

Carrot Industry Biosecurity Plan



PERPETUAL DRAFT
THIRD EDITION



Editors note

Foreword

Developing a Carrot Industry Biosecurity Plan to address biological risks has been a challenge. The development of joint strategies by government, growers, processors and other industry-affiliated organisations is vital. The importance of defining clear roles for all parties, establishing cost sharing arrangements and planning for high-risk threats cannot be overstated.

This plan is a new approach in Western Australia. It deals with the broad issues as well as specific operational detail relating to key biological threats to the Carrot industry and associated industries. It can be applied to all potential threats and situations.

The plan would not exist without the dedication and commitment of many people from both industry and government who have pooled their collective knowledge and expertise. Working groups comprised of Carrot Industry representatives and staff from the Department of Agriculture have developed it.

All Carrot and associated industry members are encouraged to take up opportunities outlined in the plan to protect the future of the carrot industry, to understand their roles and support the principles agreed to in the plan. Let us all work together to protect the Carrot industry. Protecting the industry is everyone's business.



Figaro Natoli
Chairman
C.A.R.D



Rob Delane
Executive Director
Agriculture Protection
Department of Agriculture



Terry Hill
Program Manager
Horticulture
Department of Agriculture

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Farmnote

Farmnote 41/2003. Practical farm biosecurity advice for keeping the plant industries safe from biological threats.

Farmnote 71/2002. Farm Biosecurity

Bulletin 4573, April 2003. Biosecurity for small landholders

Fact Sheets

Branched broomrape

Carrot rust fly

Aster yellow, Yellow disease, Western aster yellows

Carrot cyst nematode

Licorice rot

Carrot weevil

Threat Data Sheet's

Broomrape

Carrot rust fly

Aster yellow, Yellow disease, Western aster yellows

Silver leaf whitefly

Threat data sheets are available from the HortGuard® website – <http://www.agric.wa.gov.au/programs/app/industry/hortguard/> or on request from Andrew Reeves, HortGuard®, Department of Agriculture, Bunbury Office phone: 08 9860-6224, e-mail: areeves@agric.wa.gov.au

Please note that the biosecurity plans are evolving documents and as such, there may be changes made or actions underway since the plan was printed. The Carrot Fruit Industry has agreed to review the plan annually

Glossary Of Terms

Acronyms

APC	Agricultural Produce Commission
DAWA	Department of Agriculture Western Australian
PHA	Plant Health Australia
AQIS	Australian Quarantine and Inspection Service
GIMP	Generic Incident Management Plan
WA	Western Australia
PTQ / DTQ	An internet database of questionnaires used to collate unbiased, semi-quantitative responses from industry and government experts around the world to cumulatively rank the perceived relative posed by the incursion of exotic plant pests and diseases.

Definition of Terms

The Department	The Department of Agriculture, unless otherwise specified.
Endemic Threats	Also known as established threats. See below.
Established Threats	Weeds, diseases, pests and animal threats present in the industry biosecurity plan.
Exotic Threats	Weeds, diseases, pests and animal threats not present in the industry biosecurity plan.
Regional threats	Weeds, diseases, pests and animal threats present in a part of WA other than the industry defined in the biosecurity plan.
National Threats	Weeds, diseases, pests and animals not present in Australia.
WA Exotic Threats	Weeds, diseases, pests and animals established on the eastern seaboard but not found in WA.
Incursion	An exotic weed, disease, pest or animal outbreak.
Incident	An agriculturally significant event, which impacts upon an industry, localised community or geographical area requiring the co-ordination and significant Departmental management activities at a district or state level.

Role of Plant Health Australia

Plant Health Australia (PHA) has recently been established as a company, which represents a partnership between industry, and state/commonwealth governments to take responsibility for the strategic direction, management and delivery of nationally coordinated plant health services. One of the first actions of PHA involved the establishment of a consultancy to explore the funding options available for the eradication of exotic pest incursions.

The following broad principles for cost sharing arrangements have been published in a Discussion Paper by the Centre for International Economics, titled,

“Funding and compensation for emergency eradication of exotic plant pests and diseases”.

1. Immediate reporting of, and rapid response to, suspected disease, insect, weed and animal threats
2. Incursion capable of being eradicated and/or contained
3. Beneficiary contributes
4. Equitable sharing of financial burden
5. No one better or worse off as a result of reporting an incident
6. Certainty in funding and compensation
7. Certainty, consistency, integration and efficiency of structure and processes
8. Stakeholders who share the costs of incursion management should have a role in decision making
9. Accountability to stakeholders who fund incursion management
10. Simplicity; and
11. ‘Risk creator contributes’ – major contributors to incursion risk should contribute to the funding of eradication programs.

For further information regarding developments by PHA please refer to their web site at www.planthealthaustralia.com.au

Whilst PHA will negotiate funding arrangements for threats exotic to Australia.
There is a need in Industry Biosecurity Plans to develop specific arrangements for threats from other States.

Cost Sharing principles

The issue of funding for any industry or regional biosecurity plan is central to the ability of the committee to be able to undertake many of the actions agreed to in the regional plan.

A funding mechanism is necessary to respond and manage an incursion that can include employing short-term staff or local industry officers.

There is presently no cost sharing arrangement between the Carrot Industry and the Government for activities such as targeted surveillance and eradication of incursions of major threats.

Where cost sharing between Government and Industry needs to occur, it is expected to be based on the principle of “beneficiary pays”. This principle includes the need for stakeholders to accept responsibility for protection of agriculture in proportion to the benefit gained and their ability to manage the risk. Potential threats could be allocated one of four proposed categories ranging from:

Category 1 – where the main beneficiaries are the public and government has responsibility for funding.

Category 4 – where the benefit and funding responsibility lies with the industry.

Allocations of a threat to a cost-sharing category may occur as each threat is assessed and is considered by industry and government (for an example category table refer to Table 1).

As most agricultural threats have some degree of impact on producers and the wider community, it is likely that very few threats, if any, will be classified as Category 1 or Category 4. It is therefore envisaged that industry and government will have joint responsibility for protection funding for most threats. For this reason it is essential that both industry and government develop and maintain the means to effectively manage the risk of incursion in all cases where the risk can be effectively managed.

Management of the risk of incursion at the national, state and farm levels will reduce the likelihood of significant incident response expenditure. Effective risk management by government (eg barrier quarantine) and industry (eg farm biosecurity) is essential in order to reduce the expected liability of both parties.

A more detailed description of applicable farm biosecurity practices is given in Appendix 2.

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Table 1: Example of National cost-sharing model categories

Category	Description	Cost Shares Public:Private	Adjusted cost shares Public:Private*
1	If not eradicated, organisms would cause major environmental damage and/or affect human health and/or cause major amenity loss and have little impact on commercial crops	100:0	100:0
2.	If not eradicated organisms would cause significant public losses – amenities, environment, severe economic losses through large trade losses; and inflict major costs on the industries affected	80:20	90:10
3.	If not eradicated, organisms would primarily harm industries concerned but with significant public sector costs as well.	50:50	60:40
4.	Organisms would adversely affect susceptible industries with little if any public sector costs	20:80	30:70

*Adjusted for 'risk creator contributes' if there are reasonable grounds for believing that the source of incursion was incoming travellers, containers or mail.

PLAN OVERVIEW

This Carrot Industry Biosecurity Plan developed under HortGuard® sets out how the Western Australian Government, through the Department of Agriculture and the Carrot Industry, will co-operate to assess and respond to new pest, disease, weed and chemical residue threats by prevention of entry, early detection and prompt incident response action.

