



Australian Cherry Industry Biosecurity Management Programme

Australian Cherry Industry Biosecurity Management Programme - June Draft 2015

Disclaimer

The information contained in this report is intended for stakeholders within the Australian Cherry Industry. It is based on the best information available at the time of production and should be used as a general guide only. While every endeavour has been made to ensure the accuracy of the content, it is the ultimate responsibility of the individual producer or exporter to confirm the information contained herein. Accordingly, Cherry Growers Australia Inc will not accept liability for loss or damage of any kind caused by reliance on this information.

Contributors

Mr Simon Boughey, CEO, Cherry Growers Australia
Dr Andréa Magiafoglou, Independent Researcher

Acknowledgements

The contributors of this document would like to gratefully acknowledge the assistance, support and feedback provided by the following individuals in creating the Australian Cherry Industry Biosecurity Management Programme.

All members of the Cherry Growers Australia Cherry Export Working Group, including:

Mr Hugh Molloy, Chair
Mr Michael Rouget, Deputy Chair
Mr Craig Boulton, CEWG
Mr Tim Jones, CEWG

Cherry Growers Australia, Biosecurity Management Programme Team:

Dr Penny Measham, Tasmanian Institute of Agriculture
Ms Charlotte Brunt, Biometry
Mr Stuart Burgess, Horticulture Innovation Australia Limited
Mr Nick Featherstone, Fruit Growers Tasmania,
Mr Peter Morrison, Roberts Ltd, Tasmania

Federal Department of Agriculture

NSW Department of Primary Industries

SA Department of Primary Industries and Regions

Vic Department of Economic Development, Transport, Jobs and Resources

© Cherry Growers Australia Inc 2015

This work is copyright except where attachments are provided by other contributors and referenced, in which case copyright belongs to the relevant contributor as indicated throughout this document. Apart from any use as permitted under the *Copyright Act 1968*, no part may be reproduced by any process without permission from Cherry Growers Australia Inc.

Request and enquires concerning reproduction and rights should be addressed to:

Simon Boughey CEO CGA
Phone: 03 6231 1229
Email: ceo@cherrygrowers.org.au
Website: www.cherrygrowers.org.au

Australian Cherry Industry Biosecurity Management Programme - June Draft 2015

The Australian Cherry Industry Biosecurity Management Programme

Ensuring Australian Cherries are Free from Pests and Diseases of Quarantine Concern

Introduction

Australia produces some of the world's best cherries. While the majority of producers are multi-generational farming families with a strong passion for this delicate fruit, in recent years there has been new investment within the Australian Cherry Industry from both local and overseas stakeholders. The Australian Cherry Industry is represented by Cherry Growers Australia (CGA) and supported by Horticulture Innovation Australia Limited (HIAL).

Currently 25% of Australian cherries are exported to around 30 protocol and non-protocol countries in a highly competitive international market. The Australian Cherry Industry Strategic Plan 2012-2017 and Export Road Map 2012-2017 has indicated strong growth within the Australian Cherry Industry in the coming years, with annual production climbing to approximately 15,000 to 18,000 tonnes per season. This, combined with world class agricultural and manufacturing practices, with a focus on biosecurity safety, will allow growers and exporters to increase the quantity of Australian cherry exports to 50% of total national production. In the 2014/15 season Australia exported 3800 tonnes, which was an increase of 30% on the previous year.

The harvest period for Australian cherries is from late October through to late February. Significantly, this harvest window is counter-seasonal to the northern hemisphere where most of the world's consumption lies. This also means the supply of fresh Australian cherries does not compete in any way with fresh cherries grown in the northern hemisphere during this period.

The standout transport advantage for Australian cherries is our abundance of airfreight capacity. Currently 95% of all Australian cherry exports are transported by airfreight to non-protocol and protocol markets. This means Australia is in a position to supply freshly grown cherries that can be consumed within 48-72 hours from harvest. This delivery period is in stark contrast to some southern hemisphere producers who rely on sea freight that requires a total journey of 20-45 days. During this time period cherries lose a significant amount of flavour and quality. It is for this reason that the Australian Cherry Industry's priority is to maintain airfreight access to all phytosanitary and non-phytosanitary markets, with sea-freight only used as a backup option.

Fruit quality and biosecurity protection are paramount within the Australian Cherry Industry. It is our aim to provide international markets with superior fruit that is high in taste, colour and quality, and above all free from pest and disease.

To do this, the Australian Cherry Industry will engage in a Biosecurity Management Programme to provide full confidence to all international markets that Australian cherries not only exceed international quarantine requirements, but are also of exceptional quality.

