



Processing of Bee Products

[Document Date]

Draft for
Consultation

TITLE

Operational Code: Processing of Bee Products

COMMENCEMENT

This Operational Code is effective from [Effective Date]

ISSUING BODY

This Operational Code is issued by the Ministry for Primary Industries.

Dated at Wellington this ... day of

Judy Barker
Manager, Animal Products
Ministry for Primary Industries
(acting under delegated authority of the Director General)

Contact for further information
Ministry for Primary Industries (MPI)
Regulation & Assurance Branch
Animal and Animal Products Directorate
PO Box 2526
Wellington 6140
Email: animal.products@mpi.govt.nz

Draft for
Consultation

Contents	Page
Part 1: Structure of this Code	7
1.1 General	7
1.2 Layout of Parts	8
1.3 Documentation of GOP	10
1.4 Definitions	11
Part 2: General requirements	15
2.1 Document control and record keeping	15
2.2 Personnel health and hygiene	17
2.3 Personnel competencies and training	21
2.4 Operator verification and notifications	23
2.5 Corrective action	28
Part 3: Design, construction and maintenance of buildings, facilities and equipment	31
3.1 Overview	31
3.2 Building design and construction	33
3.3 Essential services	36
3.4 Potable water	39
3.5 Equipment	46
3.6 Amenities	48
Part 4: Repairs and maintenance	49
4.1 Overview	49
4.2 Programmed and non-programmed maintenance	49
4.3 Building maintenance	51
4.4 Equipment maintenance	52
Part 5: Cleaning and sanitation	56
Part 6: Supporting systems	61
6.1 Receipt of incoming materials for processing	61
6.2 Allergen management	63
6.3 Packaging	65
6.4 Inventory control and traceability	69
6.5 Calibration of measuring equipment	70
6.6 Labelling and identification of bee products	72
6.7 Control of maintenance compounds	74
6.8 Pest control	76
6.9 Processing of honey	79
6.10 Processing of pollen	83
6.11 Non-complying product and recall	84
6.12 Waste materials	86
6.13 Storage	86
6.14 Transport	89
Part 7: HACCP application	91
7.1 Introduction	91
7.2 HACCP application for the extraction, processing and packaging of honey	94

7.3	HACCP application for the processing of dried pollen	113
Part 8:	Identification and control of risk factors related to wholesomeness and labelling	119
8.1	Introduction	119
8.2	Identification and control of risks to wholesomeness	120
8.3	Identification and control of risks from false or misleading labelling	121
Appendix 1	Water Supply Assessment Checklist	122
Appendix 2	Pre-season Checklist Example	129
Appendix 3	Guidance on Calibration Methods & Frequencies	132

Draft for
Consultation

Introduction

- (1) This introduction is not part of the Operational Code, but is intended to indicate its general effect.
- (2) This Operational Code (Code) assists bee product operators to:
 - a) comply with the requirements of the Animal Products Act 1999 (APA) and relevant subordinate legislation; and
 - b) produce edible bee products that are safe and suitable for their purpose.
- (3) It has been developed by the Ministry for Primary Industries (MPI), in consultation with industry.

Purpose

- (1) This Code has been developed to provide guidance for meeting the requirements for the development, registration and implementation of a risk management programme (RMP).

Background

- (1) This Code applies to businesses involved in the secondary processing of edible bee products which covers the extraction of honey; and the processing, packing and storage of honey and other edible bee products.
- (2) The redevelopment of the Code is currently being undertaken to:
 - a) update it in line with changes in legislation;
 - b) combine the existing parts into one document; and
 - c) align its format with MPI's new standardised templates for documents as an Operational Code.
- (3) This Code does not apply to the primary processing of bee products and primary processing does not require an RMP. Primary processing of bee products includes:
 - a) beehive management including the rearing of queen bees for royal jelly production;
 - b) collection of honey supers, temporary storage of supers prior to delivery to the extraction facility and transport to the extraction facility;
 - c) scraping or collection of raw propolis from boxes or mats, bagging and storage of raw propolis and transport to an extraction facility; and
 - d) collection of pollen, bagging, holding in a freezer by the beekeeper and transport to a pollen drying/processing facility.
- (4) Honey processors who operate under the Food Act 2014 should use this the Code as guidance material.
- (5) Additional processes and/or products will be included in this document as and when they are completed.
- (6) This Code has been developed based on New Zealand requirements only. It does not include overseas market access requirements or general requirements for export.