HortGuard®

HortGuard® was initiated to improve agricultural industry protection through strengthened risk assessment, quarantine and incident (emergency) response. The Agriculture Protection Board supports HortGuard®.

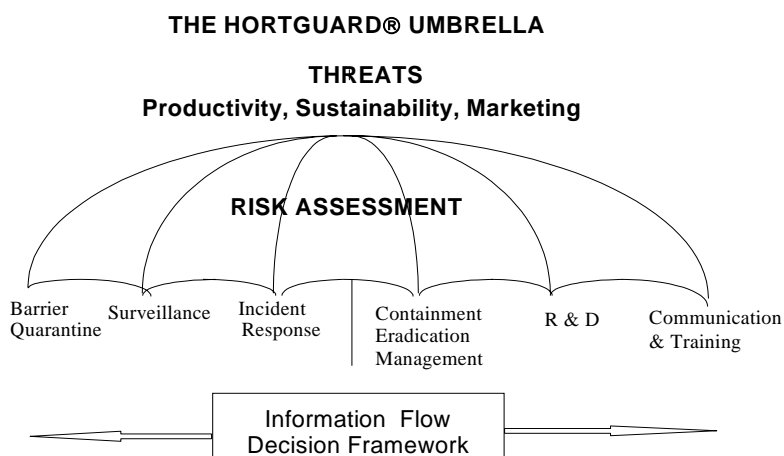
HortGuard® builds on the four levels of protection available to Western Australia's horticultural industry:

- **National** – threat identification and quarantine;
- **State** – quarantine surveillance, incident (emergency) response, eradication and research solutions;
- **Industry** – importers, agri-business, produce handlers and exporters all play a key role in protecting horticultural businesses;
- **Farm level** – where every grower plays a key role in protecting their own and neighbours' businesses.

The HortGuard® umbrella of protection

It is widely recognised that effective industry protection can best be achieved by close integration of all elements of the 'protection continuum'.

HortGuard® is an umbrella initiative which brings together the Department of Agriculture's quarantine protection, surveillance, incident (emergency) response, research and development, and communication programs, industry and grower initiatives, and the activities of other organisations and government agencies.



Carrot Industry Biosecurity Plan

HortGuard® focuses on the following key strategies:

Threat identification and risk assessment

A primary task under HortGuard® is to coordinate identification of threats to productivity, sustainability, marketability and assessment of the potential impact on local industries. HortGuard® strengthens work already being done in state, interstate and international threat identification and risk assessment programs.

Borders

Improved threat identification and communication under HortGuard® assists the Australian Quarantine & Inspection Service, the Department of Agriculture and the Carrot Industry to ensure that the entry, establishment and spread into Western Australia of exotic plant pests, diseases and weeds is minimised.

Surveillance

Under HortGuard®, targeted surveillance programs are identified for serious threats. The carrot industry and the community have an important role in reporting new or unusual pests, diseases and weeds.

Incident Response

Industry specific incident response plans are developed incorporating valuable lessons learnt from previous outbreaks of pests and diseases. Priority is given to those threats with the greatest return on investment to industry and government.

Research and Development

HortGuard® helps identify priority areas for research relevant to the protection of the horticultural industry and encourages national development and integration of protection-based research.

Communications and training

A HortGuard® communication plan is used to promote key messages to those who can contribute to the protection of the horticultural industry. It also identifies training needs and develops training programs.

What is covered in the Carrot Industry Biosecurity Plan?

- The plan follows the HortGuard® framework outlined above.
 - Threat identification and risk assessment;
 - Border requirements;
 - Surveillance needs;
 - Incident response;
 - Containment, eradication and management;
 - Research and development; and
 - Communication and training
- It lists desired outcomes and agreed roles and responsibilities for the Department of Agriculture and industry for actions in each of the key areas. It outlines principles for:
 - Cost sharing the agreed actions;
 - Funding mechanisms;
 - Grower support.
- A program of initial actions is outlined for completion, these items will be actioned at the discretion of the working group.

The plan is a living document and will be reviewed annually with agreed actions for each financial year.

A number of components of the present plan, for example incident response relate to exotic threats to the Western Australia Carrot Industry rather than to the National Carrot Industry. (National incursions are addressed jointly by the Commonwealth and State Governments and national industry. A list of the 6 highest endemic threats will be sought from industry at the first review meeting.

Where is the Plan available

The latest version of the Plan is available from Industry associations and at the HortGuard® website – <http://www.agric.wa.gov.au/programs/app/industry/hortguard/>

For further information regarding the Plan contact

Andrew Reeves, Coordinator, HortGuard®, at the Department of Agriculture's Bunbury Office Phone: 08 9780-6224, Fax: 08 9780-6136, e-mail: areeves@agric.wa.gov.au or

Allan McKay, Research Officer, Medina Research Station

Phone 08 9368-3820, Fax 08 0367-2625, e-mail: amckay@agric.wa.gov.au

Carrot Industry Biosecurity Plan Working Group

Name/Title Mr Figaro Natoli
Business Phone 9405 4817
Mobile Phone 0438 628 517
Fax 9306 2251
Email natprod@iprimus.com.au
Postal Address 132 Ross Street WANNEROO WA 6065

Name/Title Mr Sam Calameri
Business Phone 9434-3414
Mobile Phone 0418-957-236
Fax 9524-1119 (Business)
Email bmg@wn.com.au
Postal Address 232 Eighty Road, BALDIVAS WA 6171

Name/Title Mr Albert Grubelich
Business Phone 9524-1110
Mobile Phone
Fax 9524-1534
Email
Postal Address 1 Bamber Place, BALDIVIS 6171

Name/Title Mr Frank Tedesco
Business Phone
Mobile Phone
Fax 9305-9893
Email
Postal Address 12 Duncannon Rise, MINDARIE WA 6030

Name/Title Mr Luke Biocich
Business Phone
Mobile Phone
Fax
Email
Postal Address c/- Guilderton Post Office, GUILDERTON WA 6041

Name/Title Mr Peter Ivankovich
Business Phone 9720-1388
Mobile Phone
Fax
Email
Postal Address RMB 3571, HARVEY WA 6220

Name/Title Mr Harry van der Gugten
Business Phone 9419-1836
Mobile Phone
Fax
Email
Postal Address PO Box 143, KWINANA WA 6167

Carrot Industry Biosecurity Plan

Name/Title Mr Anthony Marinovich
Business Phone 9729-3858
Mobile Phone 0419-801-824
Fax
Email anthony@geo.net.au
Postal Address PO Box 506, HARVEY WA 6220

Name/Title Mr David Anderson, Grower
Business phone 9524-1515
Mobile phone 0418 195-759
Fax 9524-1144
Email jcandco@bigpond.com.au
Postal address 124 Sixty Eighth Rd BALDIVIS WA 6171



THREAT IDENTIFICATION AND RISK ASSESSMENT

Issues

There are five categories of threats to the Carrot Industry in Western Australia. These include insects, diseases, weeds, animal pests and chemical (residue) threats. Within each group there are many potential threats. The most serious threats have been identified through qualitative risk assessment and others may be added as a continual watch is kept for development of carrot threats throughout the world.

Animal Pest, Disease, Insect, Weed, and Chemical (residue) Threats

KEY CONSIDERATIONS

- What is the entry, establishment and spread probability in Western Australia for certain threats?
- What are the consequences?
- What is the impact of the threats on cost of production, productivity and market access and how difficult is it to control?