Market Access and a Collaborative Approach

Within the Australian Cherry Industry, the Biosecurity Management Programme has the endorsement of all growers and exporters as the direction required to achieve our objectives of:

- Increasing exports to 40 - 50% of the annual crop by 2017-2020;
- Increased airfreight access as a priority to all importing markets;
- Ensuring there are commercially viable protocols in place; and
- Providing a tool that can be used by all stakeholders for the next 10 years in market negotiations and beyond.

Australian Cherry Industry Biosecurity Management Programme - June Draft 2015

To ensure the success of this approach, the Australian Cherry Industry will work and collaborate with the following team of stakeholders to ensure we have market access now and into the future. These are:

Growers who are looking to export to non-protocol and protocol markets, technical staff and agronomists.	Exporters and wholesalers both here in Australia and in the importing countries.	Tasmanian Institute of Agriculture as lead research agency for cherry research and other research bodies here and internationally.	Local Government that may also be part of monitoring processes.
Horticulture Innovation Australia Limited and programs linked to export and trade shows.	Federal Departments of Agriculture and Trade for negotiation and linked to national strategies on Fruit Fly, biosecurity and working with the Office of Horticultural Market Access (OHMA) and Horticulture Export Industry Consultative Committee (HEICC).	Governments of importing countries through negotiating and audits teams and officers.	State agencies responsible for Agriculture and Primary Industry.

This new approach is a great template to set the pathway for the Australian Cherry Industry and its exporting opportunities out to 2025.

Market Opportunities

The implementation of the Biosecurity Management Programme within the Australian Cherry Industry will assist to facilitate, expand and refine trade opportunities within the following market groups:

Open markets – markets that have no tariff or phytosanitary restrictions. The main limitations to trade within open markets are factors such as competitiveness and capability of supply, or simply supply and demand. These include Hong Kong, Singapore and Malaysia.

Sophisticated markets – markets that are highly developed and have sophisticated supply chains into retailers. They are also highly regulated and restrict or prohibit trade for many products. These markets have a strong demand for Australian citrus, but few other Australian fresh fruit products. They include Japan, United States, Canada and New Zealand.

High maintenance markets – markets that have seen significant growth in demand, yet involve authorities that are changing import conditions to the detriment of growth potential. These include Taiwan, Thailand, Vietnam and Indonesia.

Strategic markets – markets that have involved considerable market access efforts, and potentially hold strong volumes out of proportion of any trade experienced to date due to population and economic expansion. These include China, South Korea and India.

Long distance markets – markets that are large consumers of cherries and relatively low trade barriers, except for the distance itself and the logistics required to service these markets effectively. These include United Kingdom and other European nations, Russia and also Middle East.

Australian Cherry Industry Biosecurity Management Programme - June Draft 2015

Introduction to the Biosecurity Management Programme

It is the goal of the Australian Cherry Industry to produce high quality fruit that is free from pest and disease. The Biosecurity Management Programme (BMP) described in this report provides a holistic approach to the production of cherries within Australia. It combines control measures and checkpoints for ensuring cherries are free from pests and diseases of quarantine concern, and to provide a consolidated, demonstrated and qualified approach for expanding market access for cherries, regardless of the growing region in which it is produced. This report highlights the process and steps undertaken to qualify for market access and satisfy trading partners that:

"Australian cherries are free from pests and diseases of quarantine concern."

As Integrated Pest and Disease Management (IPDM) techniques in farm and orchard management improve, the industry is shifting towards a more ecological and sustainable approach to cherry production through a Biosecurity Management Programme and implementation of a Systems Approach. As a base, the industry's long-standing Good Agricultural Practices (GAP), Good Manufacturing Practices (GMP) and existing IPDM standards provide robust foundations upon which to build and extend the Australian Cherry Industry's Biosecurity Management Programme.

The Biosecurity Management Programme is all encompassing, and includes a full spectrum of management and quality principles in cherry production, pest and disease management, research, education, training and market access. These include, but are certainly not limited to:

- Implementing a nation-wide crop monitoring database to immediately highlight or detect any emerging pest issues
- Developing early warning pest detection systems
- Providing training and education for all growers with regard to quality assurance, and export quarantine requirements of importing countries
- Providing regular training workshops to ensure all growers and personnel are up to date with latest research findings, pest information and implementing rigorous IPDM practices at the orchard level
- Providing comprehensive export information through the Australian Cherry Industry Export Manual – updated yearly
- Providing comprehensive grower information through the Australian Cherry Production Guide
- Identifying and supporting key research areas to back the industry in regard to export, orchard management and fruit quality
- Manage current pest issues and implement internationally accepted management principles
- Identifying future risks associated with climate change and shifts in pest/disease distribution

In this respect, it is the aim of the Australian Cherry Industry to propose a multipronged approach to provide full confidence that Australian cherries are free of quarantine pests and diseases of concern. Furthermore, adopting a BMP, which encourages prudent rather than indiscriminate chemical use, will reinforce Australia's clean and green image, and allay consumer concerns with respect to spray residues.

