



# ***B – QUAL***

***Australia Pty Ltd***

## ***APPROVED SUPPLIER PROGRAM***

### ***1.0 HANDBOOK***

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- *the Consultative Group,*
- *the Australian Honey Bee Industry Council,*
- *the Federal Council of Australian Apiarists' Associations,*
- *the Australian Queen Bee Breeders' Association,*
- *the National Council of Pollination Associations,*
- *the Honey Packers and Marketers' Association,*
- *Animal Health Australia,*
- *Food Standards Australia New Zealand,*
- *the Australian Quarantine Inspection Service,*
- *state Senior Food Safety Officers, and*
- *NSW Agriculture.*

*for researching, compiling and editing documentation for the B-Qual approved supplier program. Also, invaluable advice and comments were obtained from many scientists, beekeepers and agribusinesses in the Australian honey industry.*

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## ***Disclaimer***

*The opinions, advice and information contained in the B-Qual Australia Pty Ltd Approved Supplier Program handbook, manual and work folders have been provided to assist the bee and honey industry with participation in their quality assurance program. No responsibility or liability will be accepted in relation to any use or reliance on the material contained in the document.*

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## PREFACE

Adoption of a quality assurance program is essential if the honey industry is to comply with changing government regulations.

The B-Qual Australia Pty Ltd Program was developed to assist beekeepers and packers to comply with government regulations by producing honey and honey products of the highest standard. Consumers' expectations are for products to be safe and wholesome.

This booklet provides the beekeeping industry with information about the B-Qual program and how to develop an HACCP-based Food Safety Program. The basis of the program is the quality standards developed for each section of the industry. There has been wide consultation to establish the standards for apiary operations, extraction plants, biosecurity procedures, packing plants, organic production and other specialised activities.

The B-Qual standards are drawn from best beekeeping and best processing practices, which have been backed by research programs targeting factors affecting hygiene, quality and residues. They were originally developed by beekeepers, industry specialists and agribusiness representatives. This consultation will continue with reviews being conducted each year to fine-tune the standards to meet any changing industry needs.

Each member of the Australian beekeeping industry is an important participant in the B-Qual program. Through this involvement and the adoption of the industry standards, the program will achieve its goals and recognition in the market place.

I commend the adoption of the B-Qual program to you.

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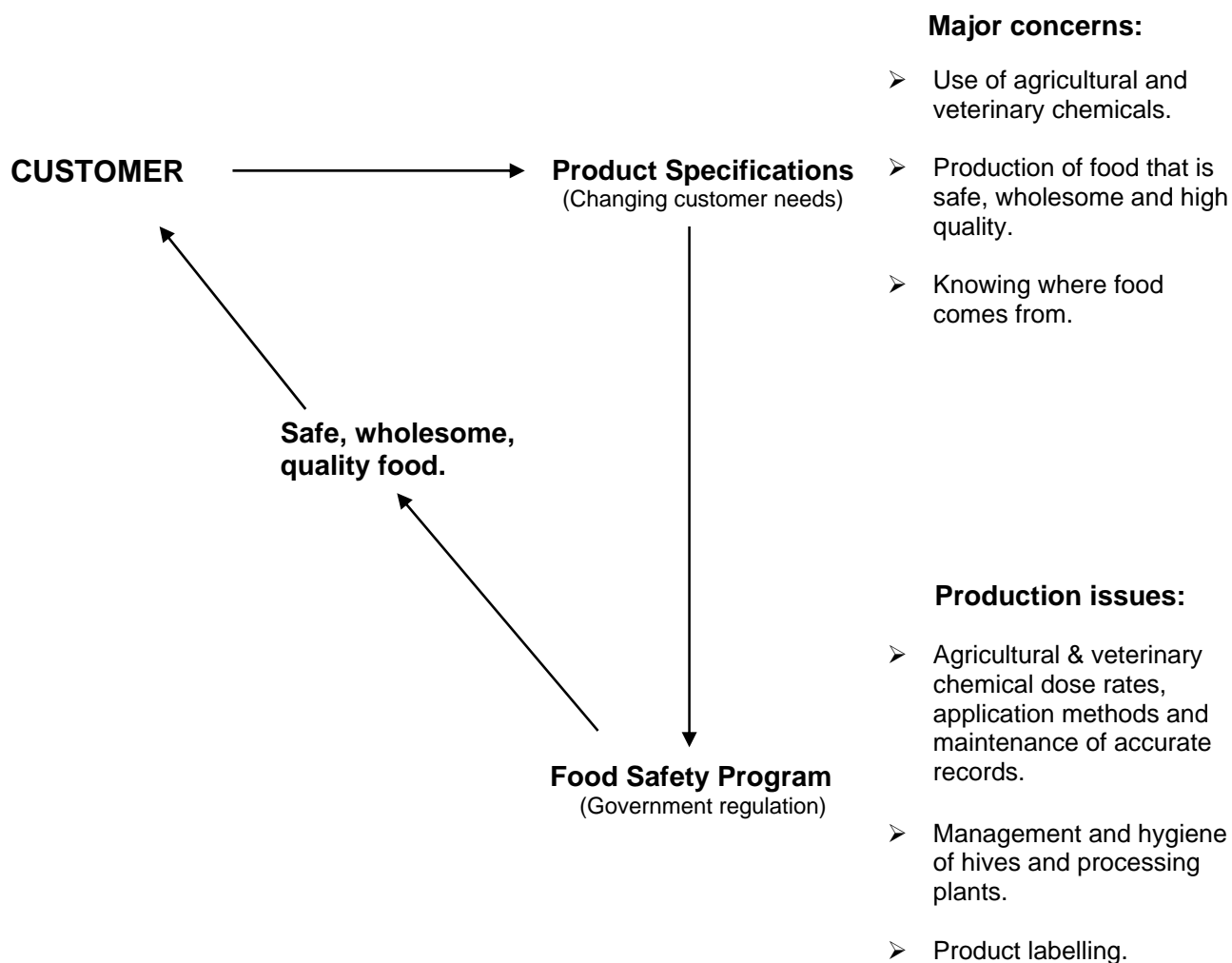
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## INTRODUCTION

**Welcome to the B-Qual Australia Pty Ltd Approved Supplier Program**, which has been developed to meet changing customer needs and government regulations. This handbook explains the reasons for the honey industry's move to adopt the B-Qual quality assurance program and how beekeepers can easily join the program for little cost.

Consumers are becoming increasingly concerned about the food they eat and, to address these issues, the honey industry must meet this challenge to remain profitable and to protect its future. The following diagram presents these changing customer requirements.



The B-Qual Approved Supplier Program is working with the beekeeping industry to ensure that customer requirements and government regulations are consistently and economically met. The program reviews industry standards regularly to ensure they remain current and relevant. Anyone can recommend changes or additions to the program providing there is appropriate information to support the changes.

An audit process provides an independent assessment that will demonstrate compliance with industry and government requirements.

## PRIORITIES & KEY ISSUES

### Priority:

To develop and maintain a quality assurance program for the honey industry.



### Key issue:

Food safety and quality assurance around the world has become a high priority to meet consumer & Government demands for safe, wholesome and high quality food.

### Priority:

To comply with:

- Food Standards Code (FSANZ) and Food Act requirements, and;
- Animal Health Australia (AHA) biosecurity requirements.



### Key issue:

Food standards have changed to protect Australian consumers.

Biosecurity requirements have changed to protect Australian agricultural industries and they must comply with the new requirements.

### Priority:

To maximise domestic and export market share for the Australian honey industry.



### Key issue:

The honey industry must maintain or increase domestic and export market share to maximise profitability and ensure a viable future.

**The B-Qual Approved Supplier Program** was developed for all beekeepers and processors involved in the beekeeping industry to meet these changing customer and government requirements.

Materials for this program are supplied through a FarmBi\$ funded package and include an explanatory handbook, a manual with a sample food safety program and work folders to keep field and processing records.

### For who?

- Beekeepers that sell to packers.
- Beekeeper/packers and Packers that sell to the public and/or export.
- Beekeepers involved in specialised activities.

### What is required?

- Maintenance of a few records, work instructions and references.
- Maintenance of additional documentation plus a detailed food safety program.
- Maintenance of extra documentation appropriate to the specialised activity.

## BACKGROUND

### *Concerns over food safety worldwide have reached such proportions that governments have increased their involvement in regulating the production and preparation of food.*

It is estimated that in Australia over four million people annually get sick from eating contaminated food (ANZFA, May '99). Those most at risk are the young, aged and immune-deficient sectors of the community. It costs the community over two and a half billion dollars each year from lost earnings and medical expenses.

The Australian Government wants to reduce this community cost and maintain the good reputation of Australian produced food.

Consumers are very aware of the link between food and health. They are becoming increasingly concerned about how their foods are produced, treated and handled.

Food that is of high quality, safe, wholesome and free from physical, chemical and biological contamination is the right of every consumer. They also want to be sure that the food they eat will be consistent in quality and specifications and have no detrimental effect in their genetic make-up.

Increasingly, domestic and international clients want assurances about the safety and quality of the honey products they are purchasing. Failure to provide this would lead to loss of markets for the Australian beekeeping industry.

### **Food Safety Authorities**

The move is to encourage all foods produced in every country to be supported by a quality assurance system.

The peak body in Australia is Food Standards Australia New Zealand (FSANZ). It is an independent partnership between Australia's Commonwealth, State and Territory governments and the New Zealand Government.

FSANZ's role is to protect the health and safety of the people of Australia and New Zealand by maintaining a safe food supply.

The FSANZ Board makes recommendations to the Australia New Zealand Food Standards

Council (ANZFSC) Ministers on changes to food standards in Australia and New Zealand. Ministerial representatives from all nine Australian jurisdictions and New Zealand sit on this council.

In Australia, food standards are contained within the Food Standards Code. These standards operate under legislation contained in the food or health acts in each State and Territory. The Code must be complied with by Australian food businesses, including manufacturers and importers.

**In December 2000, the Australia and New Zealand Food Standards Council agreed to adopt a new standard for food safety programs into the Food Standards Code in a form that enabled voluntary implementation by the States and Territories. This standard and the three standards that were adopted earlier in the year, introduce a preventative approach to reducing the incidence of food borne illness. They also reflect international best practice and take account of Australia's trading partners.**

Food businesses that sell direct to the public are required to comply with the Food Standards.

### **What is a Food Safety Program?**

A Food Safety Program is a documented program, which explains the strategy that you have implemented to help minimise the health risks associated with the production of a food. It demonstrates an understanding of the hazards, safe food practices and compliance with industry standards. It details responsibilities of staff in maintaining the system and demonstrating compliance through the keeping of accurate records.

### **Biosecurity**

Australia is free of a number of pests and diseases that would have a severe impact on honey production and profitability. Beekeepers must comply with federal and state legislation to maintain the high national health status of the Australian honey bee industry.

The key elements of national disease protection strategies relate to control over the importation of bees and bee products into Australia and the development of a biosecurity program.

**A biosecurity program is a collection of measures to minimise the risk of entry and spread of diseases and parasites in honeybee apiaries. They are designed with emphasis on managing risk without affecting profitability through excessively strict precautions.**

**Targeted diseases and parasites include not only exotic diseases but also endemic diseases that have a significant impact on production or trade.**

Under the Deed, which applies to Cost Sharing Arrangements between industry and governments for Exotic Diseases, the honeybee industry is required to develop a Biosecurity Plan. B-Qual has included biosecurity measures in their Approved Supplier Program

### **Why do I need to join the B-Qual Program?**

Simply, it is a means to ensure your future and that of the Australian beekeeping industry. The B-Qual Approved Supplier Program has been developed to address the major issues of,

- food safety,
- government regulations,
- biosecurity,
- industry standards.

Its aim is to help improve the prospects for marketing your product on the domestic and export market.

### **What will it cost?**

The cost of developing the program will vary for each beekeeper. Financial assistance and training will be provided through the FarmBi\$ program.

Registration costs and the compliance audit fee structure will be determined by B-Qual and auditing agencies.

### **Will I get more money for my product?**

The experience of most industries is no, you will not necessarily get more money for your product. However, you will have access to a larger number of markets than those not in a quality program.