State based Threats.

Threats to the Western Australian Industry from within Australia are the direct responsibility of the Department of Agriculture and Industry.

Selected key threats to the Western Australian Carrot industry have been identified in Table 2. A list of existing state-based threats is provided in Appendix 1.

National Threats.

The establishment of Plant Health Australia (PHA) has meant that pest threats that are exotic to Australia will be dealt with under a national approach. This has the benefit of allowing state based plans to focus on the pest issues that are most relevant to that state.

Further info on national threats can be found by contacting Plant Health Australia:

Plant Health Australia Tel: (02) 6260 4322 Fax: (02) 6260 4321

www.planthealthaustralia.com.au

Established Threats.

The existing pest threats to the Western Australian Carrot Industry have been assessed and are listed in Table 3.

Table 2: Key State Exotic Threats to WA's Carrot Industry

<i>Common Name (Scientific Name)</i>	<i>Threat Type</i>	<i>Present in Eastern States (Not WA)</i>	<i>Primary Host Crop or Weed of</i>	<i>Alternate Host Crop or Weed of</i>	<i>Previously eradicated from WA</i>	<i>Description of Damage</i>	<i>Economic Impact</i>
Broomrape Branched <i>Orobanche ramosa L</i>	Parasitic Annual herb	Yes South Australia	Carrots	Brassicas Sub clover Potatoes Canola Tomatoes Pulse crops	No	Being a parasite it robs the crop for water and nutrients often causing reduced yields (Obligate root parasite that prevents crop establishment and development of saleable carrots)	High

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Table 3: Established Carrot Pests of Economic Importance.

Scientific name	Common Name	Information available	Action required	Comments
Diseases <i>Alternaria dauci</i>	Carrot leaf blight	Farmnote 73/95 Leaf blight of carrots.	Information to be reviewed and updated as required.	
	Root knot nematode	No matches found	Information to be reviewed and updated as required	A common pest across industries
<i>Erwinia cartovora</i>	Bacterial soft rot	Farmnote 79/1990 (Reviewed October 2001) Soil-borne diseases in Horticulture	Information to be reviewed and updated as required.	
<i>Sclerotinia sclerotiorum</i>	Sclerotinia	No matches found	Infonote to be produced if required.	
<i>Thielaviopsis basicola</i>	Black root rot	No matches found	Infonote to be produced if required	
Pests <i>Graphognathus leucoloma</i>	White fringed weevil	No matches found	Infonote to be produced if required.	Information to be reviewed from alternate sources.
<i>Cavariella aegopodii</i>	Carrot willow aphid	No matches found	Infonote to be produced if required.	
<i>Austroasca and other spp.</i>	Leaf hoppers	No matches found	Infonote to be produced if required	
<i>Frankliniella occidentalis</i>	Western Flower thrips	No matches found	Infonote to be produced if required	
Weeds		No matches found		

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Animals	European Rabbit	<p>Farmnote 111/2000 Rabbit warren and harbourage destruction</p> <p>Farmnote 119/2000 Fumigation for rabbit control</p> <p>Farmnote 25/2001 European wild rabbit</p> <p>Farmnote 88/2001 Landholder use of 1080 One Shot oat rabbit bait</p> <p>Farmnote 92/2001 Options for rabbit control.</p> <p>Farmnote 92/2001 Bait stations and rabbit control.</p> <p>Farmnote 82/2002 Use of fencing to protect crops and pasture from rabbits in bush remnants.</p> <p>Farmnote 27/2002 Destroying rabbit warrens using explosives.</p>	Significant information exists.	No action required.
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Chemical Threats

Agricultural chemicals have a number of potentially adverse effects on the production and marketing of carrot products and must therefore be included in any plan that aims to ensure continued production of safe produce.

The adverse impacts include:

- Chemical residue in produce which may limit market access;
- Chemicals used in management of pests may become unavailable for a variety of reasons, necessitating the development and registration of new products; and
- Chemical resistance may develop in target pests and management strategies to prevent resistance development are essential.

For all information regarding chemical registration and residue levels contact the responsible authority the Australian Pesticides and Veterinary Medicines Authority (APVMA). Contact details: phone (02) 6272-5158 or through their website at: <http://www.apvma.gov.au>.

See advice from the Department of Agriculture Plant Research and Development Services on what alternative chemicals or strategies can be used for controlling the pest or diseases.

Genetically Modified Organisms

The issue of Genetically Modified Organisms (GMO's) is gaining increasing publicity and is a potential biosecurity issue for the future for all agricultural industries.

Potentially adverse effects on the production and marketing of carrot products and must therefore be included in any plan that aims to ensure continued production of safe produce.

The adverse impacts include:

- Rejection of GMO produce which may limit market access;
- Transfer of chemical resistance genes between varieties.
- The development of new management strategies in response to chemical resistant produce.
- Marketing to convince consumers of the benefits and safety of GMO technology

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***Table 4 : Desired Outcomes and Agreed Actions
Threat Identification and Risk Assessment***

<i>Desired Outcomes</i>	<i>Actions, Roles & Responsibilities</i>	<i>Responsible party</i>
A prioritised table of industry threats	The Department of Agriculture to undertake threat identification, risk assessment, economic assessment and prioritisation of threats. Completed INDUSTRY contributes knowledge and experience	The Department of Agriculture & AQIS INDUSTRY in kind
Agreed cost sharing arrangements in place for priority threats	The Department of Agriculture & INDUSTRY to continue development of agreed cost sharing arrangements.	The Department of Agriculture INDUSTRY



BORDERS

ISSUES

National Border

The current national quarantine restrictions set up by AQIS provide control over product and equipment that may introduce new animal pests, diseases, insects or weeds.

These restrictions will be regularly reviewed to ensure they provide the necessary level of protection.

Quarantine awareness of international air passengers needs to be improved.

State Border

The current state quarantine barrier policed by the Department of Agriculture provides control over product and equipment that may introduce new animal pests, diseases, insects and weeds from interstate.

These restrictions will be regularly reviewed to ensure they provide the necessary level of protection.

Quarantine awareness of interstate air passengers needs to be improved.

Maintenance of effective barrier quarantine by government will reduce the probability of incursion of exotic threats, thereby reducing the likelihood of a costly incident response.

Farm Border

The greatest risk of spreading pests and diseases in carrots is when propagation material, people, machinery and equipment move from farm to farm and from region to region. It is the responsibility of the owner/manager to ensure these risks are minimised.

It is in the interests of industry to encourage and monitor the management of risk at the farm level, as this will reduce the probability of an incursion and increase the probability of early detection. This should in turn reduce the likelihood of a costly incident response, thereby reducing the overall cost of protection for both the carrot industry and government.

ACTIONS

In response to the need for farm level protection, a **farm biosecurity** (farm hygiene) **plan** has been developed to minimise risks (Appendix 2):

Table 5 lists the desired outcomes and agreed actions related to Borders.

**Table 5: Desired Outcomes and Agreed Actions -
Borders**

<i>Desired Outcomes</i>	<i>Actions, Roles & Responsibilities</i>	<i>Responsible party</i>
National Border		
Increased quarantine awareness of international air passengers	The Department of Agriculture to provide quarantine information and display at the departure area of international terminals	The Department of Agriculture
State Border		
Increased quarantine awareness of interstate air passengers	The Department of Agriculture to provide quarantine information and display at the departure area of interstate terminals. Completed	The Department of Agriculture
Biosecurity plans implemented on all farms to ensure early detection and minimise threat establishment and spread	The Department of Agriculture to develop generic biosecurity plan for adoption by farm owners and managers	The Department of Agriculture and Industry



SURVEILLANCE

Issues

General Property Surveillance

Carrot growing property owners/managers, non-commercial growers and the community can assist in reporting new or unusual animals, diseases, insects and weeds.