However, it is our desire to extend upon this to provide assurances that cherries from Australia are free from pest and disease and will not pose any quarantine threat to importing countries.

Australian Cherry Industry Biosecurity Management Programme - June Draft 2015

Cherry Production Regions within Australia

The major cherry production zones in Australia are located in New South Wales, Victoria, South Australia and Tasmania, with smaller production areas located in Western Australia and Queensland. Figure 1 demonstrates the main production areas by state (Cherry Growers Australia www.cherrygrowers.org.au).

Within mainland Australia, the Tri-State Fruit Fly Exclusion Zone (FFEZ) was established in 1994 to help protect produce markets in South Australia, New South Wales and Victoria from QFF. Within the FFEZ there are three Pest Free Areas (PFAs). These are: Riverina (NSW), Riverland (SA) and Sunraysia (Vic). The FFEZ essentially acts as a buffer zone to assist protecting these three main horticultural regions. Within Victoria, the Yarra Valley has recently been designated and accepted domestically as a Pest Free Place of Production (PFPP) for Queensland Fruit Fly.

Tasmania, as a whole, is an internationally recognised Pest Free Area for both Queensland fruit fly and Mediterranean fruit fly.



Figure 1: Australian cherry growing regions.

Cherry Varieties

Cherry growing regions across Australia span a huge geographic area and encompass a variety of climatic zones. In this regard the production of many cherry varieties is possible; Merchant, Van, Kordia, Lapin,

Australian Cherry Industry Biosecurity Management Programme - June Draft 2015

Bing, Supreme, Empress, Stella, Sweetheart, Simone, Burlat, Rons Seedling, Sylvia, Black Star, Chelan, Early Sweet, Tulare, Brooks, Royal Rainier, Earlise, Ferprime, Regina, Sweet Georgia, Santina, Samba, Red Crystal, to name a few. The availability of such a broad range of cherry varieties allows the Australian Cherry Industry to meet the needs of a wide variety of international markets.

Pest and Disease Management

The Australian Cherry Industry, through the Biosecurity Management Programme, takes a proactive position with regard to pest and disease monitoring and management. Through workshops, training and a comprehensive export resource manual, the industry ensures all cherry growers are kept up to date with the latest research, standards and export requirements of all pests and diseases of quarantine concern. In addition to this the industry, through the Biosecurity Management Programme, is developing predictive pest tools to allow growers to actively prepare for the season ahead and implement appropriate management procedures where required.

For any pests and diseases that have the potential (or even remote potential) to pose a threat to the industry in future years, the Biosecurity Management Programme is developing an awareness program for growers, whilst also developing action management strategies should current pest and disease distributions shift. Information on potential future pests and diseases of economic and/or quarantine concern will be updated regularly.

In consideration of the key aspects and concerns of importing countries, the majority revolve around Queensland fruit fly (*Bactrocera tryoni*, QFF) and Mediterranean fruit fly (*Ceratitis capitata*, Medfly). This report will continue on by describing the direction and approach the Australian Cherry Industry is taking to ensure all Australian cherries are free from fruit fly, as well as other pests and diseases of quarantine concern, by implementing a Systems Approach developed through the Biosecurity Management Programme (BMP).

The Distribution of QFF and Medfly in Australia

In Australia, the distributions of QFF and Medfly are geographically distinct (Dominiak and Daniels, 2012). Medfly is distributed in small pockets in south-west Western Australia (Bonizzoni *et al.* 2004), while QFF is found in the eastern states of Australia (parts of Northern Territory, Queensland, New South Wales and north and north-east Victoria (Gilchrist *et al.* 2006). Occasional outbreaks of QFF occur in eastern parts of South Australia but are quickly eradicated (Dominiak and Daniels, 2012). For more information on the geographic distribution of QFF and Medfly, please see Dominiak and Daniels (2012).

