998</b>	<b>1999</b>	<b>2003</b>	<b>2004</b>
Fruit & Nuts (excl. grapes) excl. ACT	1366	1316	1586	1763	2139	2187
Grapes	377	450	998	1200	1464	1662
Nursery production	559	600	693	741	772	787
Vegetables	1226	1443	1812	1864	2311	2140
<b>Total</b>	<b>3530</b>	<b>3810</b>	<b>5091</b>	<b>5569</b>	<b>6688</b>	<b>6778</b>
(Source: ABS Aust. Farming Brief 2004)						

Therefore, it is estimated the \$6,778 billion gross value of production that horticulture contributes to the Australian economy would be adversely affected by a regulation that treated Calcium Nitrate and Potassium Nitrate fertilizer in the same way as SSAN products.

Furthermore, it is estimated Hydroponic production contributes \$600 million to the total gross value of horticultural production. Therefore, if Calcium Nitrate and Potassium Nitrate Fertilizers are not available for use by Hydroponic farmers, the \$600 million hydroponic industry may cease to operate within Australia and this gross value of production would be removed from the Australian economy.

### 3.2.4. Industrial Users

Calcium nitrate and potassium nitrate are used in various industrial applications as listed in Table 7.

Table 7. Uses of Potassium and Calcium Nitrate		
Product	Number of users	Industrial Use
Calcium Nitrate	20 (estimate)	* Mining industry * Concrete manufacturing * Water treatment * Pulp/paper manufacturing
Potassium Nitrate	4 (estimate)	* Mortar production * Fine glass production * Toothpaste manufacturing * Pyrotechnic production

Therefore a significant proportion of secondary industry would be directly affected by a regulation that treated Calcium Nitrate and Potassium Nitrate fertilizer in the same way as SSAN products.

## 4. Agronomic Benefits

### 4.1. Calcium Nitrate

Calcium Nitrate fertilizer is recognised by farmers for its benefit in improving crop quality, and in turn increasing marketable yield. Reducing calcium deficiency disorders such as tip burn in leafy crops, or blossom end rot in tomato and peppers are common uses. Enhancing the skin finish or appearance in potato, chilli, carrots, and many fruit crops is also a major benefit of Calcium Nitrate fertilizer. Application of calcium nitrate fertilizer to correct calcium deficiency in fruit and vegetable crops results in longer post-harvest shelf life and less wastage.

In summary, Calcium Nitrate fertilizer is used to improve storage life and alleviate calcium disorders such as;

- skin defects & rots
- bitter pit in apples
- tip burn on lettuce, cabbage, cauliflower & some flower crops
- internal rust spot & poor skin finish on potatoes
- club root in cabbage & cauliflower
- blossom end rot in tomatoes & capsicum
- berry drop in table grapes
- fruit splitting in citrus, grapes & stone fruit

The use of calcium nitrate fertilizer on horticultural crops results in improved quality, allowing a premium for these crops in the market. This combined with less post-harvest wastage provides the farmer with a significantly greater income.

## **4.2. Potassium Nitrate**

Potassium Nitrate is the only compound\* fertilizer consisting entirely of the quantitatively most important plant nutrients, nitrogen and potassium. As with Calcium Nitrate, it is recognised by farmers worldwide for its benefits in improving crop quality and marketable yield. Potassium Nitrate helps correct the many potassium deficiency disorders which occur in horticultural crops. In this way the application of Potassium Nitrate fertilizer results in higher yield, improved fruit quality, longer post-harvest shelf life and less wastage.

In summary, by correcting potassium deficiency disorders in horticultural crops, Potassium Nitrate fertilizer has been shown to;

- improve yield
- improve fruit uniformity (size & shape)
- reduce fruit drop in citrus
- improve fruit size & colour
- improve after harvest shelf life of fruit & vegetables
- improve vitamin C content in citrus
- reduce splitting, albedo breakdown & creasing in citrus
- improve tolerance to disease
- improve resistance to drought
- improve resistance to frost
- reduce soft fruit in table grapes
- reduce russetting in tomatoes & fruit cracking in capsicum

The use of Potassium Nitrate fertilizer on horticultural crops to correct potassium deficiency disorders results in improved quality, allowing a premium for these crops in the market. This combined with higher yields and less after harvest wastage provides the farmer with a significantly greater income.

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\* Compound fertilizer is the term applied to fertilizers containing two or more of the three main plant elements – nitrogen, phosphorus and potassium, that are manufactured by a chemical reaction.”

## 5. Substitute Analysis

### 5.1. Alternatives to Calcium Nitrate as a Calcium Fertilizer

Calcium Nitrate is the preferred calcium fertilizer for horticultural producers world wide. Apart from Calcium Chloride, it is the only readily water soluble and plant available source of calcium.

Other products which supply calcium are;

- Calcium Chloride:
  - Little use is made of calcium chloride as a fertiliser on account of the chloride it contains. Chloride may be harmful to sensitive crops and in foliar sprays. Calcium Nitrate is preferred to Calcium Chloride in most situations with the exception of foliar sprays in red apples, in which the use of Calcium Nitrate may cause greening.
- Calcium Sulphate (Gypsum):
  - Gypsum is mostly used as an ameliorant at high rates to improve soil structure. It is only sparingly soluble and therefore unsuitable for use where calcium is to be applied through drip and trickle irrigation systems or under-tree sprinklers, or in foliar sprays. Yara *Calcinit* is 1,000 times more soluble than gypsum, and over 100,000 times more soluble than lime.
- Calcium Carbonate (Lime):
  - Lime is primarily used to correct soil acidity and must be applied several months before planting to allow time for it to react in the soil. Lime is too insoluble to use at planting or during the growing season to supply calcium.

### 5.2. Alternatives to Potassium Nitrate as a Potassium Fertilizer

Potassium Nitrate is one of three commonly used potassium fertilizers, the others being potassium chloride (Muriate of Potash) and potassium sulfate (Sulfate of Potash).

- Muriate of Potash:
  - The cheapest source of potassium, and the most widely used. However, it contains chloride (50%), which may be detrimental to sensitive crops and to the quality of crops such as tobacco, potatoes and grapes. Muriate of Potash is not recommended in foliar sprays. It may also be necessary to avoid Muriate of Potash on saline soils and where poor quality irrigation water is used.
- Sulfate of Potash:
  - Does not contain chloride but it is less soluble than potassium nitrate. More concentrated potassium solutions can be prepared with potassium nitrate than with potassium sulfate. This is particularly important where low volume foliar sprays are used. It does not have as wide compatibility in solution as potassium chloride and potassium nitrate. Solubility of various potassium sources are shown in Table 8.
  - The global supply of soluble potassium sulphate is limited and increases in demand may prove difficult to meet.