Sample kits and identification aids for exotic threats are required for use by commercial growers and agri-business.

Exotic Pest Survey

There has not been a recent comprehensive survey to establish which pests and diseases are already present on carrot growing properties in Western Australia.

An Exotic Pest Survey involving entomologists, plant pathologists and weed scientists in conjunction with industry agronomists/consultants is required.

Targeted Surveillance

The industry and the Department of Agriculture will support any national surveillance programs after due consideration of their value to the WA Industry.

Where funding is required for preventative actions such as surveillance, the industry's preferred mechanism will be

The triggers and limits for preventative issues will include: (Industry to nominate)

Agricultural Produce Commission (APC)

Collection of funds by a grower's committee under the Agricultural Produce Commission (APC), created for the purpose of providing services that are widely shared throughout the industry.

The triggers and limits for preventative issues will include:

- | | |
|----|---|
| 1. | Where ___ cents per unit of production is not exceeded or % of crop value |
| 2. | Total cost not to exceed \$ |
| 3. | Other – please state |

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Actions

Targeted surveillance program and funding assessments will be further discussed and a position established between Industry and the Department of Agriculture.

Table 6 lists desired outcomes and agreed actions related to surveillance activities.

**Table 6: Desired Outcomes and Agreed Actions -
Surveillance**

<i>Desired Outcomes</i>	<i>Actions, Roles & Responsibilities</i>	<i>Responsible party</i>
General		
Sample kits, identification material and diagnostic services are available for commercial growers and agri-business.	The Department of Agriculture to produce identification material for 6 Category A Threats. Completed.	The Department of Agriculture
	INDUSTRY to distribute identification material to growers and agri-business	INDUSTRY
	The Department of Agriculture to produce sample kits	The Department of Agriculture
	INDUSTRY to distribute sample kits to commercial growers and agri-business	INDUSTRY
	The Department of Agriculture to provide diagnostic and reporting services for suspect exotic threats	The Department of Agriculture
EXOTIC PEST SURVEY		
Up to date pest and disease records	INDUSTRY to provide information from their farm pest and disease monitoring activities	INDUSTRY
	Conduct exotic pest survey involving approximately 10% of commercial carrot growers	The Department of Agriculture
TARGETED		
The Department of Agriculture & INDUSTRY to support National Surveillance programs	Carry out field surveys and sampling as part of national surveillance programs.	The Department of Agriculture INDUSTRY

INCIDENT RESPONSE

ISSUES

- From previous threat incursion responses it is evident that there is a need for a single point of contact within the industry through which communication from the Department of Agriculture to industry can be passed.
- An industry media spokesperson is also needed who can work in conjunction with the Department of Agriculture media staff in the case of major incidents.
- Industry membership of initial incident meetings and any subsequent eradication committee also needs to be addressed. The development of an incident response plan was identified as a requirement for improved efficiency of response to incursions. This should also be integrated with the existing Department of Agriculture incident response plan.

ACTIONS

The Department of Agriculture's Incident (Emergency) Response Plan lays out in detail the actions needed once an exotic threat has been detected. This incident definition phase will be managed by the Department of Agriculture in consultation with Industry. Such things as an agenda of the first incident meeting and procedures that will be followed by staff of the department, including communication systems and procedures for redirection of department resources during an incident are all covered. The plan has been tested on real incursions over several years and department staff members have a high level of experience in making the plan work efficiently and effectively.

An Incident Committee consists of key industry representatives and the Department of Agriculture specialists. The committee meets as soon as practical after the confirmation of a serious threat. The role of the committee is to make decisions regarding the actions to be taken based on the best information available at the time.

While the Department of Agriculture will co-ordinate the incident definition phase, every grower and industry manager has a role during this phase. These roles are explained in detail in Figure 1 as it is essential for all to understand the process and play their part when required plus specific information regarding the steps involved during this phase.

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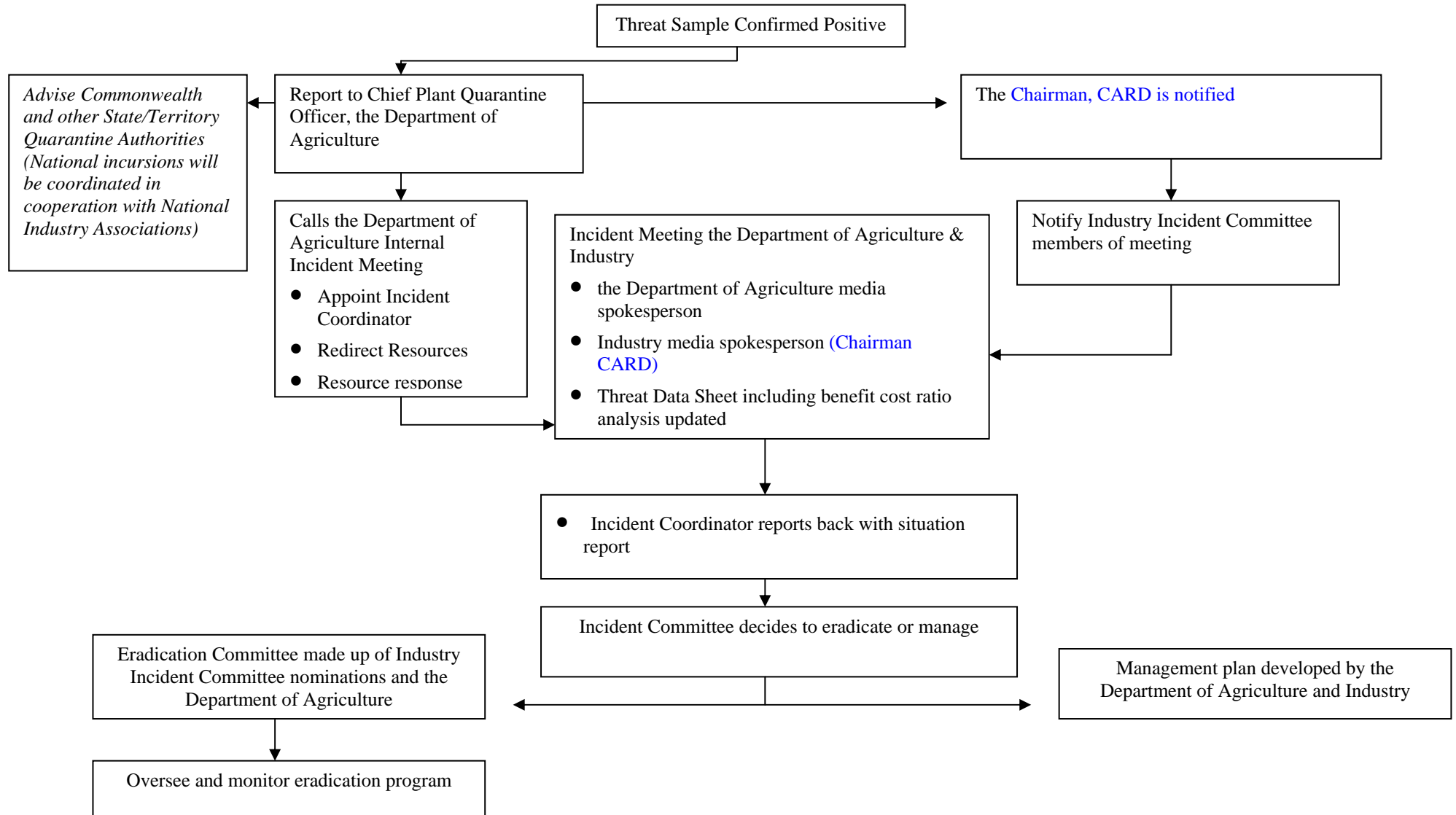


Figure 1: Incident Definition Response Flow Chart for Exotic Animal, Insect, Disease or Weed Incursion

“Protecting the Carrot Industry) is Everyone’s Business”

Plan Overview

Carrot Industry Biosecurity Plan

Single Point of Contact for Industry and Government

Industry

The Chairman, CARD, is the first contact in a carrot incident and he/she will ensure their contact details are available to the Chief Plant Quarantine Officer, Department of Agriculture.