While markets may be desperate for product during periods of shortage they can be ruthlessly discerning during periods of oversupply. Where honey is sold direct to the public and/or exported, business come under government regulations and in some States must operate under a food safety plan.

### **Will it mean extra work?**

It will require extra work. However, the majority of beekeepers in Australia are already operating according to best management practice. The B-Qual Approved Supplier Program simply provides the necessary paper work to record and explain these activities.

Many existing records could easily be adapted to meet the requirements of a quality assurance program in the honey industry.

## **B-QUAL AUSTRALIA LTD.**

**The B-Qual Approved Supplier Program** is designed to help those involved in the honey industry to develop quality systems. The program will allow compliance with new food standards and ensure a secure future for the industry by improving customer confidence. B-Qual Australia and their Approved Supplier Program are described below.

### **B-QUAL AUSTRALIA PTY LTD**

The Australian Honey Bee Industry Council (AHBIC) is the peak body representing the honey bee industry in Australia. Member organisations include:

- Federal Council of Australian Apiarists' Associations
- Honey Packers' and Marketers' Association of Australia
- Australian Queen Bee Breeders' Association
- National Council of Pollination Associations

AHBIC has established B-Qual Australia Pty Ltd to develop and maintain a quality assurance program for the honey industry. Their aim is to help improve the prospects for marketing all apiary products, including Queen Bees and Package Bees, on the domestic and export markets.

The B-Qual consultative team responsible for this program consists of industry members from across Australia and representatives from Food Standards Australia New Zealand (FSANZ) and the Australian Quarantine Inspection Service (AQIS).

### **B-QUAL APPROVED SUPPLIER PROGRAM**

The "Approved Supplier Program" was developed to help the honey industry comply with FSANZ's Food Safety Standards. The Standards were developed by FSANZ but are enforced by Government State and Territory Health Departments. Businesses that sell honey to the public are required to comply with "Food Safety Practices and General Requirements" (Standard 3.2.2) and "Food Premises and Equipment" (Standard 3.2.3). Also, Animal Health Australia (AHA) requires the honey industry to adopt an auditable biosecurity plan.

There are four documents supplied for participants in this program:

- 1.0 Approved Supplier Program Handbook
- 2.0 Approved Supplier Program Manual (with sample documents)
- 3.0 Approved Supplier Program Apiary Work Folder
- 4.0 Approved Supplier Program Processing Plant Work Folder

These documents can be used as a guide for those involved in the beekeeping industry to develop individual quality assurance programs. Alterations to the 'Approved Supplier Program Manual' can be made to suit individual businesses provided compliance with the B-Qual and FSANZ standards are maintained. The "Approved Supplier Program Handbook" is a detailed guide to the B-Qual program and should be read before reading the "Approved Supplier Program Manual".

Attendance at a B-Qual training workshop will give you an excellent understanding of the complete "Approved Supplier Program."

## B-QUAL & FOOD SAFETY

Eventually, all foods produced will need to be supported by a quality assurance system. Everyone expects that the food they eat will be safe and wholesome. Also, consumers are increasingly more interested in how foods are handled and treated prior to purchase.

The B-Qual Approved Supplier Program begins at apiary sites and moves through the supply chain to packers and retailers. By implementing the principles of food safety and industry endorsed quality assurance standards, businesses are sending a clear message that they are serious about meeting customer requirements.

**Food Safety** aims to minimise the risks associated with the purchase, storing, handling, processing and delivery of food. Responsibilities include:

- Protection of the public.
- Compliance with the law.
- Ownership and maintenance of a food safety program.
- An understanding of food hazards and how to take steps to control them.
- Training of all that work in the business in food safety issues.
- Ensure that the workplace is suitable for handling food and is in a good state of repair.

**The B-Qual Approved Supplier Program** has a number of support programs to make the Food Safety Program more effective. These include work instructions, records and references that can be adapted to suit individual beekeeping businesses. They do not have to be complicated; they just have to show that the business is taking the necessary steps to produce safe food. The support programs may include:

- Good beekeeping / processing practice.
- Labelling and product recall.
- Preventive Maintenance.
- Training.
- Calibration of equipment.
- Good hygiene practice.
- Pest control.
- Cleaning procedures.
- Evaluating customer complaints.
- Auditing.

The B-Qual Food Safety Program has been developed using scientific information together with good management practices already in existence and the HACCP approach. HACCP stands for Hazard Analysis Critical Control Point.

The HACCP system is a world-recognised system, which helps businesses identify their hazards and determines measures to control or eliminate them. B-Qual has developed a HACCP plan in which the principles apply to the majority of apiary and honey businesses. However, it is a simple task to add, delete or adapt sections according to individual business needs.

***Already in one State, honey packers and beekeeper/packers that sell honey direct to the public and/or export are required to have a detailed Food Safety Program. Other States have indicated they will also move toward this requirement.***

**Food Quality.** Quality hazards that cause an adverse affect on honey quality or the production process, and hence profitability, have also been addressed by the B-Qual program. Moisture content and over heating are typical examples.

**Organic Production.** The quality assurance principles are also included for organic production. The demand for organic honey is increasing and consumers expect reliable and consistent supplies of quality assured organic product.

**Specialised Activities.** Specialised activities in the beekeeping industry are also catered for in the B-Qual program. These include businesses involved in activities such as pollen production and queen bee breeding.

## B-QUAL APPROVED SUPPLIER PROGRAM MANUAL

For the B-Qual program, the honey bee industry has been divided into four sections:

**Industry Section 1:** Honey Sales to Packers from Beekeepers

**Industry Section 2:** Honey Sales to the Public and/or Export from Beekeeper/packers and Packers

**Industry Section 3:** Organic Production

**Industry Section 4:** Specialised Activities

To meet the needs of each section, this manual provides a list of the industry standards followed by an example of a Quality Policy Statement. Also, a list of records, work instructions and references are then provided as templates to assist with the development of quality assurance manuals. A Food Safety Program template is provided for those businesses that sell honey direct to the public and/or export.

Organic production and specialised honey industry activities are presented in separate sections, as these sections of the industry will require additional documentation that is specific to their business.

**The B-Qual Standards are industry endorsed minimum requirements for those involved in honey production and processing. The standards were written for those who want to implement a quality system to meet new food safety and biosecurity requirements as well as consumer expectations.**

Filling out a B-Qual Approved Supplier Program application form and attending an industry workshop will allow Associate Membership with B-Qual. Full registration with B-Qual requires compliance with the B-Qual Standards and implementation of a quality assurance program appropriate for their business. A signed Quality Policy Statement demonstrates commitment to the program. A sample statement is included in this manual.

The business applications of the B-Qual Standards are presented in the following table.

<b>Auditable Standards</b>	<b>Business Application</b>
Apiary	Honey collection from apiaries.
Extraction	Honey processed in an extraction plant.
Packer	Honey processed in a packing plant.
Biosecurity	Reduction in the risk of honey bee disease outbreaks and spread and product contamination.

Standards for the sections on Organic Production and Specialised Activities are presented in those sections of this manual. These Specialised Activities include:

- pollination
- queen bee
- pollen
- comb honey
- propolis
- royal jelly
- package bee

Standards, work instructions and records are also provided for these activities together with their standards. Particular emphasis will be placed on biosecurity audits of pollination services, queen bee breeders and package bee production.

## DEVELOPMENT OF B-QUAL MANUALS

The **B-Qual Food Safety Program** begins with the adoption of good beekeeping practice and good processing practice. Many of these accepted industry practices have been listed as standards in the B-Qual manual and can be checked off by businesses that want to register with B-Qual.

To support these activities, records, work instructions and references are required. These will demonstrate to an auditor that the business is operating according to the B-Qual program.

The samples in the B-Qual manual can be used, or alternatively, they can be altered, deleted or replaced to suit individual business needs. It is most likely that the B-Qual manual will need to be altered in some way because every business operates differently. Additional documents can also be added to the manual if they assist in improving the description of business activities. If setting up an extraction or packing plant the Capilano, "Honey Extracting Facilities & Food Safety Program" provides a useful guide.

Once the support programs and documentation are in place, the Food Safety Program can be written. A sample Food Safety Program, written according to the HACCP principles, is provided but this can be altered to suit individual businesses. However, it should be remembered that this is only one method of writing a Food Safety Program. Other methods can be used but a considerable time commitment is required in writing a Food Safety Program from the beginning.

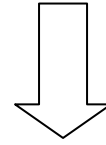
For beekeepers who supply honey to packers only, it is necessary to comply with Section 1 requirements of the B-Qual manual plus any extra information that is required by packers. These beekeepers will be part of the packer Food Safety Program; therefore, the amount of documentation required by B-Qual is reduced.

However, for beekeeper/packers who sell any honey, including organic honey, direct to the public, to other beekeeper/packers for export and/or to packers, a detailed Food Safety Program is required. (Sections 2 & 3)

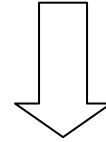
Those involved in specialised industry activities in most instances will need to comply with the food safety requirements plus the standards appropriate to their business (Section 4). However, there may be exemptions such as Pollinators or Queen Bee Breeders.

B-Qual Facilitators will assist businesses with the development of manuals to comply with the Approved Supplier Program.

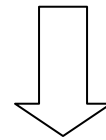
**GOOD BEEKEEPING PRACTICE  
&  
GOOD PROCESSING PRACTICE**



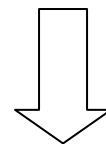
**CHECK OFF B-QUAL  
STANDARDS**



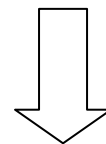
**ADAPT B-QUAL  
RECORDS, WORK  
INSTRUCTIONS AND  
REFERENCES**



**ADAPT B-QUAL FOOD  
SAFETY PROGRAM**



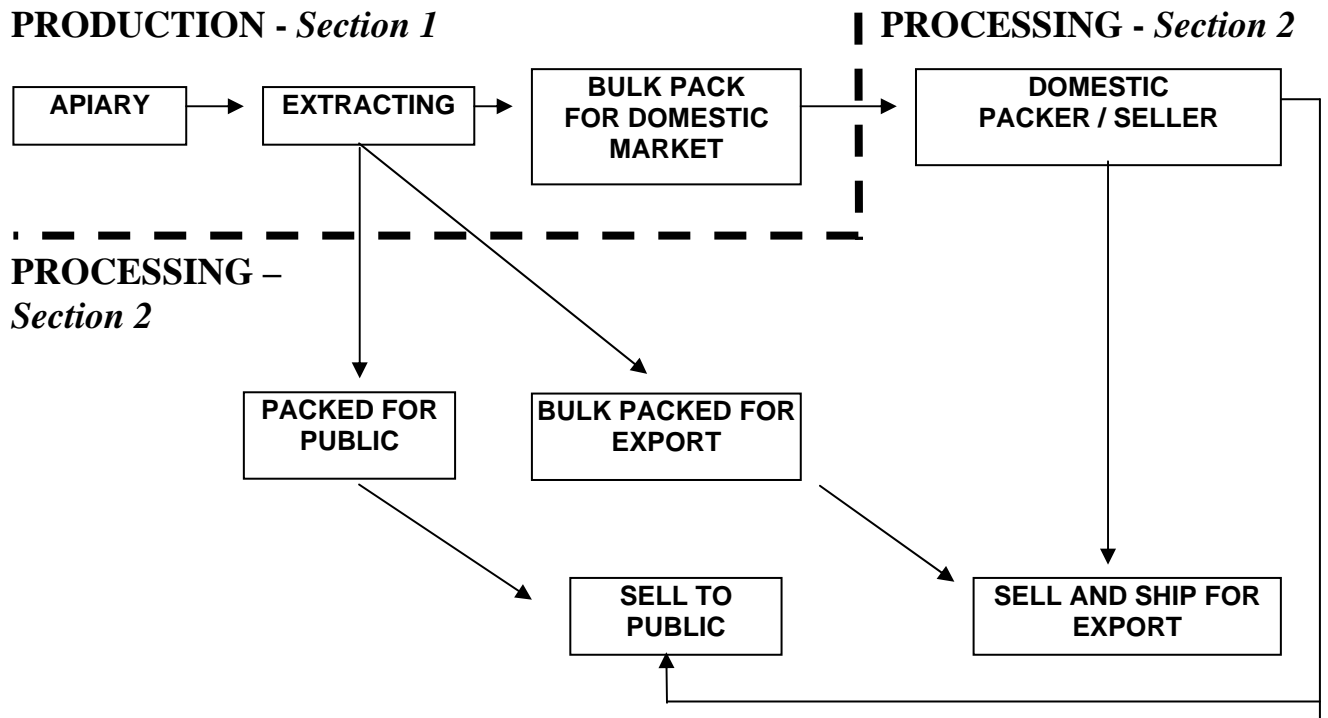
**BEEKEEPER / PROCESSOR QUALITY  
ASSURANCE MANUAL**



**MAINTAIN FIELD &  
PROCESSING PLANT  
RECORDS IN WORK  
FOLDERS**

## REGISTRATION WITH B-QUAL AUSTRALIA PTY LTD

The diagram below demonstrates honey movement between the production and processing sections of the beekeeping industry.