<b>Table 8. Solubility of Potassium Fertilizers</b>		
<b>Product</b>	<b>kg/100 L at 20° C</b>	<b>% K in solution</b>
Potassium Chloride	34	17
Potassium Nitrate	32	12
Potassium Sulfate	11	4

### 5.3. Alternative Nitrogen Fertilizers

While important as suppliers of calcium and potassium, calcium nitrate and potassium nitrate also supply nitrate nitrogen, the form most readily available to plants. Calcium nitrate is used as a non-acidifying nitrogen fertilizer, particularly through drip and trickle irrigation systems and under-tree sprinklers.

Following the classification of Ammonium Nitrate and Calcium Ammonium Nitrate as SSAN products the alternative nitrogen fertilizers available without restriction to horticultural and hydroponic farmers are;

- Urea:
  - In many situations Urea is less suitable as an alternative nitrogen fertilizer as it has an acidifying effect on the soil when applied in the concentrations required to grow horticultural crops. This is a particularly acute problem in drip, trickle and under-tree sprinkler systems where the acidifying effect is concentrated and the use of lime is impractical.
  - In many horticultural crops, extensive use of urea will result in ammonia toxicity.
  - Urea is not taken up by plant roots when in solution and is therefore not useful in hydroponic systems.
- Ammonium Sulphate:
  - Ammonium Sulphate is the most acidifying of the nitrogen fertilizers. In many situations it is less suitable as an alternative nitrogen fertilizer as it has an even greater acidifying effect on the soil than urea.
  - Ammonium sulphate has limited use in hydroponic farming systems due to the risks of ammonia toxicity.
- Ammonium Sulphate Nitrate:
  - Like the other nitrogen fertilizers mentioned, ASN is less suitable where acidity is an issue and is unsuitable for hydroponics due to the risk of ammonia toxicity.

## Liquid Nitrogen Fertilizers

Liquid Nitrogen Fertilizers such as UAN, liquid calcium nitrate, liquid potassium nitrate products are available for use by a limited number of horticultural farmers. Availability of these liquid forms in bulk is currently constrained by the location and service areas of suppliers. Containerised product is significantly more expensive and generally only used to provide small strategic applications of nutrient.

- UAN
  - UAN has a similar acidifying effect on the soil as urea when applied in the concentrations required to grow horticultural crops.
  - Extensive use of UAN in hydroponic systems may result in ammonia toxicity and the urea portion is not available for uptake by plant roots. For this reason UAN is not suitable for use in hydroponic systems.
- Liquid Calcium Nitrate & Liquid Potassium Nitrate Fertilizers:
  - Availability of these liquid forms in bulk is currently constrained by the location and service areas of suppliers. Containerised product is significantly more expensive and generally only used to provide small strategic applications of nutrient.

## 5.4. Alternative Fertilizers for Hydroponic Production Systems

Hydroponic production systems depend on the fertilizers applied being fully water soluble and readily available for plant uptake. They also need approximately 90% of the nitrogen to be supplied in the Nitrate form.

Hydroponic production systems are highly intolerant of excessive chloride and ammonium nitrogen. Excessive levels of chloride and ammonium nitrogen will result in the death of the hydroponic crop.

Calcium Nitrate and Potassium Nitrate are the only commercially available fully soluble fertilizers which contain no chloride and acceptable levels of ammonium nitrogen. Whilst some use can be made of ammonium nitrate to supply nitrogen, Calcium Nitrate and potassium nitrate are the only commercially available fertilizers which can be extensively used in hydroponic farming systems to supply nitrate nitrogen, potassium & calcium.

There are no commercially available alternative fertilizers for use in hydroponic farming systems.

## 5.5. Economic Impact of Alternative Fertilizers

### 5.5.1. Economic Impact of Alternatives to Calcium Nitrate Fertilizer

Calcium Nitrate fertilizer has been manufactured and used around the world since 1905. Many years of international research has shown that the use Calcium Nitrate fertilizer adds significant economic benefit to horticultural crop production through increased yield and improved quality of the produce.

On a global basis, the average yield and quality benefits achieved by using Calcium Nitrate fertilizer on fruit and open field vegetable crops are listed in Table 9.

Table 9. Average yield and quality benefits attributable to calcium nitrate.		
	Fruit Crops	Vegetable Crops
Average Yield Benefit	22%	13%
Average Quality Benefit	44%	44%
<i>(Source: Yara International "plantmaster" global research data)</i>		

In Australia, Calcium Nitrate fertilizer is used in the production of fresh fruit and vegetable crops. It is estimated that Calcium Nitrate fertilizer is used in the production of 25% of open-field fresh fruit and 28% of open-field vegetables (*source: Yara International*). On the basis of the gross value of open field fresh fruit and vegetable production, and the yield and quality benefits provided by Calcium Nitrate fertilizer, it is calculated that without access to Calcium Nitrate, the economic loss in production of Australian fruit and vegetable crops, would be \$855.86 million (Table 10).

Table 10. Australian Horticulture – Economic Loss Without Calcium Nitrate (A\$ Million)					
Crop Type	ABS Gross Value	Gross Value CN Users	Yield Loss	Quality Reduction	Total Economic Loss
Fruit (Fresh)	\$3,488	\$884	\$198	\$389	\$587
Open Field Vegetables	\$1,669	\$466	\$61	\$206	\$268
Dried Fruit	\$81				
Nuts	\$138				
Nursery (inc. cut flowers)	\$773				
Other Horticultural Crops	N/A				
<b>Total</b>	<b>\$6,149</b>				
<b>Total Loss without CN</b>			<b>\$260</b>	<b>\$595</b>	<b>\$855</b>

On top of this there would be considerable economic loss in production of many other horticultural crops. Use of potassium nitrate in low volume sprays in cotton would also be affected.

### 5.5.2. Economic Impact of Alternatives to Potassium Nitrate Fertilizer

Many years of international research has shown that the use Potassium Nitrate fertilizer adds significant economic benefit to horticultural crop production through increased yield and improved quality of the produce.

On a global basis, the average yield and quality benefits achieved by using Potassium Nitrate fertilizer on fruit and vegetable crops, compared to other potassium fertilizers are shown in Table 11.

Table 11. Average yield and quality benefits attributable to potassium nitrate.		
	Fruit Crops	Vegetable Crops
Average Yield Benefit	9.5%	11%
Average Quality Benefit	7.5 %	2.5%
<i>(Source: Haifa Chemicals global research data)</i>		

In Australia, Potassium Nitrate fertilizer is used in the production of fresh fruit and vegetable crops. It is estimated that Potassium Nitrate fertilizer is used in the production of 19% of open-field fresh fruit and 21% of open-field vegetables (*source: Yara International*). On the basis of the gross value of open field fresh fruit & vegetable production and the yield & quality benefits provided by Potassium Nitrate fertilizer, it is calculated that without access to Potassium Nitrate, the economic loss in production of Australian fruit and vegetable crops, would be \$159.53 million (Table 12).