Name Title	Mr Figaro Natoli
Business phone	08 9405-4817
Mobile phone	0438-628-517
Fax	08 9306-225
Email	natprod@iprimus.com.au
Postal address	132 Ross Street, WANEROO WA 6065

Government

The Chief Quarantine Officer, Department of Agriculture is the government contact and will ensure that their contact details are available to the Chairman, CARD.

Shashi Sharma	Chief Plant Quarantine Officer Department of Agriculture
Business phone	08 9368 3717
Mobile phone	0428 935-741
Fax	08 9474-5974
e-mail	ssharma@agric.wa.gov.au
Postal address	Locked Bag No. 4, Bentley Delivery Centre, Western Australia 6983

Industry Incident Committee

The representatives/members who will represent the industry at Industry Incident Committee meetings include:

Name Title	Mr Figaro Natoli
Business phone	08 9405-4817
Mobile phone	0438-628-517
Fax	08 9306-225
e-mail	natprod@iprimus.com.au
Postal address	132 Ross Street, WANEROO WA 6065

Name/Title	Mr Sam Calameri
Business Phone	9434-3414
Mobile Phone	0418-957-236
Fax	9524-1119 (Business)
e-mail	bmg@wn.com.au
Postal Address	232 Eighty Road, BALDIVAS WA 6171

Carrot Industry Biosecurity Plan

Name/Title Mr Albert Grubelich
Business Phone 9524-1110
Mobile Phone
Fax 9524-1534
e-mail
Postal Address 44 Pike Rd, BALDIVAS WA 6171

Name/Title Mr Frank Tedesco
Business Phone
Mobile Phone
Fax 9305-9893
e-mail
Postal Address 12 Duncannon Rise, MINDARIE WA 6030

Name/Title Mr Luke Biocich
Business Phone
Mobile Phone
Fax
e-mail
Postal Address c/- Guilderton Post Office, GUILDERTON WA 6041

Incident Committee

Role

The Incident Committee will operate from the time of the incursion up to and including the decision to move to eradication or management. In the case of eradication, it will form an eradication committee to oversee the eradication program.

Arrange an Incident Committee Meeting

The Chairman CARD, and the Chief Plant Quarantine Officer, Department of Agriculture will arrange an Incident Committee meeting by notifying the Industry Incident Committee and government representatives respectively, by phone, fax or e-mail as soon as practical.

Agenda & Confidentiality

The Department of Agriculture will initiate the Incident Response Plan that lays out the agenda and membership of this meeting.

Confidentiality is important until the first meeting is held and a briefing of the actual nature of the incident is known along with decisions regarding media releases. This prevents speculation and undue alarm by growers and the public.

Carrot Industry Biosecurity Plan

OTHER ACTIONS

The Chief Plant Quarantine Officer, Department of Agriculture will initiate a Benefit Cost Analysis and ensure a current Threat Data Sheet (TDS) is completed. This will provide background to any cost sharing arrangement negotiations.

The industry may engage an independent consultant to review the Benefit Cost Analysis conducted by the department by contacting the Manager of Economics and Marketing in the Department of Agriculture (9368-3333) who will assist the industry to find consultants with the necessary skills for the task.

Communication between Industry and Government

All growers will be given 5 days in which to check their crops and report suspect finds of the threat to the Department of Agriculture.

The Chairman, CARD and the Chief Plant Quarantine Officer, Department of Agriculture will arrange for a Situation Report to be sent out by fax or e-mail to the carrot organisations and key government representatives as the Incident Coordinator determines.

An abridged version of the situation report will be posted on the HortGuard® website (<http://www.agric.wa.gov.au/programs/app/industry/hortguard/>) to allow interested parties to remain informed.

The Industry Incident Committee members will make decisions on behalf of the industry based on the information available to them at that time.

Where broad industry liaison is required the Chairman, CARD will determine the most appropriate communication system and will notify relevant grower groups.

A final decision by industry on any issue lies with the Industry Incident Committee.

Industry media spokesperson

The Chairman, CARD is the single point of contact between industry and the media, unless the Incident Committee appoints someone else.

Media strategy by industry

The industry media spokesperson, in liaison with the Department of Agriculture media liaison officer for the incident and the Incident Committee will determine the media strategy for the particular incident.

The industry and the Department of Agriculture media spokesperson are to remain in close contact throughout the incident (emergency) to allow proper coordination.

Table 7 lists the desired outcomes and agreed actions relating to incident response, industry contacts and coordination.

Communication between Support Industries

In the advent of an incursion the industry would seek the support of associated companies and individuals to reduce the spread of the pest and allow for rapid control work to be conducted. These have been identified in;

Appendix 3: Potato industry, List of Trucking Companies and Packing Houses.

Appendix 4: Potato industry, List of Pre accredited Pest control operators and spray contractors.

Carrot Industry Biosecurity Plan

***Table 7: Desired Outcomes and Agreed Actions
Incident Response***

<i>Desired Outcomes</i>	<i>Actions, Roles & Responsibilities</i>	<i>Responsible party</i>
Up to date information on contacts and membership of positions outlined in the Carrot Industry Biosecurity Plan are available through The Chairman, CARD	INDUSTRY to ensure up to date lists of positions & members be maintained at all times and are available to the industry delegates	INDUSTRY
Incident Coordinators familiar with the Carrot Industry Biosecurity Plan are available.	The Department of Agriculture to allocate and train one Incident Coordinator for each of the Department of Agriculture regions.	The Department of Agriculture

CONTAINMENT, ERADICATION & MANAGEMENT

Issues

- Detailed information regarding high risk threats is held in several areas and it would be more efficient to collate it into one document/data base.
- A policy or procedure statement is required regarding support for individual growers/business affected by eradication activities.
- To oversee and resource eradication activities an Eradication Committee should be formed between the Department of Agriculture and industry.
- Trained staff members are needed to manage eradication programs.

Decision Making Criteria

Once a threat is detected and a survey conducted to establish the extent of spread, the incident committee is required to decide upon threat eradication or management. The Incident committee must decide on the following questions:

Is it technically feasible to eradicate?

If not, then threat management is the only option.

Is it economically justifiable?

Is the cost of eradication greater than managing/controlling the threat?

If the management cost is less, than it would normally be advisable not to proceed to eradication.

Is the industry affected able to raise funds to support the eradication and if so how much?

Even if it is technically feasible and economically justifiable, the costs involved and disruption to other enterprises may still put eradication out of reach from a practical perspective.