**Production (Section 1) – Honey Sales to Packers from Beekeepers.** Honey is forwarded by beekeepers to packers for processing. No honey is sold from the beekeeper direct to the public or for direct export.

The B-Qual standards applicable to the business are agreed with and checked off by the business owner who should then prepare and sign a Quality Policy Statement to demonstrate commitment to the program.

The sample records and work instructions should be examined by the beekeeper and incorporated into the business to allow implementation of the B-Qual program. Alterations can be made to these documents or existing beekeeper records can be used provided there is compliance with the standards.

Approved Supplier Program Work Folders (record folders) for field and honey extraction plant activities are included in the B-Qual package.

These businesses will also need to meet any requirements requested by the packing plant that they supply. A detailed food safety plan will be maintained by the honey packing business.

**Processing (Section 2) – Honey Sales to the Public and/or Export from Beekeeper/packers & Packers.** This section is for honey packers and beekeeper/packers involved in processing and selling honey direct to the public and/or export.

Additional standards, records and work instructions plus a detailed Food Safety Program are provided and must be maintained for B-Qual registration.

Packing plants and beekeeper/packers who supply honey direct to consumers or for export must have a detailed Food Safety Program. The processing sector must also comply with the additional standards, records, work instructions and references appropriate to the business.

**Organic Production and Specialised Activities (Sections 3 & 4).** Beekeepers involved in these activities, should comply with the requirements of Sections 1 and 2 that are appropriate to their business.

**Workshops** will be held to explain B-Qual, FSANZ and Animal Health Australia requirements in more detail and B-Qual Facilitators will assist businesses in developing manuals.

## **HOW TO REGISTER**

To obtain Associate Membership with B-Qual Pty Ltd, it is firstly necessary to contact the B-Qual Secretariat and attend an industry workshop. Then develop a quality system based on the manual with assistance from a B-Qual Facilitator. After the B-Qual program has been implemented a successful audit is required before applying to the B-Qual Secretariat for Permanent Membership. The following points outline the steps involved in achieving accreditation.

<b>STEP</b>	<b>ACTION</b>
1.	Apply to the B-Qual Secretariat to attend a training workshop and to receive the following documents:  “Approved Supplier Program Handbook” (Mailed prior to workshop) “Approved Supplier Program Manual” “Approved Supplier Program Work Folders”  The applicant becomes a B-Qual Associate Member.
2.	Prepare quality manuals adapted for the individual business with assistance from a B-Qual Facilitator.
3.	Implement a recording system for compliance with B-Qual standards using the Work Folders.
4.	Apply for an audit by a B-Qual auditor.
5.	Register the business with B-Qual Australia Pty Ltd, following a successful audit to become a Permanent Member
6.	Apply for a maintenance audit after 12 months.

***Attendance at a B-Qual training workshop by all owners/managers in a beekeeping business is essential to obtain the most benefit from the Approved Supplier Program.***

## GLOSSARY

**The Australia New Zealand Food Authority (ANZFA).** is a partnership between Australia's Commonwealth, State and Territory governments and the New Zealand Government. Its role is to protect the health and safety of the people of Australia and New Zealand by maintaining a safe food supply. It has recently changed its name to **Food Standards Australia New Zealand (FSANZ).**

**Audit.** A systematic examination of your business to check for compliance with documented procedures.

**Biosecurity Program.** Collection of measures to minimise the risk of entry and spread of disease and parasites.

**B-Qual Secretariat.** The business arm of B-Qual Pty. Ltd. whose role is to coordinate all B-Qual activities.

**B-Qual Standards.** The Australian Honey Bee Industry Quality Standards, which includes physical, chemical, biological, management, biosecurity, honey quality, pollination, organic, queen bee breeder, honey packer and other specialised activities in the honey industry.

**Critical Control Point (CCP).** is a point in the production process where control can be applied to a hazard so that it is prevented, eliminated or reduced to an acceptable level.

### **Clean.**

- Products - free from all visible contaminants, for example, dirt, extraneous matter and bee body parts.
- Premises - free from visible contamination, washed, sanitised (as required) and free from objectionable odours.
- Clothing - free from excessive visible contamination.

**Contamination.** The presence of objectionable matter, including substances or microorganisms that make the food product unwholesome.

**Foreign Bodies.** Objects such as metal, plastic and glass that may contaminate food products.

**Food Standards Australia New Zealand (FSANZ).** See ANZFA.

**Good Management Practice (GMP)** refers to conforming with codes of practice, industry standards, regulations and laws concerning production, processing, handling, labelling and sale of foods decreed by industry, local, state, national and international bodies. The intention is to protect the public from illness, product adulteration and fraud.

**Hazard Analysis Critical Control Point (HACCP)** is an approach using the seven principles defined by the joint Food and Agricultural Organisation (FAO) and World Health Organisation (WHO) Food Standards Program of the Codex Alimentarius Commission, Twentieth Session, Geneva. It is a systematic approach to the identification and assessment of hazards and risks associated with the production, processing, distribution and use of a particular foodstuff. It involves implementing measures that prevent hazards from occurring and to correct processes to maintain control.

The B-Qual HACCP based Food Safety Program is outlined in the following table together with comments for each section.

SECTION	COMMENTS
<b>1. Team</b>	➤ A typical team will be the owner(s) and a B-Qual Facilitator.
<b>2. Scope &amp; purpose</b>	➤ <b>The scope</b> states what part of the business is included in the B-Qual quality assurance program. ➤ <b>The purpose</b> states what products are produced and their intended use.
<b>3. Raw materials</b>	➤ List items used in the business that may impact on food safety or quality, for example, agricultural and veterinary chemicals.
<b>4. Flow diagrams</b>	➤ Draw a logical sequence of process steps used in the business to produce the product or products.
<b>5. Verification of flow diagrams</b>	➤ Walk through the business operation to check that each step in the flow diagrams is what happens.
<b>6. Hazard Analysis</b>	➤ Examine each process step for hazards that could impact on food safety or quality. Also, state what steps are in place to prevent the hazard from occurring and to identify when the hazard occurs.
<b>7. Critical Control Points</b>	➤ For a process step where there is no subsequent step to eliminate or reduce a hazard to an acceptable level, the process step is often classed as a Critical Control Point (CCP). Each CCP requires records and work instructions to demonstrate that the process step is under control.
<b>8. Corrective Action</b>	➤ If a critical limit is broken, it is necessary to describe what happened and what steps have been taken to prevent product from reaching the market place in an unsatisfactory condition and preventing the problem from occurring again.
<b>9. Verification of HACCP plan &amp; Implementation</b>	➤ Reviews and audits help demonstrate that the HACCP plan is operating effectively and assist with development of continuous improvement strategies for the business.

**Hazard Analysis.** Identification and assessment of all potential and real hazards that may occur at each step in a food production process and an assessment of the likelihood the hazard will occur and the severity of the hazards identified.

**Joint Accreditation System of Australia and New Zealand (JAS-ANZ).** An internationally recognised organisation which certifies the agencies which issue quality system certification.

**Maximum Residue Limit (MRL)** is the maximum concentration of a residue of an agricultural or veterinary chemical which is recognised as acceptable or which is legally permissible in or on food, agricultural commodity or animal feed.

**Potable.** Water quality that is consistent with standards for drinking water in the respective State or Territory and is consistent with the standards detailed in the NHMRC Guidelines for Drinking Water Quality in Australia (1996).

**Quality Assurance.** All those planned and systematic actions necessary to provide adequate confidence that the product or service will satisfy given requirements for quality.

**Residue.** Residues of veterinary drugs, pesticides and contaminants as defined for the purposes of Codex Alimentarius. For antimicrobial drugs, it is the concentration of drug remaining in the honey products after hive treatment. Veterinary and agricultural chemicals can cause residues, such as antibiotics, organochlorines, organophosphates and synthetic pyrethroids. Heavy metals and other environmental contaminants can cause residues as well. Do not use bee repellents.

**Risk Management Plan.** This is the HACCP based part of the B-Qual Approved Supplier Program for beekeepers that only supply direct to individual packers. There are no sales by the beekeeper direct to the public or for export.

**Sanitise.** Apply approved chemical and/or physical agents or processes to cleaned surfaces to minimise risk of contamination of honey by microorganisms.

**Standard Operating Procedures (SOP's)** or work instructions are written/documented procedures which detail how certain operations or activities are specifically carried out in the business eg vermin control procedure.

**Toxins.** Poisonous substances produced by microorganisms such as bacteria and moulds.

**Withholding Period (WHP)** refers to the minimum time that must elapse between the last chemical/drug treatment and use of food product for human consumption. Off-label use is when a veterinarian or government official prescribes a drug or chemical for use or at a dose rate for which that drug or chemical has not been registered. A new WHP is set for the off-label use of the drug/chemical.

**World Health Organisation (WHO).** This group leads the world alliance for Health for All. It is a specialised agency of the United Nations and promotes technical cooperation for health among nations, carries out programs to control and eradicate disease and strives to improve quality of human life.

**Wholesome.** The food product

- will not cause food-borne infection when properly handled and prepared for its intended use;
- does not contain chemical residues in excess of established limits;
- is free from obvious physical contamination;
- is free from defects recognised as unsafe (objectionable) to consumers; and
- is produced under adequate hygiene control.
- complies with the Food Standards Code.

**Work Instructions.** See SOP's.

**World Trade Organisation (WTO).** This is an international body that establishes trade policy to enable free trade between countries while maintaining the integrity of the importing countries animal, plant and human health control programs.

# B-QUAL APPROVED SUPPLIER PROGRAM MANUAL SECTIONS

## 2.1 B-QUAL STANDARDS – Apiary, Extraction & Packer

The B-Qual Standards are industry endorsed minimum requirements for those involved in honey production and processing. The standards were written for those who want to implement a quality system to meet new food safety and biosecurity requirements as well as consumer expectations. Each standard is listed in Appendix 1 of this handbook and a checklist is provided in the Approved Supplier Program manual.

These standards apply to all businesses involved in the collection and processing of honey. The standards applicable to each business will depend on whether honey is processed or not and whether honey is sold directly to the public and/or export or not.

For the processing of honey, workers must have appropriate skills and knowledge in food hygiene and safety to meet packing plant requirements. Packers must develop a detailed Food Safety Program, which will cover the requirements of their suppliers. However, suppliers to packing plants must keep the appropriate records and work instructions necessary to be compatible with the packer Food Safety Program.

A Food Safety Program is also required by businesses that do not supply Packers but sell direct to the public and/or export.

All workers who handle honey during the processing of honey or honey products must comply with the health and hygiene requirements outlined in the standards. These include issues such as cleanliness, maintenance, labelling and documentation.

The standards are divided into five categories: chemical, biological, physical, quality and management. The B-Qual program aims to reduce chemical, physical and biological food safety hazards in the honey industry to meet legislative and consumer requirements.

### *Chemical Hazards*

Chemical hazards include antibiotic, pesticide, herbicide and cleaning agent residues and banned substances like carbolic acid.

Chemical standards are in place to avoid residues in honey and honey products. All possible chemical residue hazards need to be considered and it is essential to use all agricultural and veterinary chemicals correctly. All treatments that may impact on the sale of honey or honey products must be recorded.