<b>Crop Type</b>	<b>ABS Gross Value</b>	<b>Gross Value PN Users</b>	<b>Yield Loss</b>	<b>Quality Reduction</b>	<b>Total Economic Loss</b>
Fruit (Fresh)	\$3,488	\$656	\$62	\$49	\$111
Open Field Vegetables	\$1,669	\$355	\$39	\$8	\$47
Dried Fruit	\$81				
Nuts	\$138				
Nursery (inc. cut flowers)	\$773				
Other Horticultural Crops	N/A				
<b>Total</b>	<b>\$6,149</b>				
<b>Total Loss without PN</b>			<b>\$101</b>	<b>\$58</b>	<b>\$159</b>

On top of this there would be considerable economic loss in production of many other horticultural crops.

### **5.5.3. Economic Impact of Alternatives Fertilizers on the Hydroponic Industry**

As previously discussed, the gross value of production of hydroponic crops grown in Australia is approximately \$600 million. Without access to Calcium Nitrate & Potassium Nitrate fertilizers it would be very difficult to grow crops in hydroponic systems and much of the hydroponic production may cease. Therefore the economic loss associated with the loss in hydroponic production alone, may be up to \$600 million.

## **6. Risk Analysis**

### **6.1. Risk Analysis – Calcium Nitrate Fertilizer**

Calcium Nitrate Fertilizers can be produced with varied water of crystallization content. Products produced by suppliers such as Yara International and ADP contain 15-16 % water of crystallization. This water content substantially reduces the oxidizing power of the material. This reduction and the fact that Calcium Nitrate is strongly hygroscopic significantly reduce the ease of using the material to make explosives.

Due to the reduced oxidizing power of calcium nitrate products with 15-16% water of crystallization these products are not classified as dangerous goods. This is contrary to other Calcium Nitrate products, which are normally classified as Class 5.1: Oxidizers. The exemption from 5.1 classification for these products was agreed upon more than 20 years ago as a result of extensive testing and its unique composition of hydrated double salt and pure Calcium Nitrate.

Calcium Nitrate is added to explosives used by the mining industry. However this is done to increase the shelf life and manufacturing temperature of the explosive material and not to enhance the blast.

It **may** be possible by reprocessing the material in a well equipped laboratory or a small plant, to use non class 5.1 Calcium Nitrate to make crystalline ammonium nitrate or water free calcium nitrate powder/crystals. However to do so is a complex task that requires significant process equipment and educated personnel. To FIFA's knowledge this has not been done by terrorist or criminal groups to date.

One of the major manufacturers of Calcium Nitrate, Yara International, have tested their product in company research facilities and have not been able to manufacture any detonable formulations based on its Calcium Nitrate and other common ingredients often used in explosives.

There are no records of accidents or of criminal acts caused by the chemical properties of Calcium Nitrate. FIFA is not aware of any incidents where Calcium Nitrate has been used as raw material for illegal bomb making.

## **6.2. Risk Analysis – Potassium Nitrate Fertilizer**

Potassium Nitrate consists of stable inorganic salts which are non flammable in nature and have high decomposition temperatures (above 400°C compared with ammonium nitrate which begins to decompose at 210°C). It dissolves very easily in water. These properties make potassium nitrate safe and easy for use as both a solid fertilizer and in solutions for fertigation.

Potassium Nitrate is defined as a weak oxidiser. This means it is not able to initiate a fire; however it will enhance the combustion of an existing fire.

Potassium Nitrate is non-detonable. Mixtures of potassium nitrate with fuel oil or other carbon fuels are also non-detonable. This means it cannot be misused in mixtures such as ANFO.

However, due to its oxidising properties, potassium nitrate can be used together with other materials to produce "black powder" (low order explosive) firework pyrotechnics and smoke devices. The US National Academy of Sciences investigated the threat of "black powder" in terrorist events and concluded that the feasibility of its use by criminals or terrorists is limited to the filling of small containers such as pipes, tubes or bottles and that it is not suitable for large scale bombings.

The production of a large scale bomb from potassium nitrate is not a simple task and requires well equipped infrastructure that is difficult to operate secretly.

## 7. Discussion & Recommendations

It is clear that both Potassium Nitrate and Calcium Nitrate are valuable products for Australian agriculture. They have significant yield and quality effects on a range of crops, primarily in the high value horticulture sector. Alternative products with similar agronomic benefits are not currently available. The characteristics of the products that make them efficient fertilizers also results in reduced environmental risk.

The two products have different risk profiles with regard to misuse as explosive precursors, however both represent a significantly lower risk than the products currently classified as SSAN.

It is clear there is a very low risk that Calcium Nitrate fertilizer could be misused by terrorists or criminals to manufacture explosives. With regard to Potassium Nitrate the risk of misuse is higher. However it is likely that any misuse of this fertilizer by criminals or terrorists to manufacture explosives, would be limited to small scale explosive devices in pipes, tubes or bottles. So although the risk of misuse is higher, Potassium Nitrate is still considered unsuitable for large scale bombings.

Experience with SSAN products has shown that the level of control applied under the licensing regime will result in significant reduction in use and availability of the products. The perceived complexity and cost of the system by farmers and suppliers has been exacerbated by problems and delays with implementation.

If the Australian authorities apply the SSAN licensing system to Calcium Nitrate and Potassium Nitrate, the access to these fertilizers by Australian horticultural farmers will be restricted. It is estimated that in excess of 6,000 Australian farmers would potentially be directly affected. In addition to this number, a further 8,400 people employed in the Hydroponic growing industry would also be effected.

The economic effects of reducing the use of these products are significant with the current added value ascribed to the products being in the order of 1 billion dollars in general horticulture and 600 million dollars in hydroponics.

The regulation of Calcium Nitrate and Potassium Nitrate fertilizers in the same way as SSAN products may well set a precedence for other government authorities world wide. An estimated 3.5 million farmers worldwide would be affected by implementation of restrictions on Calcium Nitrate and 3.25 million by implementation of restrictions on potassium nitrate.

In conclusion, given the agronomic and economic benefits of these products and the low relative risk compared to SSAN products, it is the recommendation of the Fertilizer Industry Federation of Australia (FIFA) that these products should not be regulated in the same way as SSAN fertilizers.