Growers may decide that they would prefer to live with the threat than contribute to the cost of eradication. Eradication costs may include compensating for loss of crop, as well as helping to resource the eradication campaign itself.

Growers will need to consider the fund raising mechanisms available for response and recovery after an incident outbreak. Some options are outlined below for consideration by the Carrot Industry.

Triggers And Limits

Criteria are required so that growers and the Department are aware of the **trigger** to commence an eradication response and the **limit** at which it becomes uneconomic to continue eradication activities. Triggers and limits criteria will assist the decision making process when an incident occurs. An informed decision based on previously agreed to criteria increases the chance of success during eradication or the application of management strategies.

The triggers and limits for response activities will include: (industry to nominate):

- | |
|--|
| 4. Where ___ cents per unit of production is not exceeded or % of crop value |
| 5. Total cost not to exceed \$ |
| 6. Other – please state |

The pests and diseases which most concern industry are those that:

- are difficult and/or expensive to control,
- cause large reduction in yield and quality, and,
- prevent market access.

To achieve the optimal level of investment in protection growers, industry and government should only invest in a protection activity where it is economically justified.

Risk assessment can indicate those threats which pose the highest expected cost (probability x consequences). Cost benefit analysis and economic impact assessments can point to the level of response activities that may be justified. The Department can provide a cost benefit analysis and similarly, industry may wish to arrange for an independent crop/market loss assessment and determine the level of industry support for impacted growers.

Fund Raising

Where funding is required for eradication activities, the industry's preferred a mechanism is:

Agricultural Produce Commission (APC)

Collection of funds by a grower's committee under the Agricultural Produce Commission (APC), created for the purpose of providing services that are widely shared throughout the industry.

The APC Carrot Producers Committee was established in 1994. The committee covers Western Australian carrot producers.

The carrot industry fee for service has been suspended in 1997, this was in response to the introduction of Ausveg National Vegetable levy. The fee for service will re-commence should the need arise for additional industry funding.

Carrot Industry Biosecurity Plan

The fee for service funds were mainly intended for research into carrot variety testing and promotion. The carrot industry had nominate functions (a) to (e) and (l) and (m) of the APC:

- (a) Advertise and promote the agricultural produce;
- (b) Control or develop the means of controlling pests and diseases if there is a likelihood of those pests or diseases affecting the quality or volume of output of the agricultural produce;
- (c) Conduct research in relation to any matter, if in the opinion of the producers' committee that research is of advantage to producers of the agricultural produce;
- (d) Conduct educational or instructional programmes relating to the production of agricultural produce;
- (e) Develop and expand markets for the agricultural produce in Western Australia and elsewhere;
- (l) Provide such other services for the agricultural produce as may be prescribed;
- (m) Arrange for the provision of all or any of the services or the exercise of any of the functions referred to in paragraphs (a) to (l) in whole or in part by another person or organization or in conjunction with the Commission or any other person or organization.

Industry will raise funds for response and recovery **before/during/after** an incursion. **(Industry to nominate)**

Industry **has/has not** negotiated a loan to fund activities such as eradication and grower support.

The formula for loss of production area and crop loss will be : **(Industry to nominate)**

- | | |
|----|---|
| 1. | Where _____ cents per _____ unit of production is not exceeded or % of crop value _____ |
| 2. | Where the time frame doesn't exceed ____ years _____ |
| 3. | Other – please specify _____ |
| | |
| | |

The formula for increased management costs aimed at eradication will be : **(Industry to nominate)**

1. Pay ____% of increased chemical and other additional management costs over and above standard operating outgoings for the property.
2. Please specify other options if more appropriate to your industry.

The policy for losses outside the industry include: **(Industry to nominate)**

Actions

Eradication Committee

The Eradication Committee will be required to deal with issues pertaining to finance along with physical and human resources. These include the following matters.

BUDGET AND COSTS

Review the budget and costs of the program as it proceeds.

Arrange access to resources through local authorities, other government agencies and determine issues in relation to in kind support, cost sharing etc.

Deal with issues regarding funding and resourcing of the program to completion, including when and where payments will be made.

LOSS ASSESSMENT AND SUPPORT

Arrange for independent crop loss assessment services and determination of the level of support for affected growers.

COUNSELLING

Financial and psychological support is available to growers and other directly affected people.

Engage a counselling service by contacting:

Rita Rosman

Rural Counseling Liaison Officer

Department of Agriculture

Tel: 9368 3160

Fax: 9367 4265

Email: rosman@agric.wa.gov.au

GROWER SUPPORT

Industry policy for support is that:


“Ideally no affected grower shall be better or worse off as a result of the incident and support received”.

Refer to Table 8 for a summary of desired outcomes and agreed actions related to containment, eradication and management.

Carrot Industry Biosecurity Plan

***Table 8: Desired outcomes and agreed actions
Containment, eradication and management***

<i>Desired outcomes</i>	<i>Actions, roles and responsibilities</i>	<i>Responsible party</i>
Eradication program manager available	The Department of Agriculture to make available an eradication program manager with the appropriate management and technical skills for the particular threat incursion	The Department of Agriculture
Industry support policy for individual growers	Develop details of support system for individual growers	INDUSTRY
Industry fund raising mechanism in place	Carrot industry to develop and implement fund raising mechanisms	INDUSTRY



RESEARCH & DEVELOPMENT

Issues

With rapid changes in trade, travel and technology there needs to be a constant monitoring of interstate and overseas research on high risk threats to Western Australia.

Actions

Refer to Table 9 for a summary of desired outcomes and agreed actions related to Research and Development.

**Table 9: Desired Outcomes and Agreed Actions
Research & Development**

<i>Desired Outcomes</i>	<i>Actions, Roles & Responsibilities</i>	<i>Responsible party</i>
Technical knowledge to be abreast of international and interstate research developments	The Department of Agriculture to monitor interstate and overseas research on high risk threats	The Department of Agriculture
	INDUSTRY to contribute knowledge and experience	INDUSTRY in kind
Reduced entry, spread and economic impact of threats through research	INDUSTRY to support research funding into protection issues associated with high risk threats to Western Australia through Research and Development Corporations and other organisations	INDUSTRY

COMMUNICATION & TRAINING

ISSUES

A communication program specific to the Carrot Industry is needed to operate alongside general publicity on the need to protect the whole of agriculture from exotic threats. Importers and people entering Western Australia need continual reminding about the importance of quarantine.

Individual industry members will play a vital part in educating customers and employees through point of sale posters and brochures showing a commitment to “clean and green” production systems made possible by planned threat management. These personal contacts will complement general publicity.

All people working on a farm as employees, advisers, suppliers and contractors need training in appropriate biosecurity procedures and recognition of suspect pests, diseases and weeds.

Consultants and industry agronomists need training to accept a front-line role in surveillance for exotic pests, diseases and weeds.

ACTIONS

The Department of Agriculture is committed to training its staff in biosecurity (farm hygiene) because staff often move from property to property in the course of their duties and have a responsibility to demonstrate appropriate standards.

Training of industry personnel should primarily be the responsibility of the industry, but the Department of Agriculture will provide technical advice.

Consultants, suppliers and contractors have a responsibility to adopt codes of practice for biosecurity to meet industry and individual property standards. The Department of Agriculture may assist in developing these codes. Ultimately the individual grower must establish and enforce appropriate standards for all visitors.

Development of appropriate identification guides and other literature will play an essential part in this, and agri-business should seek further training where required.