Barriers to the movement of either QFF or Medfly from either Western Australia to the eastern states of Australia, or vice versa, are:

- Geographical – large expanses of arid country between Perth and Adelaide
- Biological – there is no fruit fly host material over most of the distance between Perth and Adelaide
- Regulatory – commercial and non-commercial movement of fruit fly host produce is regulated and/or strictly monitored.

Introduction and movement of either species from either area to the other could only occur via human assisted movement. There are two potential entry pathways: through commercial trade in host commodities; and via travellers moving small quantities of host fruit. Both of these pathways are regulated.

- In the case of commercial trade, domestic regulations require both treatment and certification of fruit moving from WA fruit fly infested zones.
- In the case of fruit moved by travellers, domestic regulations enforce the prohibition of transport of host fruit (e.g. via road blocks, quarantine measures at airports and punitive measures).

Australian Cherry Industry Biosecurity Management Programme - June Draft 2015

This regulation, combined with monitoring and response, has successfully prevented the establishment of Medfly in the eastern states and territories of Australia, and the establishment of QFF in Western Australia. Furthermore, the integrated national fruit fly surveillance system for exotic fruit flies allows for the early detection, response and management of any issues as they may arise (PHA, 2008).

In further response to the potential concerns with QFF and Medfly, Australia has developed National Codes of Practice to ensure a nationally consistent and internationally accepted approach to the management of fruit fly. These are the:

- National Code of Practice for the Management of Queensland Fruit Fly, *Bactrocera tryoni*. (1996) (Currently being updated)
- Draft National Code of Practice for the Management of Mediterranean Fruit Fly, *Ceratitis capitata*. (1996)

Australia is at the forefront for research and development procedures in the management and control of fruit fly. With world class researchers, the nationally implemented Codes of Practice for the management of fruit fly, development of the National Fruit Fly Strategy through Plant Health Australia in collaboration with federal, state and territory governments, and industry partners, Horticulture Innovation Australia Limited (the not-for-profit grower owned Research and Development Corporation), advances in sterile insect technology, developments in control procedures; it is clear that Australia devotes a significant amount of resources to the management of fruit fly.

Association between Fruit Fly and Cherry Growing Regions

Cherry production in Australia occurs across a variety of climatic zones that are associated with a varied risk of QFF and Medfly. Some of these climatic zones are within the biological tolerance limits of QFF and Medfly, other zones are considered marginal for each species, and, finally, there are areas that do not permit the establishment of either QFF or Medfly populations at all. As stated earlier, QFF is restricted to the eastern states, and Medfly to pockets within Western Australia.

Through a comparison of cherry production regions and areas where fruit fly are known to exist, it is clear that different growing regions have varied risk of fruit fly during harvest periods. It is this differentiation and geographic variability in production zones, fruit phenology and the biological tolerances of fruit fly that can allow areas to be categorised and managed according to fruit fly risk. Further, this variability allows the industry to create a series of management strategies with a systems approach embedded within to effectively deal with the risk of fruit fly across different regions (Jessup, 2015).

Area Wide Designations, Localised Area Designations and Harvest Windows

The establishment of Pest Free Areas (PFA), Pest Free Places of Production/Pest Free Production Sites (PFPP/S), Areas of Low Pest Prevalence (ALPP) and identification of harvest windows can facilitate export for commodities that are associated with potential phytosanitary concerns. The advantages in establishing areas such as these may include improved market access, increased marketability of the product, a reduction in pesticide use and the removal of post harvest end point treatments. The establishment of a particular area will frequently depend on the distribution and biological characteristics of the pest, operational capabilities and administrative ability to manage the area.

It is the position of the Australian Cherry Industry, through the Biosecurity Management Programme, to identify the cherry growing areas that can be best managed through these various area designations, while also providing a stringent and stand alone Systems Approach management programme within. One of the intentions of the BMP framework is to achieve domestic and international recognition of these areas and the Systems Approach pathway. In areas where the region would benefit from area wide

Australian Cherry Industry Biosecurity Management Programme - June Draft 2015

management, collaboration with State agencies, local councils, and other industries is encouraged and supported by the Australian Cherry Industry.

Recent research in this field by Andrew Jessup (in draft) has provided valuable information in identifying the associations between climate, fruit flies and cherry growing regions and can be used for the purpose of identifying potential areas designations and harvest windows with a Systems Approach operating within.