## **Economic Impacts: Farmers as Price Takers**

Many producers in Australia, including the agricultural sector, are price takers rather than price setters. This means that the price at which they can sell their product is determined by external factors that they cannot effectively influence. For instance, the price of agricultural goods is typically set by the world economy. The domestic market generally adopts the international price; thereby the global market sets the price of both agricultural exports and national sales without reference to the cost of production.

Increasing the cost of production through expensive compliance measures would further reduce the margin between the world price and Australian farmers' cost of production; further hurting our competitiveness on the world's most distorted sector of merchandise trade. Farmers' terms of trade in 2004-05 were 9.9 per cent lower than they were in 1997-98 (i.e.: the price of farm inputs has been rising faster than the prices received for agricultural commodities). They have been steadily decreasing since 2001-02 (ABARE, 2006).

In the face of declining terms of trade, Australian farmers have been able to remain internationally competitive and sustain their businesses and incomes largely through productivity growth (Stocktake, 2005). As agriculture contributes to 12.1 per cent (\$103 billion) of Australia's GDP and supports 1.6 million Australian jobs, such an outcome would impact the Australian economy through the terms of trade, employment and business sustainability.

Further information on the economic model that agriculture operates under can be obtained from the National Farmers' Federation.



## Cotton Australia Ltd

### Background Paper

# Security Requirements In The Cotton Industry

### Introduction

Following the introduction of the modern Australian cotton industry in 1961, cotton growers were a significant user of agricultural chemicals. In order to obtain economic yields of cotton as the industry developed, it was necessary to rely on insecticides, herbicides, growth regulators, fertilizers and defoliant as important crop inputs. Fortunately with the development of gene technology, excellent industry research programs and effective IPM programs the level of reliance has greatly reduced in recent years.

During the period 1987 to 2001, the cotton industry underwent rapid growth in both NSW and QLD, experiencing a growth in crop area from 245,000 hectares in 1987-88 to 527,000 hectares in 2001. This period of growth coincided with the emergence and growth of the environmental movement and resulted in cotton farming becoming the focus of attention by mainstream environmental groups as well as concerned citizens and local "single issue" groups.

In areas such as the NSW / QLD border rivers, Gwydir Valley, Upper Namoi and Emerald in QLD where cotton was establishing and in the growth phase, local cotton growers frequently became the focus of intensive campaigns organised by city based environmental groups and implemented by local residents.

In all cases the campaigns were directed at the use of pesticides by cotton growers and in particular the perception that community members were exposed to pesticides giving rise to unexplained illnesses, asthma and a significant rise in the incidence of cancer in the community. In addition the campaign also targeted, alleged environmental impacts such as contamination of the riverine system and destruction of native vegetation.

During these campaigns, there were reported incidents where chemicals were suspected of being used in a malicious manner to cause fish kills, contaminate rainwater tanks, damage vegetation and contaminate hoppers of aircraft and ground spray units.

- 2 -

### **Cotton Industry Response To Environmental Terrorism Threat**

At the time of these anti cotton /anti pesticide campaigns the cotton industry was concerned that there were indications that pesticide products had been used for malicious purposes in an attempt to exaggerate the impacts of pesticide use by the cotton industry. The concern was heightened by the fact that mainstream environmental groups had carried out terrorist type attacks on chemical manufacturing plants in the past as a means of attracting attention to their campaigns.

A number of the pesticides used by the cotton industry had the potential to cause significant threats to human health and the environment if used in their concentrated form in a malicious manner.

As an immediate response, the industry analysed the potential risks and implemented a number of "common sense" requirements which focused on securing chemicals on farm so that they were not easily accessed by unauthorised persons. These measures included:

- (a) Purchasing the exact pesticide requirements and having the supplier deliver them as close as possible to the time of application so as to minimise the length of time concentrated product was stored on the farm.
- (b) If pesticide was stored on farm that it be secured under lock and key in an appropriate storage unit.
- (c) An inventory of chemicals stored on farm be maintained.
- (d) Chemical storage be sited within site of the main farm sheds and work area.
- (e) Spray rigs be parked in secure areas overnight, and not be filled with water or spray material overnight. If possible lock the access point of spray rig tanks. This was also applied to aircraft.

These were simple, common sense actions which were effective, routinely implemented by farmers and did not lead to major costs. It should be noted that in more recent times, dangerous goods legislation and Work Cover requirements re chemical storage signage puts at risk the common sense on farm security approach in that on a farm it is now very obvious to the passer by - where chemicals are stored and what is actually stored on the farm.

In 1991, the Australian cotton industry commissioned Gibb Environmental Sciences and Arbour International ( Environmental Auditors from the UK) to conduct a complete environmental audit of all aspects of the cotton industry. The recommendations from this audit provided the basis on which the industry's

- 3 -

"Best Management Practices" quality assurance program has been developed. With respect to chemical security, this audit made the following recommendations:

- (a) All pesticides be stored under lock and key
- (b) Pesticide storages should adequate storage space, have proper bunding, segregation of differing products and security controls.
- (c) Chemical storage and handling needs improving. Industry organisations should have a strong education policy, so that growers are aware of the correct procedures , dangers and consequences of ignoring them.

These recommendations have since been developed extensively and along with numerous other more recent security requirements are reflected in the Cotton industry Best Management Practices (BMP) program.

In conclusion, the cotton industry has been dealing with the possibility of terrorist type activity for at least the past 20 years and has identified the need to address the threat with effective, commonsense and affordable measures. While the current threat of terrorism facing Australia is very serious, the threat facing the cotton industry over those years has also been taken seriously. As an industry it would have been irresponsible to ignore potential risks to the public and as a secondary consideration, risk the loss of critical agricultural management tools. The cotton industry is confident that their approach has been very effective, however the current situation highlights the fact that such security measures must be regularly reviewed and up graded. As an industry we would look to achieving this more effectively through a partnership approach with government where the objectives of both industry and government can be achieved in an equitable manner.