Refer to Table 10 for a summary of desired outcomes and agreed actions related to Communication and Training.

Carrot Industry Biosecurity Plan

**Table 10: Desired Outcomes and Agreed Actions
Communication & Training**

<i>Desired Outcomes</i>	<i>Actions, Roles & Responsibilities</i>	<i>Responsible party</i>
Up to date Carrot Industry Biosecurity Plan available over the Internet	Maintain the HortGuard® website to allow access to the Carrot Industry Biosecurity Plan and other relevant information	The Department of Agriculture
All commercial growers to play their part in protecting the Carrot Industry as outlined in the Carrot Industry Biosecurity Plan	The Department of Agriculture to produce leaflet for members of the Carrot Industry explaining the Carrot Industry Biosecurity Plan INDUSTRY to distribute leaflets explaining the Industry Biosecurity Plan to all members.	The Department of Agriculture INDUSTRY
Biosecurity plans in place on commercial properties	INDUSTRY to provide knowledge on existing and possible future farm practices.	INDUSTRY
All people in the Carrot Industry to be aware of restrictions on the movement of plants	Advertise the restrictions on the movement of carrot plants in all carrot growing areas	INDUSTRY
All commercial growers to be familiar with HortGuard® objectives for their industry	The Department of Agriculture to conduct biosecurity/HortGuard® field days.	The Department of Agriculture

APPENDICES

LEGEND

Entry potential:

The probability of entry of a pest depends on all pathways from the exporting country to the destination, and the frequency and quantity of the pests associated with them. The higher the number of pathways, the greater the probability of the pest entering the state.

Probability of the pest being associated with the pathway at origin – e.g. prevalence in the source area, occurrence of life stages that would be associated with the commodity, volume and frequency of movement along the pathway, seasonal timing, pests management, cultural and commercial procedures applies at the place of origin

Probability of survival during transport or storage – e.g. speed and conditions of transport and duration of the lifecycle, vulnerability of the life-stages during transport or storage, prevalence of the pest, commercial procedures applied.

Probability of pest surviving existing pest management procedures

Probability of transfer to a suitable host – e.g. dispersal mechanisms, whether the imported commodity is sent to few or many destination points in the state, time of year at which import takes place, intended use of the commodity, risks from by-products and waste.

Based on this information a ranking is developed.

- H= High - Very likely to occur, M = Moderate -Occurs with even probability, L= Low- Unlikely to occur, VL=Very Lo-Very unlikely to occur, EL= Extremely low- Extremely unlikely to occur & N=Negligible-Almost certainly will not occur

Establishment potential:

Probability of establishment

In order to estimate the probability of establishment of a pest, reliable biological information (life cycle, host range, epidemiology, survival etc) should be obtained from the areas where the pest currently occurs.

Factors to consider are:

Availability, quantity and distribution of hosts in the state.

Environmental suitability in the state

Potential for adaptation of the pest

Reproductive strategy of the pest

Method of pest survival

Cultural practices and control measures.

Based on this information a ranking should be developed.

- Please enter H= High - Very likely to occur, M = Moderate -Occurs with even probability, L= Low- Unlikely to occur, VL=Very Lo-Very unlikely to occur, EL= Extremely low- Extremely unlikely to occur & N=Negligible-Almost certainly will not occur

Spread potential:

Factors to consider

In order to estimate the probability of spread of the pest, reliable biological information should be obtained from areas where the pest currently occurs. The situation in the PRA area can then be carefully compared with that in the areas where the pest currently occurs and expert judgement used to assess the probability of spread. Factors to consider are:

Suitability of the natural and/or managed environment for natural spread of the pest

Presence of natural barriers

The potential for movement with commodities or conveyances

Intended use of the commodity

Potential vectors of the pest in the state

Potential natural enemies of the pest in the state.

Based on this information a ranking is developed.

- Please enter H= High - Very likely to occur, M = Moderate -Occurs with even probability, L= Low- Unlikely to occur, VL=Very Lo-Very unlikely to occur, EL= Extremely low- Extremely unlikely to occur & N=Negligible-Almost certainly will not occur

Carrot Industry Biosecurity Plan

Appendix 1. Carrot Industry. Threats present in Australia.

Carrot Industry Threat Summary Table for State Exotic Invertebrates

This document is a basic overview and assessments may change

Last up date: 7-Mar-04

Common name	Life form	Scientific Name	Primary host or weed of	Entry probability CPC	Establish probability	Spread probability	PTQ score	Human health consequences	Environmental consequences	Socio-economic consequences	Economic consequences
Garden slug Hedgehog slug	Slug	<i>A. hortensis</i> <i>A. intermedius</i>	Polyphage	M	M	M					
Silverleaf whitefly	Bug	<i>Bemisia tabaci</i> Biotype B*	Pph	H	M	H					
Chocolate-band snail	Snail	<i>Eobania vermiculata</i>	Pph	M	H	M					
Citrophilous mealybug	Bug	<i>Pseudococcus calceolariae</i>	Pph	H	H	H					

* Silverleaf whitefly is currently present in but restricted to two glasshouses in the northern metropolitan area of Perth. The establishment probability outside glasshouses would be Low to Negligible in the South West of WA, but would increase in areas north of Perth.

***Life form: Insect legend**

Btle	=	Beetles (weevils etc) (COLEOPTERA)
Bug	=	Stink bugs, aphids, mealybugs, scale, white flies & hoppers (HOMOPTERA)
But	=	Butterflies (LEPIDOPTERA)
Ewig	=	Earwigs (DERMAPTERA)
Fly	=	Flies & Midges (DIPTERA)
Locu	=	Locusts & grasshoppers (ORTHOPTERA)
Mite	=	Mites e.g. spider & gall mites (ACARI)
Moth	=	Moths (LEPIDOPTERA)
Slug	=	Slugs (GASTROPODA)
Snail	=	Snails (GASTROPODA)
Symp	=	Centipede-like Mandibulate of the Class Symphyla.
Thrip	=	Thrips (Thysanoptera)
Wasp	=	Bees & wasps (HYMENOPTERA)

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Carrot Industry Threat Summary Table for State Exotic Diseases

This document is a basic overview and assessments may change.

Last up date: 7-Mar-04

Common name	Life form	Scientific Name	Primary host or weed of	Entry probability	Establish probability	Spread probability	PTQ/DTQ	Human health consequences	Environmental consequences	Socio-economic consequences	Economic consequences
Licorice rot	Fun	<i>Mycocentrospora acerina</i>	Daucus carota (carrot), plus celery, pansy and many other ornamental bedding plants	M	L	H					
Nematode	Nem	<i>Neodolichodorus adelaidensis</i>	Wide host range including Daucus carota (carrots)	L	L	L					
Phytophthora root rot	Fun	<i>Phytophthora porri</i>	Daucus carota (carrots)	L	L	L					
Potato tuber nematode	Nem	<i>Ditylenchus destructor</i>	Dacus carota (carrot), onion, garlic, beetroot, sugarbeet, tomato, potato and many other plants	L	L	L					
Pythium root rot	Fun	<i>Pythium</i> spp. There are numerous <i>Pythium</i> spp. in WA and most have not been identified to species level.	Dacus carota (carrot), also parsnips	M	M	M					

LEGEND

* Disease legend	Vir = Virus	Plo = Phytoplasma/like organism
Nem = Nematode		
Bac = Bacteria	Fun = Fungus	

“Protecting the Carrot Industry is Everyone’s Business”

Carrot Industry Biosecurity Plan

Carrot Industry Threat Summary Table for State Exotic Weeds

This document is a basic overview and assessments may change
last updated

Table version 20/10/2003

Common name	Life form	Scientific Name	Primary host or weed of	Entry probability	Establish probability	Spread probability	Human health consequences	Environmental consequences	Socio-economic consequences	Economic consequences
Branched broomrape	aH	<i>Orobanche ramosa</i> L.	carrot					\$	\$	\$
Pennycress	aH	<i>Thlaspi arvense</i> L.								
Yellow nutsedge	pG	<i>Cyperus esculentus</i> L.								
Vipers bugloss	aH	<i>Echium vulgare</i> L.								
Cleavers	aH	<i>Galium aparine</i> L.								
Carpet weed	aH	<i>Mollugo verticillata</i>								
Parthenium weed	pH	<i>Parthenium hysterophorus</i> L.								
Creeping buttercup	pH	<i>Ranunculus repens</i> L.								
Corn sow thistle	aH	<i>Sonchus arvensis</i> L.								