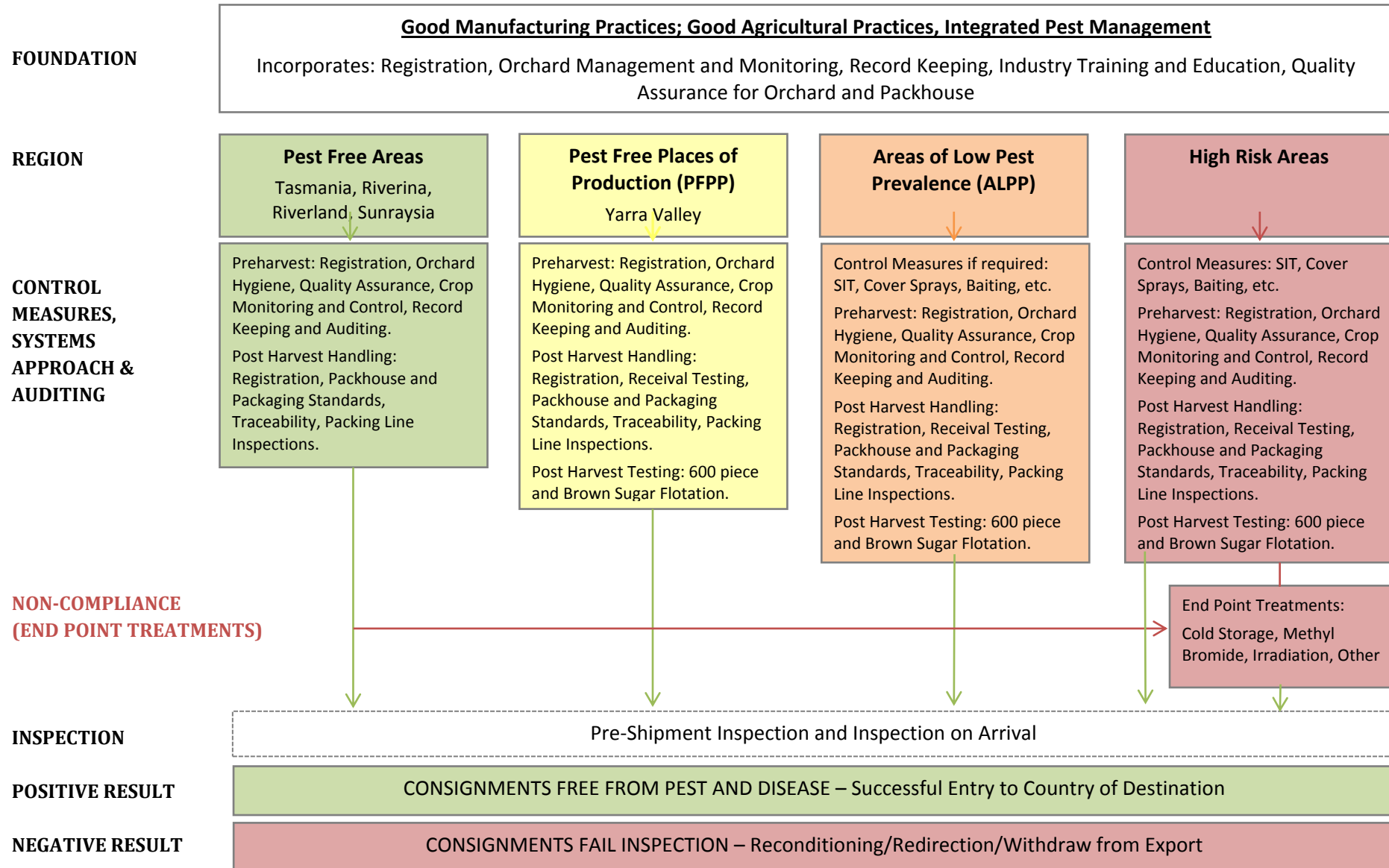
By definition:

- Pest Free Areas (PFAs) are “an area in which a specific pest does not occur as demonstrated by scientific evidence and in which, where appropriate, this condition is being officially maintained” (FAO, 1995, ISPM No. 4 Requirements for the Establishment of Pest Free Areas). For fruit flies ISPM No. 26 Establishment of Pest Free Areas for Fruit Flies (Tephritidae) also applies (FAO, 2006).
- Pest Free Places of Production or Pest Free Production Sites (PFPP/S) is “a place of production in which a specific pest does not occur as demonstrated by scientific evidence and in which, where appropriate, this condition is being officially maintained for a defined period” (FAO, 1999, ISPM No. 10 Requirements for the Establishment of Pest Free Places of Production and Pest Free Production Sites).
- An Area of Low Pest Prevalence (ALPP) is “an area, whether all of a country, part of a country, or all or parts of several countries, as identified by the competent authorities, in which a specific pest occurs at low levels and which is subject to effective surveillance, control or eradication measures” (FAO, 2005, ISPM No. 22 Requirements for the Establishment of Areas of Low Pest Prevalence). For fruit flies ISPM No. 30 Establishment of Areas of Low Pest Prevalence for Fruit Flies (Tephritidae) also applies (FAO, 2008).