Prepared by:  
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February 2007



# **Freshcare Code of Practice**

**2<sup>nd</sup> Edition – October 2004**

**The On-Farm Food Safety Program  
For Fresh Produce**

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[www.freshcare.com.au](http://www.freshcare.com.au)

## Contents

<b>Contents</b>	<b>1</b>
<b>Preface</b>	<b>2</b>
<b>Introduction</b>	<b>3</b>
Purpose and scope	3
How the Code was developed	3
Using the Code	4
Freshcare structure	4
<b>Definitions</b>	<b>5</b>
<b>Code Elements</b>	
<b>Management</b>	<b>7</b>
M1 Training	7
M2 Internal auditing and corrective action	7
M3 Records	7
M4 Document control	8
<b>Chemicals</b>	<b>9</b>
C1 Persistent chemicals	9
C2 Obtaining, storing and disposing of chemicals	9
C3 Chemical treatments	10
C4 Chemical testing	11
<b>Fresh Produce</b>	<b>12</b>
F1 Product and handling specifications	12
F2 Product identification, traceability and recall	12
F3 Fertilisers and soil additives	13
F4 Water use	13
F5 Site and premises	14
F6 Equipment, containers and materials	15
F7 Cleaning and vermin control	15
F8 Personal hygiene	16
F9 Storage, ripening and transport	16
F10 Other practices	17

## **Preface**

### **Acknowledgments**

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The following are particularly acknowledged for their valuable contribution, as members of the Freshcare Technical Committee:

Scott Ledger	Department of Primary Industries and Fisheries, Queensland
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Ron Tyas	TyQual
Leila Muller	Grower / Freshcare Board Member
Clare Hamilton-Bate	National Program Manager, Freshcare Ltd

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### **Code Review Process**

The Freshcare Technical Committee is responsible for the review and amendment of this Code of Practice; members are advised of all Code updates. Members should ensure that they are operating with the current edition of the Code at all times.

Suggestions for improvement to the Freshcare Code of Practice are encouraged from all users. Suggestions should be submitted in writing to Freshcare Limited.

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## **Introduction**

### **Purpose and Scope**

The Freshcare Code of Practice is an industry owned standard, describing the practices required on farm to provide assurance that fresh produce is safe to eat and has been prepared to meet customer specifications where they exist.

The Freshcare program offers benefits to both suppliers and customers. It provides verification that an industry recognised food safety program is followed. Certification to the Freshcare program is achieved through independent auditing to the Code of Practice.

Freshcare meets the requirements of a wide range of customer groups and forms the basis of many approved supplier programs.

Freshcare Ltd continues to work closely with key customer groups, maintaining a level of awareness of program developments and ensuring continued compliance to market requirements.

The Code of Practice covers practices required to:

- prevent or minimise food safety hazards occurring during growing, harvesting, handling, packing, storage and transport of fresh produce;
- prepare produce to customer specifications;
- identify, trace and withdraw/recall produce;
- manage staff and documentation; and
- review compliance.

### **How the Code was developed**

A team of food safety facilitators, experienced in developing quality management systems for fresh produce, helped prepare the Freshcare Code of Practice. They used the Hazard Analysis and Critical Control Point (HACCP) method to identify where potential food safety hazards may occur on farm and what practices are needed to prevent or minimise the hazards.

The publication, 'Developing an Approved Supplier Program for Fresh Produce – A Guide for Customers and Suppliers', was used as a reference to determine the practices required. International publications were also reviewed, including the Codex Draft Code of Practice for the Primary Production, Harvesting and Packaging of Fruits and Produce and the U.S. Department of Agriculture Guide to Minimising Microbial Food Safety Hazards for Fresh Fruits and Vegetables.

An important criterion in developing the Freshcare program was the need for consistency with other industry on-farm programs. This has been achieved through adopting a number of elements in common with the Cattlecare, Flockcare and Graincare Codes of Practice. This consistency enables a single on-farm audit to cover more than one program, where applicable.

To ensure that the Code of Practice was appropriate and achievable, it was widely distributed in draft form for review by industry stakeholders (growers, packers, wholesalers, processors, retailers). The Code of Practice was initially tested as part of a trial of the Freshcare program, involving audits of over 100 farms, subsequently Version 1.0 of the Freshcare Code of Practice has been implemented by over 3,100 horticultural businesses in Australia (October 2004).

Version 2.0 of the Freshcare Code of Practice updates the original document and provides a more 'user friendly' resource tool, it is intended to be used in conjunction with approved Freshcare training materials.

## Using the Code

The requirements of the Code of Practice, called elements, are grouped into three sections – Management, Chemicals and Fresh Produce. Each element describes the outcomes required and the steps necessary to ensure compliance.

The first two sections, Management and Chemicals, contain elements common to the Cattlecare, Flockcare and Graincare Codes of Practice. The third section, Fresh Produce, contains elements specific to fresh produce.

## Freshcare Structure

Freshcare is the horticultural industry's own on farm food safety program, developed by industry, for industry and operated as a 'not for profit' organisation.

Freshcare is 'owned' by eighteen peak industry bodies:

- Apple & Pear Australia Limited (APAL)
- Australian Banana Growers Council
- Australian Chamber of Fruit & Vegetable Industries Ltd
- Australian Custard Apple Growers Association Inc.
- Australian Lychee Growers Association Inc
- Australian Mango Industry Association Ltd
- Australian Melon Association
- Australian Mushroom Growers Association
- Australian Passionfruit Industry Assoc Inc (APIA)
- Australian Potato Industry Council Inc.
- Australian United Fresh Fruit & Vegetable Association Ltd (AUF)
- Australian Vegetable & Potato Growers Federation Inc (Ausveg)
- Avocados Australia
- Growcom
- NSW Farmers' Association
- Summerfruit Australia Limited
- South Australia Farmers Federation
- Victorian Farmers Federation Horticulture Group

The owner organizations provide a vital link and conduit for information between Freshcare and their individual members.

Representatives of the owner organizations (both producer and non-producer groups) comprise the Board of Freshcare Ltd

The Freshcare Office, comprising a National Program Manager and support staff, undertakes the day-to-day management of the Freshcare Program.

## **Definitions**

**Audit** means a systematic examination of a system, to determine whether procedures that have been introduced are being followed and to ensure that the system achieves its aims.

**Chemical** means a product, such as insecticides, acaricides, herbicides or fungicides applied on or around product/production areas to control pest, disease and weeds. It also includes other products used in on-farm situations such as sanitisers and cleaning agents.

**Cleaning** means the removal of dirt, grease, plant parts, produce residues and other foreign matter.

**Contamination** means the introduction or occurrence of a food safety hazard in produce or the produce environment.

**Control Measure** means any action taken to prevent, minimise or eliminate a hazard.

**Corrective Action Report** see System Improvement Notification (SIN).

**Customer** means a commercial packer, marketing group, wholesaler, exporter, processor or retailer.

**Essential Document** means a document supporting the implementation of this code of practice.

**Food Safety Hazard** means any chemical, microbial (biological) or physical substance or property that can cause produce to become an unacceptable health risk to consumers.

**Fresh Produce** includes, but is not limited to fresh fruit, vegetables, herbs and nuts.

**Growing Facility** means a structure in which produce is grown e.g. a glasshouse, hydroponic growing tables.

**HACCP** means Hazard Analysis Critical Control Point – a method to identify, evaluate and control specified hazards

**Hazard** means a source of potential harm or a situation with a potential to cause loss. A food safety hazard is any biological, chemical or physical substance or property that can cause an unacceptable health risk to consumers.