Chemical residues can be caused by:

- failure to observe the withholding periods;
- incorrect calculation of withholding periods;
- incorrect dose levels or treatments for a longer period than recommended;
- using the incorrect antibiotic or chemical, and

Australia has a reputation as a supplier of high quality honey and honey products. However, some export markets require the complete absence of antibiotic and chemical residues. Therefore, to protect valuable markets, it is critical that withholding periods recommended for antibiotics and chemicals are rigidly adhered to. It is also important to retain the results of all honey testing for verification of product quality.

*The National Residue Survey (NRS)* is managed by the Department of Agriculture, Fisheries and Forestry, Australia. The primary function of the survey is to monitor chemical residues and environmental contaminants in the products of participating industries.

*The Maximum Residue Limit (MRL)* for a particular antibiotic or chemical is the maximum amount of that chemical that is legally permitted in or on a food or agricultural commodity. MRL's are set to ensure the safety

of consumers and are important when it comes to accessing particular markets. They are determined by Food Standards Australia New Zealand (FSANZ) and are published in their Food Standards Code.

*The withholding period (WHP)* specifies the time that must lapse after the last treatment of an antibiotic or chemical before the treated product is sold for human consumption. Withholding periods are set by the NRA and are printed on the label of all veterinary and agricultural chemicals. Honey bees and apiary equipment may be treated with chemicals that have withholding periods. However, it is also important to remember that other countries may have different WHP's to Australia and that these must be checked before apiary products are exported.

Cleaning products, pesticides, rat baits and insect controls require careful management to minimise the risk of contamination. Likewise, other products such as alkaloids and mycotoxins produced from plant material, or contamination can also leave residues and need to be managed.

*Product labels* are legal documents and provide information about that product to the user. Label instructions state how treatments should be applied correctly. Compliance allows products to be marketed without exceeding the stated maximum residue limits. For any off-label use it is important to seek professional advice.

### ***Biological Hazards***

Biological hazards cause most foodborne illnesses in humans. These hazards include bacteria, fungi or moulds, viruses, protozoa and parasites. Biological hazards also include rodents, insects, birds and other vermin. Biological hazards may be introduced into the honey by a low standard of hygiene, use of dirty equipment or contaminated water during handling of the supers and extraction of honey.

Biological standards ensure that production, transport and processing practices reduce or prevent contamination by food poisoning organisms in honey and honey products. These standards aim to minimise biological contamination of apiary products.

The major concerns with regard to biological contamination are risks associated with *Salmonella* species (can be caused by rodents); *Escherichia coli* (contaminated water supply), and contamination during handling and transport of hives and supers (*Clostridium botulinum*).

### ***Physical Hazards***

It is important to use management techniques to minimise the entry of foreign objects into hives and honey. Typical examples of foreign objects include the entry of dirt, leaves, animal faeces or paint flakes into a hive.

### ***Quality Hazards***

Quality hazards cause products to be considered poor quality by the customer because they do not fulfil their requirements. Additionally there may be legal consequences if in contravention of the Model Food Act. Quality hazards differ from food safety hazards in that they do not cause illness in the consumer. Examples include unpleasant flavoured floral sources, high moisture levels and excessive temperatures during processing and storage.

## ***Management Hazards***

Management hazards include all strategies or work procedures that may impact on the production of safe, wholesome, quality products. Hazards are minimised by the regular review of the plan to determine its adequacy and effective operation.

Management strategies are established to maintain accepted industry beekeeping and processing practices.

## **B-QUAL STANDARDS – Biosecurity**

The Biosecurity Standards aim to reduce in the risk of honey bee disease outbreaks and spread, and product contamination with honey bee disease organisms.

A biosecurity program is a collection of measures to minimise the risk of entry and spread of honey bee diseases and parasites in apiaries. They are designed with the emphasis on managing risk without affecting profitability through excessively strict precautions.

Targeted diseases and parasites include not only exotic diseases but also endemic diseases that have a significant impact on production or trade. Under the Deed, which will apply to Cost Sharing Arrangements for Exotic Disease, the honeybee industry is required to develop a Biosecurity Plan.

A biosecurity program is based on:

- understanding the targeted diseases and parasites,
- their modes of transmission,
- risk factors for each mode,
- methods to exclude the disease and parasites,
- a system to ensure that the program is used,
- joint on-going surveillance of colony health (port and apiary monitoring), and
- jointly maintained state response teams to assist government in the event of an incursion of an exotic disease or parasite.

The biosecurity plan aims to minimise the risk of introducing pathogens into the bee colony. It should also ensure a rapid response to prevent diseases and parasites spreading within or between colonies.

The B-Qual program recognises that the entry of new pathogens, or new strains of existing pathogens, can devastate performance and profitability. It encourages beekeepers to implement management practices that reduce the potential for the introduction, production and spread of diseases and parasites.

The generic biosecurity plan should be followed wherever possible, although practices may differ across Australia. Beekeepers must be aware of their obligations under the various State Apiaries Acts. However, in the event of an incursion of an exotic disease, the AUSVETPLAN comes into operation.

Advantages of implementing a biosecurity plan in the honey industry are:-

- Reducing the possibility of entry and spread of disease, parasites and weeds.
- Lessening the social and financial impacts of an outbreak.
- Reducing the possibility of substantial losses being incurred in a disease and/or parasite outbreak.
- Reducing the beekeepers' liability in any disease and / or parasite outbreak.

Biosecurity is interwoven with all operation procedures. Therefore, biosecurity of the apiary operation and extraction plant are maintained through compliance with the biosecurity standards and all operation procedures outlined in the quality assurance manual. Procedures are reviewed as part of corrective action activities.

## 2.2 QUALITY POLICY STATEMENT

The 'Quality Policy Statement' is an example of a few brief comments to say that all workers in the business understand the principles of quality assurance, food safety and biosecurity outlined in the B-Qual program. It is also a statement to say that the owner/manager and workers will apply these principles to the business.

It is important for all workers to be committed to making their quality system work. New ideas, comments and discussions will help with continuous improvement of the program. When there is commitment from the whole business, benefits include improving management, maintenance and production operations, which will result in increasing profitability.

Over time the quality system can be expanded to include more areas of the business operation as well as catering for results from new research or developments in improved work practices.

Honey producers who have implemented a quality management system should find that they are making savings on reduced levels of disease and improved production.

All quality assurance systems require regular review as customers may change their requirements, new regulations may be introduced or management strategies may change. Therefore, commitment and participation in quality assurance is needed from all workers.

## 2.3 WORK INSTRUCTIONS

Work Instructions provide a list of activities for workers to follow so that the business operates smoothly and effectively whilst minimising the risk to food safety. The Work Instructions in the B-Qual manual are only examples of what might be included in a quality program. Individual businesses will need to alter these work instructions to suit their business operation.

The key issue for Work Instructions is that they adequately support the apiary, extraction and biosecurity requirements for B-Qual Australia Pty Ltd.

### **B-QUAL WORK INSTRUCTIONS TO MEET SECTION 1 REQUIREMENTS**

*(Honey sales to packers from beekeepers)*

*Apiary Operation* – Ensures the best possible management practices for effective apiary operation.

*Apiary Health* – Outlines strategies for the prevention of disease problems or treatment procedures for existing diseases.

*Agricultural & Veterinary Chemicals* – Describes procedures for the purchase, handling and storage of agricultural and veterinary chemicals according to industry best practice.

*Hive Identification & Movement* – All hive and honey movements are documented correctly.

*Extraction Process* – Procedures to produce a safe, wholesome, quality product that meets consumer needs.

*Personal Hygiene & Food Handling* – A high standard of personal hygiene and cleanliness is required.

## **B-QUAL WORK INSTRUCTIONS TO MEET SECTION 1 REQUIREMENTS (Continued)**

*(Honey sales to packers from beekeepers)*

*Maintenance, Cleaning & Sanitation* – Describes how to prevent contamination of honey, equipment and facilities.

*Pest Control* – It is necessary to prevent contamination of honey through pest infestations.

*Honey Storage, Bulk Sale & Recall* – For effective traceback and recall it is necessary for the honey storage, sale and recall procedures to be followed and documented correctly.

*Biosecurity Procedure* – A breakdown in biosecurity measures can have a huge impact on the honey industry. These procedures aim to minimise the risk of disease outbreaks in apiaries; disease spread within and between apiaries, and product contamination. It is necessary to have a rapid response in the event of an emergency situation that may compromise product suitability for sale. Major concerns are with possible residues of chemicals used to control diseases or spread of disease to other hives from bees robbing honey from infected hives.

*Corrective Action* – When monitoring at critical points in production indicate a loss of control, it is necessary to take corrective action to regain control of the production process. It is necessary to prevent product from reaching the market place in an unsatisfactory condition. Activities and steps taken to avoid a problem from occurring again are documented on the Corrective Action Record.

*Internal & External Audit* – Audits are necessary to check that the quality system activities and related results comply with planned arrangements. They are also necessary to check that these arrangements are implemented effectively and are suitable to achieve objectives.

## **B-QUAL ADDITIONAL WORK INSTRUCTIONS TO MEET SECTION 2 REQUIREMENTS**

*(Honey sales to the public and/or export from beekeeper/packers & packers)*

*Packer Operation* – Aims to produce safe, quality product that meets consumer needs.

*Record Keeping* – Procedure to ensure that all records are maintained and stored correctly.

*Purchase & Receival* – Procedure to ensure that the correct quality and quantities of all goods are purchased.

*Equipment Calibration Procedure* – Procedure to ensure that all equipment used for measuring or weighing is calibrated correctly.

*Stocktake Procedure* – Procedure for the completion of a yearly stocktake.

*Staff Training* – Staff are suitably trained to enable effective, efficient completion of work procedures.

*Occupational Health & Safety* – OH&S is important to enable effective, efficient and safe completion of work procedures.

## 2.4 RECORDS

Records provide evidence that activities have taken place. They are necessary:

- to demonstrate that the quality system is working,
- to review business activities to help pin point any problems,
- to provide details in the event of traceback, and
- to support a defence in the case of claims/litigation.

The records necessary to support apiary, extraction, packer and biosecurity requirements for B-Qual Australia Pty Ltd are listed in the tables below. However, remember that if businesses have existing records that are suitable, they can be used to replace the records provided.

### **B-QUAL RECORDS TO MEET SECTION 1 REQUIREMENTS**

*(Honey sales to packers from beekeepers)*

#### **Site Folder**

*Apiary Site Record* – Details apiary location, health status and movements of hives to different sites to comply with biosecurity and traceback issues.

*Treatment Record* – Records all use of agricultural and veterinary chemicals.

*Disease Monitoring Record* – Maintains an accurate assessment of bee health to comply with biosecurity and traceback issues.

#### **Processing Plant Folder**

*Honey Super & Extraction Record* – Details floral variety and GMO status, extraction date and shipping date.

*Rodent/Pest Control Record* – Records all treatments for rodents and pests around the extraction plant.

*Cleaning & Sanitising Check* – Lists each occasion that the extraction plant is cleaned and inspected and to note any problems that may occur.

#### **Stock Control (Office)**

*Order Form* – A summary of purchases such as agricultural and veterinary chemicals is required. A folder containing purchase dockets may be satisfactory.

*Vendor Declaration* – Provides information about honey to be processed in the packing plant. Individual packing plants may have specific forms to be completed by suppliers.

*Container Label* – Identifies ownership and product to comply with traceback and biosecurity issues.

#### **Remedial Activities (Office)**

*Corrective Action Record* – When mistakes occur or accidents happen that may impact on food safety, it is necessary to describe what happened and what steps have been taken to prevent product from reaching the market place in an unsatisfactory condition and preventing the problem from occurring again.

## **B-QUAL ADDITIONAL RECORDS TO MEET SECTION 2 REQUIREMENTS**

*(Honey sales to the public and/or export from beekeeper/packers & packers)*

### **Stock Control**

*Honey Appraisal Record* – Tracks incoming honey for traceback purposes, grading and testing

*Inventory Record* – Complete a stock take on a regular basis to monitor stock on hand.

*Sale Record* – A record of all sales helps keep track of quantities of stock sold and where stock has been sold to for traceback requirements. A folder containing sales dockets may be satisfactory.

### **Management**

*Temperature Record* – Temperatures during processing may need to be monitored, for example, hot room temperature and honey temperature for organic production.