Systems Approach for Cherry Production

A Systems Approach within the Industry includes a series of integrated measures designed to meet the phytosanitary import requirements of trading nations and that can be adopted as an alternative to current end point treatments for cherries. Measures within the Systems Approach are undertaken both pre-harvest and post harvest and follow the recommendations outlined in ISPM 14: The Use of Integrated Measures in a Systems Approach for Pest Risk Management, and ISPM 35: Systems Approach for Pest Risk Management of Fruit Flies (Tephritidae).

Pre-harvest measures include, but are not limited to, complying with GAP, trapping programmes that conform to the National Code of Practice (COP) for the management of fruit flies and applying suitable preventative and/or control measures across regions and/or orchards (also following recommendations outlined in the COP for measures followed in the event for incursions or outbreaks), record keeping and orchard hygiene. The pre-harvest measures for the management of fruit fly risk are in conjunction with an all-encompassing IPDM approach surrounding other pests and diseases that are of potential phytosanitary concern. Post-harvest measures include complying with GMP standards, inspection, extensive sampling, brown sugar flotation testing, packaging and transport standards to further verify the absence of pests and diseases and to maintain that state. The goal of this approach is to ensure that Australian cherries are free from pests and diseases of phytosanitary concern.



Australian Cherry Industry Biosecurity Management Programme - June Draft 2015

Steps to Achieving Biosecurity through a Systems Approach Pathway - Summary

This procedure covers all growers and exporters operating under a Systems Approach for the export of cherries (*Prunus avium*) from all non-PFA (Pest Free Area) designated regions in Australia. For more detailed information, please refer to CGA BMP Systems Approach documentation.

FOUNDATION

- 1. Registration:** Growers/orchards, crop monitors, packhouses and treatment facilities must be registered with DoA. Packhouses, inspection facilities and loadout facilities must be a DoA Registered Establishment.
- 2. GAP:** Growers (orchards) should follow Good Agricultural Practices (GAP), which includes **Integrated Pest and Disease Management (IPDM)** standards. IPDM in the Australian Cherry Industry includes cultural, biological and chemical controls, with regular monitoring, documentation and management to prevent pests and diseases of potential concern to importing countries.
- 3. GMP:** All packhouses should follow Good Manufacturing Practices (GMP).
- 4. Quality Assurance:** Any growers, orchards or packhouses intending to export to protocol markets must be certified to an acceptable minimum quality assurance level through:
 - HACCP (www.haccp.com.au)
 - Freshcare (www.freshcare.com.au)
 - SQF (Safe Quality Foods accreditation)
 - Global Gap

Safety standards and quality assurances should cover both orchards/block and packing facilities.

- 5. Verification:** All records pertaining to registration, quality assurance, crop monitoring, trapping and control, packhouse fruit inspections, hygiene and pest control programs, and product traceability must be kept for verification purposes.

PRE-HARVEST ACTIVITIES - ORCHARD MANAGEMENT

- 6. Hygiene and Sanitation:** All registered orchards must implement appropriate orchard hygiene and sanitation practices to minimise pests and disease pressure.
- 7. Control Measures:**
 - 7.1. General:** All orchards should follow industry standards for chemical usage within the orchard. Up-to-date spray diaries must be kept for a minimum of two seasons and detail date, block, ID, variety, pest target, pesticide, batch number, rate applied, withholding period and operator.
 - 7.2. Queensland fruit fly:** All registered orchards/blocks must have mandatory bait spraying with Naturalure (or equivalent). Spraying must occur with accordance with all label and APVMA Permit direction for the control of QFF.
- 8. Crop Monitoring:** Crop monitors must be registered with DoA and have received and passed DoA approved training.
 - 8.1. All Pests and Diseases of Phytosanitary Concern:** All orchards must follow industry standards for the monitoring of all pests and diseases of phytosanitary concern to the importing country. This includes standardised collection of data and record keeping.
 - 8.2. Queensland Fruit Fly and Mediterranean Fruit Fly**
 - 8.2.1. Trap Monitor – Self monitoring/Dept monitoring**
 - 8.2.2. Trap Management:** The Trap Controller must manage all appropriate records pertaining to QFF and MFF. Responsibilities include:

Australian Cherry Industry Biosecurity Management Programme - June Draft 2015

- Keeping an-up-to date database of all monitoring activities associated with the Systems Approach
- Communicating with all monitoring parties and the Plant Health Diagnostic Service for any positive finds.
- Relaying information and results back to DoA, this information to include any incomplete weekly submissions of the monitoring sheet and any positive finds.
- If thresholds have been breached, the Trap Controller will:
 - Suspend the registered orchard from the Systems Approach pathway for the remainder of the season.
 - Notify DoA, the importing country and relevant packhouse and/or export establishment.