**Maximum Residue Level (MRL)** means the maximum allowable residue levels on produce.

**Persistent Chemicals** means organochlorine pesticides, heavy metals and other persistent chemicals present in the soil that cause unacceptable residues in produce.

**Premise** means a structure or building in which produce is packed, handled or stored.

**Product and Handling Specification** means a clear description of the features of the product and any special handling requirements.

**Quality Assurance** means a framework in which hazards and risks are identified and managed to satisfy required product quality and food safety.

**Record** means documentary evidence to support compliance with this code of practice.

**Risk** means the chance of something happening that will have an impact upon objectives. It is measured in terms of likelihood and consequences.

**Risk Assessment** means the systematic process of assessing risk to determine potential impact and identifying practices needed to prevent, reduce or eliminate the hazards.

**Separate Growing Areas** mean areas where different types of produce are grown and/or where produce is treated differently (for example, different chemical treatments).

**Soil Additives** means products that are added to the soil to improve fertility and structure and control weeds. Examples are animal manure and sawdust.

**Staff** means all personnel working in the business, including family members & contractors working on the property or in the business.

**Supplier** means a grower and/or packer of fresh produce supplied for sale or further processing.

**System Improvement Notification (SIN)** means a written record during internal audit or at initial assessment / annual audit of issues which must be addressed to demonstrate compliance with this code of practice. (Similar to a Corrective Action Report or CAR).

**Vermin** means rats, mice, birds, cockroaches, dogs, cats and other animals and insects that may be a source of contamination to fresh produce.

**Withholding Period** means the required period of time that must elapse between crop treatment and harvest.

## Management

### **Element M1    Training**

Appropriate training shall be provided to ensure that staff (including family members & contractors working on the property or in the business) are adequately trained to perform the duties required of them by this Code of Practice.

*Steps required to ensure compliance with this Element of the Code are:*

- M1.1    Document the job responsibilities for all staff under this Code of Practice.
- M1.2    Provide training, including on-the-job training, for staff in their areas of responsibility, ensuring staff are familiar with the relevant requirements of this Code of Practice, and other industry Codes where appropriate.
- M1.3    Maintain staff training records.

### **Element M2    Internal auditing and corrective action**

Periodic internal audits are required to verify on-going compliance with this Code of Practice. Records of internal audits shall be kept. Corrective and preventive actions are required for any non-compliance identified, or for deficiencies identified which cannot be immediately rectified.

*Steps required to ensure compliance with this Element of the Code are:*

- M2.1    Conduct internal audits at least annually of all relevant activities, records and procedures covered by this Code of Practice (at appropriate times during the twelve month period). Complete an Internal Audit Report as part of each internal audit.
- M2.2    Complete a System Improvement Notification or equivalent record when:
  - a defect or mistake is identified during an internal audit, or by an external auditor or assessor;
  - a defect or mistake (relevant to this Code of Practice) is identified during routine on-farm activities that cannot be rectified that day;
  - a complaint (relevant to this Code of Practice) is received from a purchaser or processor of your product;
  - product is identified as being contaminated or potentially contaminated.
- M2.3    System Improvement Notifications shall include:
  - a description of the problem;
  - what caused the problem;
  - what can be done to fix the problem;
  - verification that the problem has been fixed
  - where applicable, preventive action to prevent the problem recurring and verification that preventive action has been taken.

### **Element M3                    Records**

Records shall be kept to provide evidence of compliance with this Code of Practice. .

*Steps required to ensure compliance with this Element of the Code are:*

- M3.1 Maintain legible records and documentation referred to in the Elements of this Code of Practice.
- M3.2 All individual records shall be retained for a minimum of two years, or for a longer period if required by legislation.

**Element M4 Document control**

A list of all essential documents shall be maintained, and procedures put in place to ensure out of date documents are replaced by new versions.

*Steps required to ensure compliance with this Element of the Code are:*

- M4.1 An updated list of all essential documents shall be kept, identifying the document date of issue and where they are stored.
- M4.2 The most current version of this Code of Practice and of the Freshcare Certification Rules shall be included as essential documents.
- M4.3 Managers / owners shall ensure that as essential documents change, out of date copies are removed and replaced with the new version.

## Chemicals

### **Element C1                      Persistent chemicals**

Risk assessment procedures shall be implemented to minimise the risk of produce becoming unacceptably contaminated with organochlorines, heavy metals or other persistent chemicals.

*Steps required to ensure compliance with this Element of the Code are:*

- C1.1      Assess whether contaminated or potentially contaminated sites are present on the property.  
Determine whether there is any significant risk of produce contamination for each horticultural activity undertaken on the site.  
Changes in horticultural activity may require the risk to be re-assessed.
- C1.2      Maintain records of the risk assessment which document:
- the location of any contaminated site and the contaminants present or suspected to be present;
  - the significance of any produce contamination risk for each horticultural activity on the site;
  - if significant, the method used to manage the risk.
- C1.3      Responsibly manage or quarantine contaminated sites to ensure that produce from that site complies with legislative residue limits.

### **Element C2                      Obtaining, storing and disposing of chemicals**

Only legally obtained and properly labelled farm chemicals shall be used on the property, and procedures shall be implemented to ensure their safe and appropriate storage and disposal.

*Steps required to ensure compliance with this Element of the Code are:*

- C2.1      Farm chemicals shall be purchased from accredited suppliers.
- C2.2      Ensure that chemicals are adequately labelled and in acceptable condition on receipt. Deteriorating labels should be replaced with copy labels immediately.
- C2.3      Establish farm chemical storage area(s) that is/are structurally sound and secure (restrict unauthorised access). The store shall be constructed and located to minimise risk of contamination of site, produce and packing materials.
- C2.4      Store all farm chemicals on the property safely according to the directions on the container label. Include designated separate areas for each category of agricultural chemicals (for example insecticides and herbicides), and farm chemicals awaiting disposal.
- C2.5      A stocktake shall be conducted and recorded annually to identify any products that have exceeded their label expiry dates, are no longer useable, have illegible labels or have leaking / corroded containers.
- Segregate and identify these products for appropriate disposal (following manufacturers' instructions where supplied).
- Record in a Farm Chemicals Inventory or equivalent system:
- the date of the stocktake;
  - those chemicals that have been disposed of;

- the method of disposal;
  - the date of disposal;
  - the name of the person who carried out the stocktake, and carried out or supervised the disposal of chemicals.
- C2.6 Legally dispose of unusable chemicals through registered collection agencies or in approved off farm disposal areas. Used chemical containers must also be legally disposed of.
- C2.7 Establish a Farm Chemical Inventory or equivalent system and record the following information for all chemicals.
- date received;
  - name of chemical;
  - batch number (where available);
  - expiry date or date of manufacture.
  - place of purchase;
  - quantity.