Carrot Industry Biosecurity Plan

* Weeds legend

T = Tree

S = Shrub

H = Herb or Forb

G = Graminoid (ie: Poaceae, Cyperaceae, Restionaceae, Juncaceae and other wind-pollinated monocots, as distinct from lilioids like Anthericaceae, Liliaceae, Iridaceae, etc.)

C = Climbers (Encompasses all kinds of climbers, not just vines)

Modifiers:

p for Perennials

examples

pT = perennial tree

b for Biennials

pG = perennial graminoid

a for Annuals

aC = annual climber

w for Aquatics

aH = annual herb

bH = biennial herb

wG = aquatic graminoid

wH = aquatic herb

Carrot Industry Biosecurity Plan

Carrot Industry Threat Summary Table for State Exotic Animals

This document is a basic overview and assessments may change

Last up date .22.../...10.../...03.

Table version 20/10/2003

Common name	Life form	Scientific Name	Primary host or weed of	Entry probability	Establish probability	Spread probability	Bomford Risk Assessment Model	Human health consequences	Environmental consequences	Socio-economic consequences	Economic consequences
*House Sparrow	*Bird	<i>*Passer domesticus</i>	*	*H	*H	*H	*(est) Extreme	\$	\$	\$	\$
Canada Goose	Bird	<i>Branta canadensis</i>		M/H	M	M	Serious				
Sambar Deer	Mammal	<i>Cervus unicolor</i>		L/M	H	H	Extreme				
Chital Deer	Mammal	<i>Axis axis</i>		L/M	H	H	(est) Extreme				
Hare	Mammal	<i>Lepus europaeus</i>		L/M	H	H	(est) Extreme				
Egyptian Goose	Bird	<i>Alopochen aegyptiacus</i>		M	M	M	Extreme				

Animal legend

Bird = Bird
Mam = Mammal
Rep = Reptile
Amp = Amphibian
Fish = Fish

Appendix 2. Farm Biosecurity/Hygiene

General

- The general risk of spreading pests and diseases on potato farms is when propagation material, people, machinery and equipment move from property to property and region to region.
- It is the responsibility of the owner/manager to ensure biosecurity standards are undertaken on the property to reduce individual property risk.
- Each property to undertake a biosecurity/quarantine education and training program for their employees and related personnel.
- Each property to undertake an effective monitoring/pest management program.
- Each property to erect informative signs at the entrance of the property that outline basic biosecurity requirements.
- Each property to report suspect plants/pests/diseases to the Department of Agriculture for identification. Failure to do so may lead to imposition of a fine under the Plant Diseases Act 1914 and Regulations 1989 or the Agriculture and Related Resources Protection Act 1976-1980.
- Vehicle movement around the property is to be to a minimum (especially when the soil is wet).
- Include farm biosecurity in quality assurance systems.

Propagation Material

Importation of Carrot Material

Carrot plant material must be brought into WA through quarantine. Failure to do so jeopardises the industry in Western Australia and may lead to prosecution under the Plant Diseases Act 1914 and Regulations 1989.

State Carrot Material

Purchase carrot seed material that has been grown and prepared with the aim of minimising the spread risk of pests and diseases to the area

Carrots

Carrots are often moved from one region to another. Some guidelines to minimise pest and disease spread are:

- The property from which produce is to be taken and transported to another property or region for processing should maintain an effective monitoring/pest management program.;
- All properties supplying produce should have access to high-pressure wash down facilities associated with a concrete or tarmac pad. It is preferable that this facility be located on the property. If the facility is not on the property then it should be in close proximity to the property and definitely within the region from where the produce is being supplied;
- When new pest & disease outbreaks are likely all waste emanating from the produce, should not be disposed of in the growing area but should be taken to a site at least 100m from the nearest carrot plant;
- All waste emanating from the produce may alternatively be hot composted;

Carrot Industry Biosecurity Plan

- Trailers, crates and bins must be cleaned of all soil and vegetable matter before being taken onto a property. They should also be cleaned to remove soil if they are transporting produce to another property or region; and
- The water and soil from cleaning should not go into the property or the property irrigation water supply but away from the property and irrigation water supply.
- To avoid a chemical residue issue all property personnel undertaking spraying activities should complete the “Farmcare – chemical users course”. All property spray operations should be recorded into a spray diary and accompany each consignment of produce. All properties should contact their local re-seller, chemical company, or the Department of Agriculture if they are unsure about chemical residues.

People Movement

- All persons entering the property should have a clear view of the informative signs to the entrance of the property that outline the property’s basic biosecurity requirements (eg not to wander through the plants without prior approval).
- All visitors to the property should park their cars in an area designated specifically for this purpose or remain on farm roadways.
- All employees should have a designated parking area.
- All employees should be transported around the property in vehicles based permanently on the property.
- All visitors and employees should be made aware of the importance on ensuring their footwear and clothing are free from any ‘loose’ dirt and vegetable matter if they have been amongst the plants before leaving the property.
- All properties should provide wash down facilities (eg scrubbing brushes and footbaths) for persons entering or exiting the property.
- The water and soil from this wash down facility should not go into the property or the property’s irrigation water supply, but away from the property and irrigation water supply.

Machinery and Equipment

There are some restrictions imposed on machinery and equipment from interstate or overseas. If there is any uncertainty contact, Australian Quarantine and Inspection Services (9311-5333) for the latest requirements.

- Small items of equipment (eg, hand post hole rammers) should be cleaned of all soil and vegetable matter before being taken into and leaving a property.
- All equipment and tools used on a property should be washed down with high pressure to remove soil and vegetative matter on a concrete or tarmac pad before the truck leaves the property. If there is no wash down facility on the property then it should be in close proximity to the property and definitely within the region from where the machinery and equipment is being moved.
- Water from the wash down should not go into the property or the property irrigation water supply but away from the property and irrigation water supply.
- All property owners/managers should visually inspect machinery or equipment before it comes onto their property to ensure it is in accordance with their biosecurity standards and access should be denied if it is not in accordance with their standards.

Carrot Industry Biosecurity Plan

Appendix 3 – Carrot industry, List of Trucking Companies and Pack Houses.

	First name	Surname	Company Name	Skills	Address	Address2	Phone	Fax	e-mail
Mr									

Carrot Industry Biosecurity Plan

Appendix 4 – Carrot industry, List of Pre accredited Pest control operators and spray contractors.

	First name	Surname	Company Name	Skills	Address	Address2	Phone	Fax	e-mail
Mr									