8.2.3. Trap Identification: All traps to be numbered and location identified according to GPS.

8.2.4. *Trap Type and Lure*

8.2.5. *Trap Density*

8.2.6. Monitoring Frequency: All traps must be monitored weekly from budburst to end of harvest and records sent to the Trap Controller on a weekly basis.

8.2.7. *Thresholds*

- *No response required if a single fly is caught.*
- *If two flies are caught within 1km in 14 days, supplementary measures must be implemented:*
 - *Increased fruit sampling*
 - *Bait spraying - implement a program of 2 bait sprays*
- *Suspension from export via the Systems Approach pathway if:*
 - *Five or more flies are detected within 1km in 14 days.*
 - *One gravid female is detected*
 - *Larvae are detected*

8.2.8. Pre-harvest Visual Inspection: Registered crop monitors must check fruit for stings and larval activity from 8 weeks before harvest on 10 trees per block. If suspect fruit is found, samples to be sent to the Plant Health Diagnostic Service for identification within 24 hours.

8.2.9. Identification of Samples: Suspect flies, or infested fruit must be sent to a DoA approved Plant Health Diagnostic Service for identification within 24 hours. All samples must clearly identify the name of the orchard, block, description of submitted samples (fruit/fly), clearance and/or inspection date, name of crop monitor and trap number. Trap Controller to be notified that samples have been sent for identification.

POST-HARVEST ACTIVITIES

9. Packhouse/Loadout Registration

9.1. Registration

9.1.1. Registered Establishments: Packhouses and loadout facilities must be a DoA Registered Establishment and meet the requirements of the *Export Control Act 1982* and its subordinate orders when DoA export inspections are performed and/or loadout occurs.

9.1.2. Packhouse Registration:

- Packhouses must register with DoA.
- A packhouse Quality Manager must be nominated and approved through the DoA registration process or packhouse audit.

10. Packhouse/Loadout Facility Responsibilities

10.1. Packhouse Good Manufacturing Practices (GMP): All packhouses must implement Good Manufacturing Practices and be audited annually by DOA for compliance with import protocols.

Australian Cherry Industry Biosecurity Management Programme - June Draft 2015

10.2. Quality Assurance: Packhouses must have Quality Assurance certification (HACCP, Freshcare, SQF or equivalent, or according to customer requirements). Requirements include documented cleaning, hygiene and pest control programs and a documented traceability system.

10.3. List of suspended orchards for the season.

10.4. Inspection equipment: Hand lens with a x10 or x20 magnification and a knife.

10.5. Waste management of fruit: Waste fruit accumulated during packing should be promptly removed from the premises and disposed of appropriately.

10.6. Packhouses must have a documented Standard Operating Procedures manual which describes all processes relating to grading, handling and packing of fruit, including inspection processes verifying fruit is free from pests and diseases.

10.7. Queensland fruit fly controls: MAT placed around the packing shed at no more than 20m intervals. Records must be kept.

11. Packhouse Quality Manager Responsibilities

11.1. Packhouse Documentation, Inspection and Compliance under a Systems Approach

11.1.1. Have on hand a copy of the relevant workplans and MCoR document.

11.1.2. Have an understanding the physical appearance and inspection procedures for pests and diseases of quarantine concern.

11.1.3. Upon receipt, the Quality Manager is responsible for:

- Verifying the orchard/block is registered for export.
- Verifying orchard/block crop monitoring and spray program records.
- **Conducting a product receipt 600 unit inspection for QFF and MFF. Records and forms of the inspection must be kept for auditing purposes.**
- **Conducting a product receipt Brown Sugar Flotation inspection. Records and forms of the inspection must be kept for auditing purposes.**

11.2. Processing Requirements: Grading and packing must be carried out under the supervision of the packhouse Quality Manager. During processing, cherries must be subject to washing, culling, sorting and grading to ensure fruit is free from insects, mites, rotten fruit, twigs, leaves, roots and soil.

12. Packaging, Labelling and Product Security Requirements

12.1. Packaging requirements – Wooden packaging must be compliant with ISPM 15. Packaging material must be new and clean.