### **Element C3                      Chemical treatments**

Staff involved in the use of farm chemicals must be appropriately trained and have authorisation to use chemicals within the business.

Only approved chemicals shall be used and withholding periods for the harvesting and release of produce shall be observed. Paddock and produce treatment records shall be maintained.

*Steps required to ensure compliance with this Element of the Code are:*

- C3.1 Staff involved in the supervision of the use of farm chemicals must have successfully completed a recognised farm chemical users course or equivalent and be able to demonstrate continued competency.
- C3.2 A register of staff authorised to use farm chemicals shall be maintained and displayed in the farm chemical storage area.
- C3.3 Farm paddocks or production areas shall be identified on a property map.
- C3.4 Chemicals shall be used and applied:
- according to label directions; or
  - under 'off label permits' issued by the Australian Pesticides and Veterinary Medicines Authority (APVMA); or
  - in accordance with relevant State Legislation for 'off label use'.
- C3.5 Chemical application equipment shall be calibrated at least annually and checked for operational efficiency before and during each use (according to the manufacturer's instructions or other appropriate methods).
- The date of calibration and the name of the person conducting the calibration shall be recorded.
- C3.6 All treatments of crops with farm chemicals shall be clearly recorded and withholding periods shall be observed. Records shall include the following information:
- treatment date/time;
  - weather conditions;

- chemical used (including batch number if available);
- the rate of application and the quantity applied;
- equipment/method used to apply the chemical;
- a description of the treated area eg crop, location, area / tree numbers;
- withholding period or 'safe to harvest' date;
- the name of the person who carried out the chemical treatment.

C3.7 Treatment of produce after harvest with chemicals shall be recorded, and where applicable withholding periods shall be observed. Records shall include the following information:

- treatment date/time;
- chemical used (including batch number if available);
- the rate of application and the quantity applied;
- a description of the treated product eg crop, location
- equipment/method used to apply the chemical;
- withholding period (where applicable);
- the name of the person who carried out the chemical treatment.

#### **Element C4                      Chemical testing**

Produce shall be tested for chemical residues to verify that chemicals are applied correctly and MRLs are not exceeded, at a frequency as determined by Freshcare Ltd.

*Steps required to ensure compliance with this Element of the Code are:*

C4.1 A random sample of produce shall be tested for chemical residues to verify that chemicals are applied correctly and MRLs specified in the relevant legislation (in Australia or overseas country) are not exceeded.

A residue test shall be conducted before initial Freshcare certification, and then at a frequency as determined by Freshcare Ltd., based on the risk associated with chemical use and the horticultural activities being undertaken on or in proximity to the growing sites.

## Fresh Produce

### **Element F1                      Product and handling specifications**

Where a specification for product quality and food safety and any special handling requirements has been agreed with a customer, produce shall be prepared and checked for conformance with the specification.

If produce does not meet the agreed specification, the customer shall be informed before delivery.

*Steps required to ensure compliance with this Element of the Code are:*

- F1.1      Where a customer has provided a written product and handling specification, a current copy of the customer specification shall be kept.
- F1.2      Produce ready for dispatch shall be checked for conformance against the customer specification.
- F1.3      If produce does not meet the customer specification, the customer shall be informed before delivery and details of the notification and the customer's advice shall be recorded.

### **Element F2                      Product identification, traceability and recall**

A product identification and traceability system shall be maintained to enable produce to be traced to its source and/or destination, enabling sub-standard or unsafe produce to be withdrawn or recalled.

*Steps required to ensure compliance with this Element of the Code are:*

#### **Product identification and traceability**

- F2.1      The location of separate growing areas shall be identified on the property map, or equivalent system.
- F2.2      Where harvested produce is sent to another business for packing or further processing, each delivery shall be clearly marked to identify the supplier and the harvest date. A record shall be kept of the harvest date, growing area (s), and destination.
- F2.3      Packed produce delivered to customers shall be clearly marked with the business name, packing date or a batch identification code, and other trade description and customer requirements. A record shall be kept of the harvest date, packing date, batch identification codes if used, growing area (s), and destination.
- F2.4      Where product is identified as being contaminated or potentially contaminated, the product shall be isolated and distribution prevented.

If the product has been sold, the buyer(s) shall be notified immediately the problem is identified and the notification recorded. The contamination event shall be investigated and actions shall be carried out in accordance with Elements M2.2 and M 2.3 to withdraw / recall and/or dispose of contaminated product and prevent re-occurrence.

### **Element F3                      Fertilisers and soil additives**

The use of fertilisers (soil and foliar) and soil additives (for example, animal manures and sawdust) shall be managed to minimise the risk of chemical, microbial and physical contamination of produce.

*Steps required to ensure compliance with this Element of the Code are:*

- F3.1      The risk of fertilisers and soil additives contaminating produce shall be assessed for each horticulture activity. A record shall be kept of the risk assessment.

Future changes in the type of fertiliser or soil additive used or the type of produce grown will require the risk to be re-assessed.

- F3.2      Where there is a significant risk of heavy metal contamination, appropriate fertilisers and soil additives shall be selected to minimise the risk of contaminating produce.

- F3.3      Where there is a significant risk of microbial contamination from organic materials, measures shall be taken to minimise the risk of contaminating produce.

Untreated organic materials shall not be applied in situations where there is a significant risk of contaminating produce.

If an organic material requires treatment on the property before use, the date and method of that treatment shall be recorded.

If an organic material requires treatment before purchase, documentation shall be obtained from the supplier specifying that the organic material has been treated in such a way as to minimise the risk of contaminating produce.

- F3.4      Fertilisers and soil additives shall be stored, applied and disposed of in a manner that does not pose a risk to either direct contamination of produce or indirect contamination of produce / packaging through the water supply or wind erosion.

- F3.5      A record shall be kept of all fertilisers and soil additives used; including:

- date of application;
- product used;
- supplier of product;
- rate of application;
- method of application;
- a description of the treated area (eg crop, location and size/tree numbers);
- the name of the person applying the product;
- for treated organic materials, date and method of treatment prior to application should also be recorded.

### **Element F4                      Water use**

The use of water, including ice, during growing, harvesting, packing and storage shall be assessed for risk of chemical and microbial contamination of produce. If the risk of contamination is significant, either a safe alternative water source shall be used or, the water shall be treated to minimise the risk of contamination.