*Calibration Record* – Any equipment used during production for measuring or weighing must be accurate. Therefore, calibration of these items must be checked regularly.

### **Staff**

*Skills Check* – Staff must have adequate skills for tasks undertaken. Therefore it is necessary to assess the skills of each person in the business to demonstrate competency to undertake work activities, and to assess training needs.

*Training Register* – Records all training activities for each person that works in the business.

### **Manual**

*Document Amendment List* – Maintains a list of any changes made to the quality manual to check that out of date documents have been discarded.

A business with a quality assurance program must be able to demonstrate a method of managing documents. Therefore, a document register is kept to record any changes that are made to the manual. All the documents in the manual or documents used at apiary sites, field or processing plant must have the latest version and any out of date documents must be removed from the system.

After the quality management system has commenced, any alterations to documents must be recorded on the document amendment list. All pages require a page number, version number and/or date as part of document control, which should be kept at the front of the manual.

### **Audit**

*Internal Audit Report* – A checklist provides a method to check that the business operation complies with the requirements for B-Qual registration. It is advisable to complete internal audits prior to external audits so that any deficiencies in the quality system can be rectified.

## 2.5 REFERENCES

References include documents that do not change regularly when compared to records, which are often filled out on a daily basis. Essential records are the Approved Agricultural & Veterinary Chemicals list and the list of all apiary sites that are part of the business operation. These are vital in the event of any traceback requirements. Also, this section includes the honey bee industry biosecurity strategy.

Other references that many beekeepers will have on their shelves are also listed in the table of contents. They are not essential for participation in the B-Qual program, however, these documents are recommended. Many beekeepers will have a more extensive list of references that they use regularly.

### B-QUAL REFERENCES

*Approved Agricultural & Veterinary Chemicals (all sections of industry)* – It is necessary to have a list of all agricultural and veterinary chemicals that are used in the business. Dose rates, withholding periods and directions for use must be stated.

*Apiary Sites (Section 1)*– For any traceback and for ease of management an up to date list of all apiary sites and locality maps maintained by the beekeeper must be readily available.

*Miscellaneous References (all sections)* – Any references that would be useful for assisting in the business operation can be added to the reference collection. Some examples include:

- Honey Extracting Facilities & Food Safety Program - Capilano Honey Ltd. (This document provides a useful guide to those wanting to set up an extraction or packing plant).
- Food Standards Code.
- Biosecurity or Disease Risk Mitigation Strategy for the Australian Honey Bee Industry.
- Veterinary/customer correspondence.
- Material Safety Data Sheets (MSDS); inspector/laboratory reports.

*Internal Audit Schedule (Section 2)* – This schedule provides a plan of when an internal audit is to be completed and outlines what sections of the business are to audited.

# **Beekeeper Who Supplies Individual Packer - Industry Section 1**

## **2.6 RISK MANAGEMENT PLAN (supplying individual packers)**

Primary industries that do not sell food direct to the public and/or for export are not required to operate a Food Safety Program. However, businesses that sell food for human consumption must have an operational Food Safety Program and comply with various Acts administered by health authorities in the States.

Many food businesses have already implemented comprehensive food safety systems in order to prevent food-borne illness, or foreign objects from entering the foods. This has provided customers with assurances that a documented system is in place to assess and manage hazards. It also provides confidence and shows due care in the event of food borne illnesses.

For beekeepers that only supply packers the B-Qual Approved Supplier Program has developed a Risk Management Plan. This plan helps assess the likely hazards in the beekeepers segment of the supply chain and how best to manage those hazards. By maintaining a few records, work instructions and references beekeepers can demonstrate how they are minimising the risks and satisfying the B-Qual Standards. Some packers may require additional records but the Risk Management Plan can link with and fit under the packers Food Safety Program.

The Risk Management Plan was developed using the HACCP process. **HACCP** stands for Hazard Analysis Critical Control Point. It is a system that identifies, evaluates and controls food industry hazards. HACCP, combined with a quality management system is an effective means of lowering costs and improving productivity while addressing food safety issues.

The Risk Management Plan (RMP) can be documented under four main headings:

- Floor Plan,
- Risk Management Plan Prerequisites,
- Risk Management Plan, and
- Risk Management Plan Verification & Implementation.

Work instructions and records provide proof that the business is operating according to the Risk Management Plan and the B-Qual Approved Supplier Program. They show that what has been said in the plan is being carried out in the business operation.

### ***Floor Plan***

A sketch of the extraction plant layout is ideal for new employees to quickly see an overview of the operation. Critical areas of production can be identified prior to entering the extraction plant.

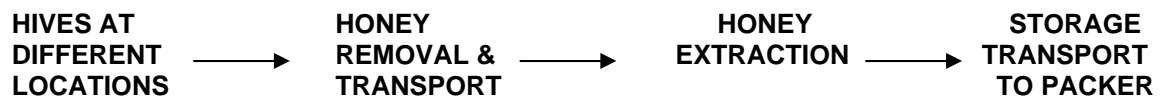
A brief description of the business is also very useful for new employees and auditors. Items may include ownership, location, size and markets of the business.

A hand-drawn layout of the property showing major access roads, buildings, drainage and water source will provide the auditor with an accurate picture of where the production facilities and other areas of operation are. Points of entry and exit for transport vehicles are also useful.

### ***Risk Management Plan Prerequisites***

Prerequisites for completing a Risk Management Plan include adopting Good Beekeeping and Good Processing Practices in the business. The Standards, Records, Work Instruction and Reference sections of the B-Qual Approved Supplier Program provide the basic prerequisites for developing the Risk Management Plan.

If a business is part of the following process, the B-Qual Risk Management Plan will be applicable.



It is important that beekeepers check that their operations are similar to those detailed in the Risk Management Plan. If there are significant differences further explanation, including work instructions may need to be provided to satisfy an auditor that the B-Qual Standards are being complied with. Following the workshops your B-Qual facilitator can assist you with assessing the items described more fully in the following table.

#### **Risk Management Plan Prerequisites**

**Team** – The Team should include staff with a range of skills that are used in the business. At least one member should have experience in implementing HACCP. A typical team for a small business will be the owner(s) and a B-Qual Facilitator.

**Scope** – The scope states what part of the business is included in the B-Qual quality assurance program.

**Purpose** – The purpose states what products are produced and their intended use.

**Raw materials** – List items used in the business that may impact on food safety or quality, for example, agricultural and veterinary chemicals.

**Flow diagrams** – Draw a logical sequence of process steps used in the business to produce the honey or honey products. It is important that each flow chart is constructed according to how the business operates

- **Overview.** Provides a diagram of how the honey business works from the hive to sale of honey to the packer. Also, inputs (eg water) and outputs (eg honey) of the business are listed.
- **Handling, Transport & Extraction of Honey Supers.** This process flow has two critical areas of production. Honey contamination can occur through the mishandling of honey supers and poor cleaning and maintenance procedures. Incorrect labelling can result in poor product traceability.

**Verification of flow diagrams** – It is necessary to walk through the business operation to check that each step in the flow diagrams is what actually happens in the production process. Working through the flow diagrams on site allows the process steps to be checked with the written document. A statement and signature are presented at the completion of the process flows to state that they are correct.

## ***Risk Management Plan***

To apply the Risk Management Plan on-farm, a hazard analysis must be conducted. Determining what are the critical areas of production and what corrective action should be taken if a problem occurs follows this process.

**Hazard Analysis.** It is necessary to examine each process step as identified in the flow charts and determine what hazards are present. The hazards are divided into six categories: chemical, biological, physical, management, quality and legal hazards. The level of risk of the process step impacting on food safety or quality is assessed by the likelihood of the hazard causing a problem. If the problem does occur, it is necessary to assess how severe the problem may be. Preventive measures are itemised to show how the potential for hazards to cause problems are minimised.

The Risk Management Plan will help give customers assurances that risks associated with the business have been assessed and that mechanisms have been put in place to control these risks.

### **Risk Management Plan**

**Hazard Analysis** – A Hazard Analysis allows each process step to be examined for hazards that could impact on food safety or on product quality. Hazards include those caused through chemical, biological, physical, management, quality and legal issues. They can be assessed for how likely the hazard would be if it occurred and, if they did occur, how severely they would impact on the product. These can be assessed as high, medium or low risk. It is also necessary to state what steps are in place to prevent the hazard from occurring. These steps may include work instructions and records that are in place to ensure that the system is under control.

**Control Points (CP's)** are points in the process where loss of control is not likely to cause unacceptable health and safety risks but preventive measures are still required to ensure that the system is under control.

**Critical Control Points (CCP's)** – For a process step where there is no subsequent step to eliminate or reduce a hazard to an acceptable level, the process step is often classed as a Critical Control Point (CCP). This is the step where the hazard must be controlled.

One method to determine which process steps are critical is to ask the following questions:

- Does a hazard exist?
- Do preventive measures exist?
- Is the step designed to eliminate or reduce the likely occurrence of the hazard to an acceptable level?
- Could the hazard increase to an unacceptable level?
- Will a subsequent step eliminate the hazard or reduce it to an acceptable level?

Each CCP requires records and work instructions to demonstrate that the process step is under control. For example, a Treatment Record allows monitoring of agricultural and veterinary chemical usage.

**A critical limit** for this process step would be the range of chemical that is used according to the manufacturers' instructions.

**Validation** is required for each Critical Limit. Industry standards, label instructions and/or scientific information can provide evidence to support the reason each Critical Limit was chosen.

Suggested CCP's in the processing of honey would be:

**CCP A** Removal & transport of full honey supers – the hazard could be antibiotic/chemical contamination of product.

**CCP B** Handling, Transport and Extraction – identification of product is the hazard in that incorrect identification could result in a loss of control.

**Monitoring CCP's.** This is the measurement or observation at each CCP that the process is operating within the critical limits. A designated person is required to monitor each Critical Control Point. For example, the person may check how much chemical was used and if the critical limits were exceeded what corrective action was taken. The frequency of how often monitoring takes place is also noted.

### **Risk Management Plan (cont.)**

**Corrective Action** describes what activities take place if critical limits are broken. It usually includes immediate action to minimise any difficulties and preventive measures to reduce the risk of the hazard occurring again. Corrective Action ensures that results remain within critical limits.

A Corrective Action Record identifies the problem, describes the course of action taken and when the action was taken. The Corrective Action is checked off to see whether it has been effective.

## **Verification of Risk Management Plan & Implementation**

Verification that the Risk Management Plan is operating effectively can be checked through:

- Internal and external audits.
- Reviewing Corrective Actions since the previous audit.
- Reviewing customer feedback, including residue violation results.

## **Beekeeper/Packer or Packer Who Supplies the Public (Domestic and Export)**

### **Industry Section 2**

#### **2.7 FOOD SAFETY PROGRAM (sales to public and/or export)**

All businesses that sell food for human consumption must comply with various Acts administered by health authorities in the States. A Food Safety Program helps the business demonstrate how it is minimising the risks associated with the production, purchasing, storing, handling, processing and delivery of food.

**HACCP** stands for Hazard Analysis Critical Control Point. It is a system that identifies, evaluates and controls food industry hazards. HACCP, combined with a quality management system is an effective means of lowering costs and improving productivity while addressing food safety issues.

Many food businesses have already implemented comprehensive food safety systems in order to prevent food-borne illness, or foreign objects from entering the foods. This has provided customers with assurances that a documented system is in place to assess and manage hazards. It also provides confidence and shows due care in the event of food borne illnesses.

There has been particular emphasis on programs based on the HACCP system as it has been seen as the basis for good business practice in the food industry around the world.

The Food Safety Program can be documented under four main headings:

- Floor Plan,
- HACCP Food Safety Program Prerequisites,
- HACCP Plan, and
- HACCP Plan Verification & Implementation.

Work instructions and records provide proof that the business is operating according to the Food Safety Program. They show that what has been said in the plan is being carried out in the business operation and they will need to be referred to when writing up the HACCP plan.

#### ***Floor Plan***

A sketch of the processing plant layout is ideal for new employees to quickly see an overview of the operation. Critical areas of production can be identified prior to entering the processing plant. Also, auditors take less time to assess the business operation.