12.2. Security of packed product – All product must be packed according to import country requirements and industry standards. All packaging must ensure the product is secure from insect infestation or contamination.

12.3. Labelling - Packages must clearly adhere to the labelling requirements of the importing country.

13. Audits: DoA or DoA approved officers will audit all registered premises before the season commences. All packhouses must provide documentation for grower registration, packhouse registrations and export registrations.

14. Final Pre-shipment Phytosanitary Inspection: All cherry lots intended for export to protocol markets shall be subject to a final inspection by DoA to verify the absence of pests and diseases of phytosanitary concern.

15. Non-compliance: If a consignment presented for inspection is non-compliant, it shall be removed from export and a DoA investigation initiated to determine the cause for non-compliance. Corrective action will be the suspension or deregistration of the orchard/block and/or packhouse for the season subject to the findings of the investigation.

Australian Cherry Industry Biosecurity Management Programme - June Draft 2015

References

- Bonizzoni, M., Guglielmino, C.R., Smallridge, C.J., Gomulski, M., Malacrida, A.R. and Gasperi, G. 2004. On the origins of medfly invasion and expansion in Australia. *Molecular Ecology*, 13, 3845-3855.
- Dominiak, B.C. and Daniels, D. 2012. Review of the past and present distribution of Mediterranean fruit fly (*Ceratitis capitata* Wiedemann) and Queensland fruit fly (*Bactrocera tryoni* Froggatt) in Australia. *Australian Journal of Entomology*, 51, 104-115.
- Gilchrist, A.S., Dominiak, B., Gillespie, P.S. and Sved, J.A. 2006. Variation in population structure across the ecological range of the Queensland fruit fly, *Bactrocera tryoni*. *Australian Journal of Zoology*, 54, 87-95.
- Hueppelsheuser, T. 2010. Assessment of solutions used for the purpose of determining Spotted Wing Drosophila larval infestation in blueberry fruit. BC Ministry of Agriculture.
- Jessup, A. In Draft. Correlating fruit fly with cherry production and climate.
- PHA. 2008. Draft National Fruit Fly Strategy. Plant Health Australia, Canberra. Commissioned by the Primary Industries Health Committee.
- Yee, W.L. 2012. Detection of *Rhagoletis indifferens* (Dipt., Tephritidae) larvae using brown sugar flotation and hot water methods. *Journal of Applied Entomology*, 136, 549-560.

National Codes of Practice for the Management of Fruit Flies

- Anonymous. (1996). National Code of Practice for the Management of Queensland Fruit Fly, *Bactrocera tryoni*. Standing Committee on Agriculture and Resource Management.
- Anonymous. (1996). Draft National Code of Practice for the Management of Mediterranean Fruit Fly, *Ceratitis capitata*. Standing Committee on Agriculture and Resource Management.

ISPM References

- FAO. 1995. Requirements for the Establishment of Pest Free Areas. International Standards for Phytosanitary Measures No 4. IPPC, FAO, Rome.
- FAO. 1998. Determination of Pest Status in an Area. International Standards for Phytosanitary Measures No 8. IPPC, FAO, Rome.
- FAO. 1999. Requirements for the Establishment of Pest Free Places of Production and Pest Free Production Sites. International Standards for Phytosanitary Measures No 10. IPPC, FAO, Rome.
- FAO. 2002. The Use of Integrated Measures in a Systems Approach for Pest Risk Management. International Standards for Phytosanitary Measures No 14. IPPC, FAO, Rome.
- FAO. 2005. Requirements for the Establishment of Areas of Low Pest Prevalence. International Standards for Phytosanitary Measures No 22. IPPC, FAO, Rome.
- FAO. 2006. Establishment of Pest Free Areas for Fruit Flies (Tephritidae). International Standards for Phytosanitary Measures No 26. IPPC, FAO, Rome.
- FAO. 2007. Framework for Pest Risk Analysis. International Standards for Phytosanitary Measures No 2. IPPC, FAO, Rome.
- FAO. 2008. Establishment of Areas of Low Pest Prevalence for Fruit Flies (Tephritidae). International Standards for Phytosanitary Measures No 30. IPPC, FAO, Rome.
- FAO. 2012. Systems Approach for Pest Risk Management of Fruit Flies (Tephritidae). International Standards for Phytosanitary Measures No 35. IPPC, FAO, Rome.

Trapping Systems

- FAO & IAEA. 2013. Trapping Manual for Area-Wide Fruit Fly Programmes. Vienna, Austria.