*Steps required to ensure compliance with this Element of the Code are:*

- F4.1 The use of water shall be assessed for risk of chemical and microbial contamination of produce for each horticulture activity. A record shall be kept of the risk assessment. Changing the source of water, process or horticultural activity will require the risk to be re-assessed.
- F4.2 Where testing is required to assess the risk of produce contamination, product and/or water tests shall be conducted annually or, at frequency appropriate to the conditions impacting on the water supply, process or horticultural activity. A record of the test results shall be kept.
- F4.3 If the risk of contaminating produce through water use is significant, either a safe alternative water source shall be used, or the water shall be treated to minimise the risk of contamination. Where water treatment is required, the effectiveness of the treatment shall be monitored at an appropriate frequency and the method and results of treatment recorded.

#### **Element F5 Site and Premises**

The site, premises and facilities used for growing, packing, handling and storage of produce shall be suitable for production and preparation of safe produce.

*Steps required to ensure compliance with this Element of the Code are:*

##### **Growing site**

- F5.1 The growing site shall be selected to minimise the risk of contaminating produce.

##### **Growing facilities**

- F5.2 Growing facilities shall be located, constructed and maintained to minimise the risk of contaminating produce.
- F5.3 Drainage and waste disposal systems shall be designed and constructed to minimise the risk of contaminating produce.

##### **Premises for packing, handling and storage**

- F5.4 The premises used for packing, handling and storage shall be constructed and maintained to minimise the risk of contaminating produce.
- F5.5 Grease, oil, fuel, farm machinery, and workshop equipment shall be segregated from packing, handling and storage areas to prevent chemical and physical contamination of produce and packaging containers and materials.
- F5.6 Workshop equipment shall not be operated during packing and handling or shall be screened to prevent physical contamination of produce and packaging containers and materials.
- F5.7 Septic, waste disposal and drainage systems shall be designed, located and constructed to minimise the risk of chemical and microbial contamination of the water supply.
- F5.8 Lights above areas where produce and packaging containers and materials are exposed shall be either an approved safety type or protected with shatter proof covers or a plan shall be in place in the event of a light breaking for rejecting

exposed produce and cleaning of equipment, packaging containers and materials, and surrounding areas.

#### **Element F6                      Equipment, containers and materials**

Equipment, containers and materials that come into contact with produce shall be designed, constructed and maintained to minimise the risk of chemical, microbial and physical contamination of produce.

*Steps required to ensure compliance with this Element of the Code are:*

- F6.1      Equipment, containers and materials shall be made of substances that are non-toxic and are designed and constructed to enable adequate cleaning and maintenance.  
  
            Where there is significant risk of product contamination, food grade equipment, containers and materials should be used.
- F6.2      Regular equipment maintenance shall be carried out to prevent chemical, microbial and physical contamination.
- F6.3      Packaging containers and materials shall be checked for soundness, cleanliness and vermin infestation before use and discarded if they cannot be appropriately cleaned.
- F6.4      Containers used for storage of waste, chemicals and other dangerous substances must be clearly identified and not used for holding of produce.

#### **Element F7                      Cleaning and vermin control**

Equipment, containers and materials that come in contact with produce, and the areas where produce is packed, handled and stored, shall be regularly cleaned to minimise the risk of chemical, microbial and physical contamination of produce.

Measures shall be taken to minimise the risk of contaminating produce from vermin infestation.

*Steps required to ensure compliance with this Element of the Code are:*

- F7.1      A written plan shall be followed for cleaning of equipment, containers, and materials that come into contact with produce, and the areas where produce is packed, handled and stored. The written plan shall describe the items and areas to be cleaned and the method and frequency of cleaning.
- F7.2      A written plan shall be followed for vermin control to minimise the presence of vermin in and around production (protected cropping), packing, handling and storage areas. The written plan shall describe the actions to be taken, including frequency, to minimise the presence of vermin.
- F7.3      Measures shall be taken to discourage roosting of birds in facilities used for production (protected cropping), packing, handling and storage of fresh produce and packaging materials.
- F7.4      Domestic animals shall be excluded from all areas where produce is packed, handled and stored.

- F7.5 Chemicals used for cleaning and vermin control shall be appropriate for use in a food handling area.
- F7.6 Where used, baits and traps for vermin control shall be located and contained to minimise the risk of contaminating produce and packaging containers and materials. The location of baits and traps shall be recorded.

#### **Element F8 Personal hygiene**

Personal hygiene standards shall be followed to minimise the risk of microbial and physical contamination of produce from staff (including family members) and contractors who come into direct or indirect contact with produce.

*Steps required to ensure compliance with this Element of the Code are:*

- F8.1 Toilets and hand washing facilities shall be available to enable an appropriate degree of personal hygiene to be maintained.  
The facilities must be:
- readily accessible to staff;
  - equipped with adequate means of hygienically washing and drying hands;
  - appropriately designed to ensure hygienic removal of waste and minimise the risk of contaminating produce, growing sites and water supply (refer F5.7);
  - maintained under sanitary conditions and good repair.
- F8.2 Verbal instructions on personal hygiene practices shall be provided to staff and contractors and reinforced with written instructions or prominent signs that are easy to understand.

The instructions shall include requirements for personal cleanliness and behaviour and health status.

#### **Element F9 Storage, ripening and transport**

Produce shall be stored, ripened and transported under conditions that minimise the risk of chemical, microbial and physical contamination of produce.

*Steps required to ensure compliance with this Element of the Code are:*

- F9.1 Produce shall not be stored, ripened or transported with other goods or under conditions that are a potential source of chemical, microbial or physical contamination.
- F9.2 Pallets shall be checked before use for cleanliness, chemical spills, foreign objects and vermin infestation. If there is a significant risk of contaminating produce, they shall be rejected, cleaned, or covered with protective material.
- F9.3 Measures shall be taken to prevent condensate and defrost water from cooling systems dripping onto exposed produce during storage and ripening.
- F9.4 Transport vehicles used on site shall be checked before use for cleanliness, foreign objects and vermin infestation, and cleaned if there is a significant risk of contaminating produce
- F9.5 Where storage, ripening or transport services are provided off site, evidence shall be obtained that measures are taken to control potential food safety hazards.

## **Element F10 Other practices**

Where a practice is specific to the produce grown and/or packed and is not covered by the other elements of this Code of Practice, the risk of contaminating produce from this practice shall be assessed and measures taken to control any potential food safety hazards identified.

*Steps required to ensure compliance with this Element of the Code are:*

- F10.1 Where a practice is specific to the produce grown and/or packed and is not covered by the other elements of this Code of Practice, the risk of chemical, microbial and physical contamination from this practice shall be assessed and a record of the risk assessment maintained.
- F10.2 Measures shall be taken to control potential food safety hazards identified by the risk assessment and a record of the control measures maintained.