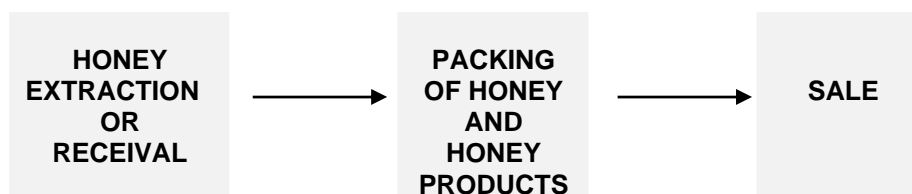
A brief description of the business is also very useful for new employees and auditors. Items may include ownership, location, size and markets of the business.

A hand-drawn layout of the property showing major access roads, buildings, drainage and water source will provide the auditor with an accurate picture of where the production facilities and other areas of operation are. Points of entry and exit for transport vehicles are also useful.

#### ***HACCP Food Safety Program Prerequisites***

Prerequisites for completing a HACCP Food Safety Program include adopting Good Beekeeping and Good Processing Practices in the business. The Standards, Records, Work Instruction and Reference sections of the B-Qual Approved Supplier Program provide the basic prerequisites for developing the Food Safety Program.

If a business is part of the following process, the B-Qual HACCP Food Safety Program will be applicable.



However, before writing the HACCP Plan, it is necessary to form a HACCP Team, develop a scope and purpose, list raw materials used in the business and construct flow diagrams to describe the processing operation. These items are described more fully in the following table.

#### HACCP Food Safety Program Prerequisites

**Team** – The HACCP Team should include staff with a range of skills that are used in the business. At least one member should have experience in implementing HACCP. A typical team for a small business will be the owner(s) and a B-Qual Facilitator.

**Scope** – The scope states what part of the business is included in the B-Qual quality assurance program.

**Purpose** – The purpose states what products are produced and their intended use.

**Raw materials** – List items used in the business that may impact on food safety or quality, for example, agricultural and veterinary chemicals.

**Flow diagrams** – Draw a logical sequence of process steps used in the business to produce the product or products. It is important that each flow chart is constructed according to how the business operates

- **Overview.** Provides a diagram of how the honey business works from the hive to sale of product. Also, inputs (eg water) and outputs (eg honey) of the business are listed.
- **Handling, Transport & Extraction of Honey Supers.** This process flow has two critical areas of production. Honey contamination can occur through the mishandling of honey supers and poor cleaning and maintenance procedures. Incorrect labelling can result in poor product traceability.
- **Honey Packing.** Good maintenance, cleaning and labelling procedures are again important for the honey packing process.

**Verification of flow diagrams** – It is necessary to walk through the business operation to check that each step in the flow diagrams is what actually happens in the production process. Working through the flow diagrams on site allows the process steps to be checked with the written document. A statement and signature are presented at the completion of the process flows to state that they are correct.

## ***HACCP Plan***

To apply HACCP on-farm, a hazard analysis must be conducted. Determining what are the critical areas of production and what corrective action should be taken if a problem occurs follows this process. The steps used in the HACCP plan are recognised internationally and nationally as the preferred food safety approach.

**Hazard Analysis.** It is necessary to examine each process step as identified in the flow charts and determine what hazards are present. The hazards are divided into six categories: chemical, biological, physical, management, quality and legal hazards. The level of risk of the process step impacting on food safety or quality is assessed by the likelihood of the hazard causing a problem. If the problem does occur, it is necessary to assess how severe the problem may be. Preventive measures are itemised to show how the potential for hazards to cause problems are minimised.

The HACCP system will help give customers assurances that risks associated with the business have been assessed and that mechanisms have been put in place to control these risks. It will also demonstrate to global markets that honey is safe and wholesome.

### **HACCP Food Safety Program**

**Hazard Analysis** – A Hazard Analysis allows each process step to be examined for hazards that could impact on food safety or on product quality. Hazards include those caused through chemical, biological, physical, management, quality and legal issues. They can be assessed for how likely the hazard would be if it occurred and, if they did occur, how severely they would impact on the product. These can be assessed as high, medium or low risk. It is also necessary to state what steps are in place to prevent the hazard from occurring. These steps may include work instructions and records that are in place to ensure that the system is under control.

**Control Points (CP's)** are points in the process where loss of control is not likely to cause unacceptable health and safety risks but preventive measures are still required to ensure that the system is under control.

**Critical Control Points (CCP's)** – For a process step where there is no subsequent step to eliminate or reduce a hazard to an acceptable level, the process step is often classed as a Critical Control Point (CCP). This is the step where the hazard must be controlled.

One method to determine which process steps are critical is to ask the following questions:

- Does a hazard exist?
- Do preventive measures exist?
- Is the step designed to eliminate or reduce the likely occurrence of the hazard to an acceptable level?
- Could the hazard increase to an unacceptable level?
- Will a subsequent step eliminate the hazard or reduce it to an acceptable level?

Each CCP requires records and work instructions to demonstrate that the process step is under control. For example, a Treatment Record allows monitoring of agricultural and veterinary chemical usage.

**A critical limit** for this process step would be the range of chemical that is used according to the manufacturers' instructions.

**Validation** is required for each Critical Limit. Industry standards, label instructions and/or scientific information can provide evidence to support the reason each Critical Limit was chosen.

Suggested CCP's in the processing of honey would be:

- CCP 1** Receiving and Sampling – Traceability and identification of product is the hazard in that incorrect identification could result in a loss of control.
- CCP2** Fill container – Contamination with bacteria or foreign matter in honey or products is the hazard in that incorrect procedures could result in a loss of control.
- CCP3** Honey Packing – identification of product is the hazard in that incorrect identification could also result in a loss of control.

**Monitoring CCP's.** This is the measurement or observation at each CCP that the process is operating within the critical limits. A designated person is required to monitor each Critical Control Point. For example, the person may check how much chemical was used and if the critical limits were exceeded what corrective action was taken. The frequency of how often monitoring takes place is also noted.

### **HACCP Food Safety Program (cont.)**

**Corrective Action** describes what activities take place if critical limits are broken. It usually includes immediate action to minimise any difficulties and preventive measures to reduce the risk of the hazard occurring again. Corrective Action ensures that results remain within critical limits.

A Corrective Action Record identifies the problem, describes the course of action taken and when the action was taken. The Corrective Action is checked off to see whether it has been effective.

## **Verification of HACCP Plan & Implementation**

Verification that the HACCP plan is operating effectively can be checked through:

- Internal and external audits.
- Reviewing Corrective Actions since the previous audit.
- Reviewing customer feedback, including residue violation results.

## **Organic Producer - Industry Section 3**

### **2.8 ORGANIC PRODUCTION**

Compliance with Section 1 and Section 2, as appropriate, is assumed prior to commencing Section 3.

Section 3 of the B-Qual Approved Supplier Program manual caters for beekeepers involved in organic production.

**The objective** is to produce organic honey for sale to consumers and/or certified packers that is compliant with the National Standard for Organic and Biodynamic Product (currently under review).

**Demand** for organic honey is increasing and consumers are seeking reliable and consistent supplies. The opportunity exists for significant niche markets that may provide reasonable financial returns.

Organic farming is agricultural production without the use of synthetic chemicals or genetically modified organisms or products. It takes an holistic approach to farm management where preventive management strategies and practices are used to avoid problems rather than the use of chemical treatments.

The standard for organic production in Australia is 'The National Standard for Organic and Biodynamic Production'. The Australian Quarantine and Inspection Service (AQIS) administers this standard.

There are several organisations approved by AQIS. Some, if not all of these certifying organisations have individual codes of practice/standards in addition to the National Standard for Organic and Biodynamic Production. AQIS approval is required for the export of product. It is envisaged that B-Qual will be come one of these certifying bodies. Current examples of certifying bodies include the Biological Farmers of Australia (BFA) and the National Association for Sustainable Agriculture Australia (NSAA).

#### **The general steps for establishing an organic production business include:**

- Conducting a cost : benefit analysis for converting to organic honey production.
- Eliminating the use of synthetic chemicals and genetically modified products.
- Selecting a certifying organisation and complying with their requirements.
- Allowing an inspection of businesses by the certifying organisation.
- Gaining accreditation for the 12-month pre-certification period.
- Allowing the certifying organisation to complete the second year inspections schedule.
- Gaining accreditation for 'Organic in Conversion' or 'Certified in Conversion'.
- Gaining accreditation for organic honey production, following satisfactory audits by the certifying organisation for three years.

For the production of organic honey, nectar and pollen sources within a radius of 5 km from the apiary site must consist of organically produced crops and/or spontaneous vegetation. Audits for each site may be conducted every three to five years. In the case of exports, sites may be required to be inspected each year.

When full certification of the business is achieved, the certifying organisation's logos/labels can be used and the honey promoted as organically produced. Annual audits of certified businesses are required to maintain accreditation.

## Specialised Areas - Industry Section 4

### 2.9 SPECIALISED ACTIVITIES

#### Introduction

Compliance with Sections 1 to 3, as appropriate, is assumed prior to commencing Section 4.

Section 4 of the B-Qual Approved Supplier Program manual caters for beekeepers involved in the specialised activities outlined in the table. Each enterprise meets the requirements of the B-Qual Biosecurity Plan.

<b>Activity</b>	<b>Objective</b>
2.9.1 Pollination	➤ To provide a high standard of bee pollination services.
2.9.2 Queen Bee	➤ To produce high quality queen bees and queen cells through good management practices.
2.9.3 Pollen Production	➤ To produce an even, light coloured, appealing flavoured, high quality pollen for human consumption and a mixed high protein pollen for feeding back to bees.
2.9.4 Comb Honey Production	➤ To produce a high quality comb honey with specific packaging and presentation.
2.9.5 Propolis Production	➤ To harvest commercial quantities of high-grade propolis that meets international standards for human consumption as natural supplements or herbal medicines.
2.9.6 Royal Jelly Production	➤ Production of high grade royal jelly for the cosmetic and health food industries that meet international standards.
2.9.7 Package Bee Production	➤ To supply package bees according to best industry practice and customer needs.

#### Supporting Documents

<b>Work Instruction</b>	<b>Title</b>	<b>Record</b>	<b>Title</b>
20	Bee Pollination Procedure	20	Pollination Services Record
21	Queen Bee Production	21	Queen Bee Producer Record
22	Package Bee Production		

### **2.9.1 Pollination Services**

Beekeepers aim to use best industry practices to provide a high standard of bee pollination services. It is essential for all agreements for the pollination service to include hive stocking rates, dates of hive introduction and removal, placement of hives, payment of fees and strength of hives to be agreed to prior to hive placement. Agreements also include payment for the removal of hives in the event of pesticide applications. It is also imperative that the B-Qual Biosecurity Plan is adhered to.

### **2.9.2 Queen Bee Production**

The aim of queen bee production is to produce high quality queen bees and queen cells through the maintenance of good management practices. Young queen bees of good genetic stock, well-reared and mated are a major factor in improving honey yields. High quality, abundant nutrition and complying to the B-Qual Biosecurity Plan are required.

Requeening is normally practiced annually to obtain benefits from increased egg laying ability. Requeening by commercial honey producers is normally carried out in spring or autumn to fit in with seasonal conditions and management practices.

Desirable features of worker bees produced by the queen are good nectar and pollen foraging abilities, good temperament, quietness on the comb, ability to resist diseases and pests, reduced swarming and absconding and minimal propolis and burr comb use. Queen bees heading pollination hives are required to produce worker bees, which are effective pollinators of the crop being pollinated.

### **2.9.3 Pollen Production**

Pollen production is a small industry that is a highly specialised activity often conducted in conjunction with other beekeeping activities. Pollen traps collect pollen gathered by foraging bees as they return to their hive. The harvested pollen is used mainly for human nutritional supplements or for re-feeding to bees.

For human consumption, even and light coloured, appealing flavoured, high protein pollen for human consumption and a mixed high protein pollen for feeding back to bees. The pollen is dried or frozen, cleaned and stored in airtight containers. Pollen may cause serious allergic reactions in some people and appropriate labelling is required. It is illegal to sell irradiated pollen for human consumption.

For pollen to be fed back to bees, the pollen should be collected and frozen without drying. This slows the loss of nutritional value of the pollen and maximises its value for the honey bee. Mixed pollens are nutritionally more balanced. If there is doubt about the disease status of hives collecting pollen, the pollen should not be used for feedback purposes or alternatively, pollen should be irradiated.

### **2.9.4 Comb Honey Production**

Comb honey production may involve the use of specialised fixtures in its production. However, most production is from conventional hive components and is conducted in conjunction with normal honey production. It does require more attention to detail, particularly cleanliness and hygiene, the use of high quality materials, hive management practices to provide high populations of foraging bees and selection of suitable honey flora species.

Management of the hive to produce good quality comb honey varies from that for liquid honey in that supers should be added only as required and placed to minimise travel stains from bee movement across the new comb. It is extremely important that 95% of cells are capped before the comb is removed.

Comb honey is aimed primarily at niche markets and each type of packaged honeycomb may have specific requirements with regard to packaging and presentation. A light coloured honey that is very slow to crystallise and is in new white comb is ideal.

### **2.9.5 Propolis Production**

Propolis is a mixture of resinous material collected by bees from a variety of plants and glandular products from the bee and beeswax. It has an anti-bacterial function in the hive and is used to caulk and line inside the hive and around the entrance. While there are a number of commercial uses for propolis, the main use is for human consumption either as natural supplements or in herbal medicines. Propolis is considered a valuable by-product and is purchased for pharmaceutical and cosmetic purposes.

Production of propolis complies with international standards.

To harvest commercial quantities of high-grade propolis, special inserts (traps) are placed into the hives. The inserts provide spaces that mimic cracks or holes and encourage the bees to fill them with propolis. Hive scrapings produce a low-grade propolis due to its high beeswax content, and are more likely to contain foreign matter such as paint and wood chips.

Strains of bees vary in the amounts of propolis collected and used in the hive. Most is collected during warmer weather during the warmest part of the day.

### **2.9.6 Royal Jelly**

Royal jelly is a creamy white glandular secretion produced by young worker bees and is used as food for queen larvae. It is in demand for use in cosmetics and a variety of other products including health food products. It may cause serious allergic reactions in some people. Asthma sufferers appear to be more susceptible than other groups and labelling requirements need to be met (Food Standards Code 1.2.3, Mandatory Warning & Advisory Statements).

The production of royal jelly is a very specialised procedure and is produced in colonies maintained for that purpose. It requires a thorough understanding of hive management and bee behaviour. Nutritional conditions must be ideal and hives must be in a very strong condition. International standards must also be adhered to.

Bars of artificial queen cells containing grafted larvae are introduced into a suitable starter hive. They are removed after three to four days and the jelly is harvested and stored at a suitable temperature until packed for use. Freshly grafted cells are immediately placed back into the hives to repeat the process.

### **2.9.7 Package Bee Production**

Production of package bees is a specialised practice often carried out in association with honey production. To operate a profitable business it is important to comply with the B-Qual standards listed in Appendix 1. The aim is to produce high quality disease free package bees according to best industry practise and compliance with the B-Qual Biosecurity Plan.

## AUDITS

**To obtain and retain accredited membership of the B-Qual Approved Supplier Program, businesses must undergo and pass annual audits. B-Qual is registered with the Quality Society of Australasia (QSA) and they will certify auditors for the program.**

The B-Qual Program has engaged a number of registered auditors who have beekeeping industry and food safety experience. Businesses can select an approved auditor from a list provided by the B-Qual Program Secretariat.

Auditors will check for compliance with the industry standards and ensure that the business operates according to what is stated in the quality manual. If there is a deviation from written procedures that place food safety at risk the auditor will ask for the situation to be corrected within an agreed time frame.

Conducting an internal audit or check prior to engaging an auditor will reduce the likelihood of non-compliance and save costs in audit time. Compliance forms will assist businesses with this procedure.

During an audit, a number of activities will occur. These include the use of the following documents:

- **Checklists** – used by an auditor to provide a systematic check for compliance against the B-Qual Standards (BQS).
- **Non-Compliance Report (NCR)** – Where standards are not met, the auditor will present a NCR report detailing two categories of non-compliance that must be addressed. A major non-compliance occurs where there are serious problems and a minor non-compliance occurs where a problem could become serious. The auditor may also make observations to improve the system but they are left to the discretion of the business to implement.
- **Corrective Action Request (CAR)** – This report specifies the major and minor non-compliances and details the actions and agreed time frame to correct the problem or deficiency.
- **Audit Report** – The detailed audit report covers desk, apiary and plant audit results. The audit has deemed to be passed when any outstanding non-compliances and corrective actions have been completed and checked.

When you have contacted the auditor of your choice, the auditor will request to see the quality manual and documents to undertake a desk audit for compliance with the B-Qual Standards.

If the desk audit is unsuccessful, the auditor will issue non-compliances and corrective actions that have to be addressed before the desk audit is successful. In the case of beekeeper/packers or packers, after a successful desk audit, the auditor will audit the business operation or plant. This is called a compliance audit. The desk audit and compliance audit can be undertaken on the same visit.

On completion of the audit, the auditor will discuss the audit findings and any subsequent action that is required. An auditor may find there are matters that need to be addressed and will issue non-compliances and corrective action requests. They will need to be attended to within an agreed time frame.

The auditor will then provide an Audit Report, and any copies of Non-Compliance Reports and Corrective Action Requests within ten working days following the audit.

When the auditor is satisfied that the agreed measures have been completed, the audit will be “closed-out”. The auditor returns the original of the documents, declaring that the audit was passed and advises the client about documentation required to be submitted to the B-Qual Secretariat.

The audit documentation and registration form applying for Accredited Membership is forwarded to the B-Qual Secretariat who reviews the report and approves the issuing of **Accredited Membership** status with the B-Qual Approved Supplier Program.

# APPENDIX 1

## APPROVED SUPPLIER PROGRAM STANDARDS

### Chemical Standards

- An ordering system is established for recording the purchase of all antibiotics and/or other chemicals.
- Recommended antibiotic and/or other chemical treatment procedures, including the recording of dose rates, are used. Records of workers authorised to use chemicals are maintained.
- All bee colonies or materials treated with antibiotics and/or chemicals are identified and recorded to ensure that any withholding periods are observed. The number of colonies treated in an apiary are also recorded.

### Biological Standards

- The likelihood of product contamination is minimised through the use of personal cleanliness and clean handling practices. Workers with health conditions do not handle product if there is a risk of impacting food safety.
- Location of apiaries away from genetically modified crops is recommended.
- Hive management includes a control program for diseases, pests and parasites.
- A vermin control program is established and all reasonable measures are taken to prevent animals and pests from entering hives, processing areas and transport vehicles.
- Buildings, equipment and vehicles are maintained in a clean condition.
- Procedures for handling hive materials in the apiary and during transport or processing minimise water, microbial, dust, soil and other foreign matter contamination of honey products.
- Low temperature storage or fumigation of honeycombs is used for pest control in stored equipment.
- Adequate clean cold water and hot water or steam are available for cleaning.
- Adequate toilets, hand wash facilities and one-use hand towels are provided.
- Adequate drainage is provided.
- Sewage, trash, and other refuse in and from the building and immediate premises are disposed of in a safe and sanitary manner.

### Physical Standards

- Foreign objects are removed from hives and/or processing area.
- Broken boxes/frames are removed or reconditioned.
- Processing area lights are covered.

### Quality Standards

- Product is identified according to floral source.

# APPENDIX 1

## APPROVED SUPPLIER PROGRAM STANDARDS (Cont.)

### Management Standards

#### *General*

- The manager has responsibility and authority, (i) To approve or reject all components of process materials, (ii) To approve all procedures impacting on the identity, quality, and purity of product, (iii) To monitor the production processes and instigate corrective actions if required.
- A food safety program based on HACCP principles and compliance with the Food Standards Code has been implemented.
- All staff engaged in production, processing and packing have relevant training, knowledge and skills to perform tasks. Workers receive relevant instruction in food safety, bee husbandry, bee health and honey processing.

#### *Records*

- A vendor declaration (or delivery docket) is completed for packer processing.
- Hive material is clearly identified for traceability.
- Records of harvesting dates, location and honey source are maintained.
- All outgoing product is clearly identified and documented for traceability.
- A system is established to ensure that invalid or obsolete documents are promptly removed from use.
- A checklist or procedure (internal audit) to verify compliance with the industry quality assurance program is established.

#### *Facilities*

- The flow of components through the building or buildings is according to enterprise flowcharts, which aim to minimise contamination.
- Design, construction, maintenance and cleanliness of the processing area minimise the likelihood of product contamination.
- Suitable areas are available for receipt, processing, labelling, storage and dispatch of product.
- Design and construction comply with B-Qual Standards.
- Appropriate ventilation and natural and/or artificial light are available in the processing area.
- Product is stored under cover where practicable for protection from the likelihood of contamination, adverse environmental conditions and overheating.

#### *Equipment*

- Plant equipment is of an appropriate design and is maintained in good working order. Equipment is cleaned and maintained at appropriate intervals. Cleaning records are kept.
- Food grade grease is used above the foodline.
- Best industry practice for carrying supers of honey and extracted supers minimise the likelihood of product contamination during transport. Loads are covered during transport.
- Drums for reuse are checked for damage, deterioration and contaminants. Suspect drums/containers are not used.
- Food grade equipment is used for honey processing and storage.

#### *Stock*

- All stock is rotated so that the oldest stock is used first or according to honey varieties or packer demands.
- All rejected stock is identified and disposed of appropriately.
- The distribution of product can be readily determined to facilitate its recall if necessary.

# APPENDIX 1

## APPROVED SUPPLIER PROGRAM STANDARDS (Cont.)

### Management Standards (cont.)

#### *Processing*

- Representative samples of product are collected, identified and stored for the required time period for testing and examination if required.
- Product is graded, stored, blended, processed and stored to meet food safety and customer quality expectations.
- Product is processed according to optimal time/temperature conditions to produce quality product.
- All food products for retail sale have tamper evidence packaging.

#### *Labelling*

- Documentation for all in-coming product is checked and product is assessed for appropriate labelling, damage and contamination.
- All outgoing product is clearly identified and documented for ownership traceability. They are labelled according to legislative requirements and appropriate records are maintained. Obsolete labels, labelling and other packaging materials are removed.

### Biosecurity Standards

#### *Integration of Biosecurity*

- Compliance with the B-Qual Program Standards, Records and work instructions form part of the industry Biosecurity Plan.

#### *Introductions*

- Where feasible, queens, package bees, or hives of bees and hives are only purchased from B-Qual certified suppliers within Australia.
- Health status is assessed prior to purchase and again on arrival.
- Comply with AQIS entry and release requirements for imported queen bees.

#### *Declarations/Testing*

- If disease status is not known, all second hand beekeeping hive equipment is irradiated (excluding equipment used in organic production) or a vendor declaration is obtained.
- Honey culture tests are used to identify the presence of AFB

#### *Feeding*

- If the disease free status of bee food is not known, no non-irradiated bee derived products are used, except in the production of organic products.
- Feed is only purchased from quality assured suppliers operating a biosecurity program.
- The number of external bees foraging at feeding sites is minimised.
- The feeding of honey to birds is discouraged.

#### *Vehicle and people movements*

- Vehicle and people movements around apiary sites and extraction plants are minimised. Legal requirements for moving bees are complied with.
- Vehicles are cleaned thoroughly if contamination is suspected.
- The processing plant is secured when unattended.

# APPENDIX 1

## APPROVED SUPPLIER PROGRAM STANDARDS (Cont.)

### Biosecurity Standards (cont.)

#### *Ferals*

- Precautions are taken against swarming and robbing bees, particularly if a disease hot spot is suspected.
- Isolate captured swarms for six months.

#### *Apiary Sites*

- Where possible, apiaries are not placed near honey packing or beeswax rendering plants.
- Placing apiaries near neglected apiaries or stored, used beekeeping material is avoided. The relevant Government agency is notified if neglected apiaries are located.
- Placing apiaries near rubbish tips or known areas for open feeding of birds is avoided.
- Hives are inspected and diseased hives treated or removed before placement on sites.

#### *Disease spread in and between apiaries*

- Where feasible, introductions are segregated and managed separately and placed under surveillance for at least six months or until satisfied of their status.
- Honey and bee materials are 'bee-proofed' during transport and adequate storage facilities are provided to prevent robbing by bees.
- Hives, particularly brood combs, are inspected on a regular basis.
- Honey spills, exposed bee combs and wax are covered to prevent robbing by bees.
- Honey and bee materials are secured against external contamination when unattended.
- Authorities are contacted if a notifiable disease or parasite is suspected or hives experience unusual sickness or death.
- Appropriate measures for disease control are taken and any treatment details are recorded.
- A broad-based barrier management system for disease control has been developed.
- The smoker and hive tool are cleaned before commencing work at each new apiary and after being used on a suspect diseased hive.
- Robbing of open hives is minimised when working.
- All second hand extracting equipment is cleaned.
- Honey containers are cleaned inside and out, dried and sealed.
- Robbing bees are controlled by bee-proofing buildings and keeping honey spillage's covered.
- Sewage, trash and other refuse in and from buildings and the immediate premises are disposed of in a safe and sanitary manner.
- Wastewater is disposed of through a digester or other appropriate method.
- Beekeepers abide by the Codes of Practice for Conserved Lands.

# APPENDIX 1

## APPROVED SUPPLIER PROGRAM STANDARDS (Cont.)

### Organic Production Standards

#### *Standards*

- The Australian Food Safety Standards, the B-Qual Standards, the National Standard for Organic and Biodynamic Product, the B-Qual Biosecurity Plan and relevant authority requirements are complied with.
- Inspection and certification is in accordance with the National Standard for Organic and Biodynamic Product (currently under review) and the approved certifying organisation.

#### *Management Plan*

- An organic management plan that demonstrates the operation development and organic integrity is maintained.
- Production is not alternated between organic and conventional methods.
- Potential risks and consequences of sources of external contamination are addressed.
- Products produced from synthetic chemicals, genetic engineering or ionising radiation are not used.

#### *Conversion*

- The Organic in Conversion status is gained through compliance with the National Standard for one year. Organic status is gained following operation within the standard for three years.

#### *Bee Origin*

- Selection of bees is based on vitality, resistance to disease and suitability to region and climatic conditions. Acquisition of any bees is from organic production units, where possible. If purchases are from non-organic sources, the first extraction is not labelled and marketed as organic product.

#### *Siting*

- A map of appropriate scale lists hive locations and documentation provides evidence that demonstrates the organic status of these areas. Nectar and pollen sources within a radius of 5 km from the apiary site consist of organically produced crops and/or spontaneous vegetation. Pollution sources such as agro-chemicals are not within this radius.
- Apiary sites have adequate supplies of clean water, natural nectar, honeydew and pollen. They are also placed in low ant activity areas.
- Records on the number, location (including maps), condition and colony management are maintained.
- Apiaries are clearly labelled with the operator certification number. Individual hives have an identification code that relates to each section of the hive. Apiary movements are registered with the certifying body. Locations are regularly updated.

#### *Feed*

- Hives are left with sufficient reserves of honey and pollen to survive between production flows.
- Hives are fed only under extreme climatic or other extenuating circumstances.
- If artificial feeding of bees is required, nutrition is provided from organic honey.
- Artificial feeding is only carried out between the last honey harvest and 15 days before the start of the next nectar or honeydew flow period. Records of artificial feeding are maintained.

# APPENDIX 1

## APPROVED SUPPLIER PROGRAM STANDARDS (Cont.)

### Organic Production Standards

#### *Disease*

- Disease prevention in beekeeping is based on the selection of appropriate low susceptibility strains and disease control is encouraged through management practices, which do not include the use of antibiotics.
- Colonies with American Foulbrood are destroyed.
- The use of synthetically compounded materials for health care is prohibited except where the imminent health of the colony is threatened. If treatment is required, the hive is removed from the foraging area and taken out of organic production. Bee products harvested for twelve months following the use of such antibiotics is not certified organic and foundation wax is replaced.
- Refrigeration or freezing is recommended for wax moth control in storage areas.
- Following is the list of products for possible use for pest and disease control or hive disinfecting: caustic soda; lactic, oxalic, acetic, formic acid; sulphur; etheric oils; bacillus thuringiensis; heat (flame, hot water), and; wax or paraffin dipping. Pests are controlled by cold room treatment for stored equipment. Check with the certification body and State Departments of Agriculture with respect to the acceptability of using these products.
- Botanical compounds such as menthol and vegetable oils are not used within thirty days of a honey flow, or whenever honey supers are on the hive.

#### *Management*

- Bottom boards are scraped routinely to remove accumulations of wax and other debris that serve as food and shelter for wax moths.
- Settling tanks and/or strainers/centrifuge are recommended for removal of foreign materials.
- Bees do not have their wings clipped.

#### *Harvesting*

- Bees are removed from hives by the use of bee escape boards, shaking, brushing, forced air blowers, or smoker fuel made only from natural, unprocessed substances.

#### *Materials*

- Hives are made of materials that present no risk of contamination to the environment or apiculture products. Particle board and/or toxic wood preservatives are not used in hive construction or maintenance, and only exterior surfaces of the hives are painted.
- Comb foundations are made from pure beeswax. Use of food grade plastics for frames and combs are verified by the operator to not pose contamination potential in the end product. Wood frames are recommended.
- Beeswax for new foundations is sourced from organic production units. The wax is derived from cappings, or melted down combs where certified foundation is used. Comb honey is only eligible for certification if the foundation used is certified as organic.
- Physical treatments such as cold rooms and steam or direct flame are permitted.
- Only approved products are used for cleaning and disinfecting materials, buildings, equipment and utensils.
- Hives are only coated on the exterior with paraffin or beeswax mixtures, naturally compounded paints or non-contaminating acrylic paints subject to approval.

#### *Extraction*

- Honey is only extracted from certified hives and colonies that comply with forage areas that meet the organic requirements.
- Chemical repellents are not used during honey extraction operations.
- Only combs above a queen excluder are used for honey extraction.

# APPENDIX 1

## APPROVED SUPPLIER PROGRAM STANDARDS (Cont.)

### Organic Production Standards (cont.)

#### *Processing*

- Processing equipment is thoroughly cleaned with hot water and dried prior to processing.
- Temperatures below 45<sup>0</sup>C are used during extraction and bottling.
- Surfaces in direct contact with honey are constructed from food grade materials or coated with beeswax from certified sources.
- Extracting facilities comply with all organic processing regulations.
- Irradiation is not used in the production process.

#### *Packaging*

- Polyvinyl Chloride (PVC) is not used for packaging.
- Packaging material complies with food standard regulations.

#### *Labelling*

- Products produced in accordance with the Standard are clearly and accurately labelled according to the Standard.
- Labelling of organic honey grade or colour complies with honey industry standards. Organic honey labelled by floral source is produced solely from that single floral source and not blended with any other honey.

#### *Testing*

- Any detection of synthetic chemicals may lead to decertification.

#### *Storage*

- Products are handled in a manner that prevents contamination or substitution with substances or products not compatible with the organic standard.
- Storage containers are cleaned and dried before use.
- Honey is stored in food grade containers.

#### *Specialised Activities*

- Production of queen bees, pollen, royal jelly, comb honey and propolis that are classified as organic are only produced from apiaries that are certified as organic.

# APPENDIX 1

## APPROVED SUPPLIER PROGRAM STANDARDS (Cont.)

### Pollination Standards

- The Australian Food Standards, the B-Qual Standards, the Code of Practice for Pollination Services and relevant authorities requirements are complied with.
- A written agreement for pollination services is recommended.
- The health, strength and conditions of bee colonies are adequate to effectively forage crops and effect pollination.
- Crops are monitored for adequate bee foraging and pollination activity.
- Honey supplies are monitored for adequacy and supplementary feeding is provided if required.
- Bee colonies are not aggressive.
- Beehives are located to maximise the potential for effective pollination.
- Toxic insecticides in the vicinity of hives and foraging areas are avoided.
- The B-Qual Biosecurity Plan is closely adhered to.

### Queen Bee Production Standards

- Breeding stock are sourced from stock instrumentally inseminated, stock mated in an isolated area or select tested queen mother stock.
- Age and nutrition of grafted larvae in cell raising colonies are assessed. Larvae are well-fed and not more than 24 hours old when grafted.
- Adequate numbers of nurse bees are present in cell raising colonies.
- Natural or supplementary pollen and nectar are abundant during the complete production period.
- Adequate numbers of mature genetically suitable drones are provided around mating apiaries.
- Queens are caught from mating nuclei at a suitable age.
- A knowledge of bee health allows recognition and treatment of bee diseases.
- Breeders have a demonstrated basic knowledge of the principles of inheritance of bee characteristics.
- Only irradiated honey is used as a honey source for queen candy.
- Only new cages and material are used for queen shipments.
- The B-Qual Biosecurity Plan is closely adhered to.
- All export consignments are covered by AQIS health certification.
- Transport, storage, finance arrangements and the necessary documentation are in order prior to sales.

### Pollen Standards

- The Australian Food Safety Standards, the B-Qual Standards, the National Standard for Organic and Biodynamic Product (if applicable) and relevant authority requirements are complied with.
- Pollen collection is avoided from crops treated with pesticides and from genetically modified crops.
- Pollen for human consumption is collected every 2-3 days using sanitary methods.
- Pollen for feeding back to bees is collected every 5-7 days.
- Where possible, pollen containing a high crude protein content is collected.
- The moisture content of pollen for human consumption is reduced to between 2.5 and 6.0%.
- Where possible, pollen is frozen for 24 to 48 hours immediately following collection to eradicate insect pests. The pollen should be thoroughly cleaned to remove any foreign objects.
- After collection, pollen is stored correctly and processed as soon as possible to prevent deterioration. Foreign material is removed.
- Pollen is packaged in clean, airtight containers and is labelled according to legislative requirements. No fumigants are used.
- B-Qual honey packer quality standards are complied with.
- It is recommended that pollen is gamma irradiated before being fed to bees.

# APPENDIX 1

## APPROVED SUPPLIER PROGRAM STANDARDS (Cont.)

### Comb Honey Production Standards

- The Australian Food Safety Standards, the B-Qual Standards, the National Standard for Organic and Biodynamic Product (if applicable), the B-Qual Biosecurity Plan and relevant authority requirements are complied with.
- Only new foundation and comb is used.
- Frames/section materials are new or thoroughly cleaned before use.
- Procedures for handling hive materials in the apiary and during transport minimise water, microbial, dust, soil and other foreign matter contamination of honey products.
- Only floral sources displaying slow crystallisation are utilised.
- Approximately 95% of cells are fully capped before the comb is removed.
- Cold rooms or CO<sub>2</sub> treatment are used to control wax moth during storage.
- B-Qual honey packer quality standards are complied with.

### Propolis Production Standards

- The Australian Food Safety Standards, the B-Qual Standards, the National Standard for Organic and Biodynamic Product (if applicable), the B-Qual Biosecurity Plan and relevant authority requirements are complied with as well as international standards.
- Procedures for handling hive materials in the apiary and during transport minimise water, microbial, dust, soil and other foreign matter contamination of hive products.
- Collection inserts are thoroughly cleaned before re-use.
- Cold rooms or CO<sub>2</sub> treatment are used to control wax moth during storage.
- B-Qual honey packer quality standards are complied with.

### Royal Jelly Production Standards

- The Australian Food Safety Standards, the B-Qual Standards, the National Standard for Organic and Biodynamic Product (if applicable), the B-Qual Biosecurity Plan and relevant authority requirements are complied with as well as international standards.
- Larvae for grafting should be less than 24 hours old.
- The likelihood of contamination is minimised through the use of personal cleanliness and clean handling practices. Workers with health conditions do not handle product if there is any risk of impacting safety.
- Larvae are removed from all started cells, prior to harvesting of royal jelly.
- Freshly collected jelly is strained to remove larval skin following moulting and then placed directly into appropriate storage.
- Freshly strained jelly is placed under refrigeration at the correct storage temperature soon after being harvested.
- B-Qual honey packer quality standards are complied with.

### Package Bee Production Standards

- Package bees are produced according to best industry practice and they comply with regulatory and B-Qual biosecurity requirements.
- All export consignments are covered by AQIS health certification.
- Transport, storage, finance arrangements and the necessary documentation are in order prior to shipping.