Who should read this Operational Code?

This Code should be read by:

- a) bee products RMP operators;
- b) transport operators;
- c) evaluators;
- d) regulators; and
- e) verifiers.

Why is this important?

- (1) An operator can develop and implement their RMP in accordance with this Code. This will:
 - a) ensure that the operator complies with acceptable industry practices and procedures;
 - b) ensure that the operator meets relevant regulatory requirements; and
 - c) simplify and reduce the cost of developing and evaluating the RMP.
- (2) This Code clarifies MPI's expectations on how regulatory requirements may be met. This will assist operators and RMP verifiers and evaluators to have a consistent understanding of the requirements and their applications.
- (3) A Code is intended to be a guide on how to meet legislative requirements. If an RMP operator incorporates the whole or part(s) of the Code into their RMP, then the incorporated part(s) of the Code becomes mandatory (i.e. it is no longer a guide) and legally enforceable.
- (4) An RMP Template has been developed and designed to complement this Code and is published as a separate document. Using the template is one way of meeting the RMP requirements.
- (5) Bee product processors may use alternative approaches, provided all relevant regulatory requirements are met. Those who wish to use an alternative approach should refer to the [RMP Manual](#) for guidance.

Document History

- (1) This document replaces the MPI Code of Practice: Processing of Bee Products Parts 1-5, 2005-6.
- (2) This revised version also reflects the changes made to the Animal Products Notice: Specifications for Products Intended for Human Consumption issued 1 March 2016. Other general updates have also been made.

Main Legislation

- (1) Below is a summary of the main legislation (including requirements under the APA 1999) that is most applicable to bee product processing, however this list is not exhaustive. The web links to documents were current at the date of issue of this Code. To access all current legislation go to the general link: <https://www.mpi.govt.nz/law-and-policy/requirements/animal-products-act-notices/>.
- (2) The main legislation applicable to bee product operators includes, as appropriate:
 - a) [Animal Products Act 1999](#);
 - b) [Animal Product Regulations 2000](#);
 - c) [Animal Products Notice: Specifications for Products Intended for Human Consumption 2016](#);
 - d) [Animal Products \(Risk Management Programme Specifications\) Notice 2008](#);
 - e) [Australia New Zealand Food Standards Code](#);
 - f) [Agricultural Compounds and Veterinary Medicines Act 1997](#);
 - g) [Animal Products \(Harvest Statement and Tulin Requirements for Export Bee Products\) Notice 2010](#);
 - h) [Food Standard: Tulin in Honey 2016](#);
 - i) [Animal Products Notice: Official Assurances Specifications for Animal and Animal Products 2017](#);
 - j) [Animal Products Notice: Regulated Control Scheme – Monitoring of Specified Substances in Bee Products for Export 2017](#); and
 - k) [Biosecurity \(National American Foulbrood Pest Management Plan\) Order 1998](#).
- (3) A complete list of legal requirements, guidance documents and forms that are relevant to the processing of bee products are listed in the [Honey and Bee Products Road Map](#).
- (4) Information specific to bee products is available on the MPI website for [Honey & bee products](#).

Do you want to export?

- (1) This Code covers the New Zealand standard for secondary processing of honey and bee products under the APA. Export requirements are additional to the requirements described in this Code.
- (2) If you are wanting to export honey or bee products, you are responsible for:
 - ensuring you meet relevant NZ standards (e.g. Food Act 2014 or APA);
 - complying with Official Assurances Specifications (OAS) for Animal Material and Animal Products;
 - complying with the importing country's legislation and eligibility requirements (Overseas Market Access requirements); and
 - registering as an exporter.
- (3) Further information can be found on the MPI website at: <http://www.mpi.govt.nz/exporting/food/honey-and-bee-products/>
- (4) If you have questions about exporting honey and bee products, email exporterhelp@mpi.govt.nz.
- (5) MPI has published the booklet "[Meeting the rules for exporting. A guide to the honey and bee products export chain](#)" on the MPI website.

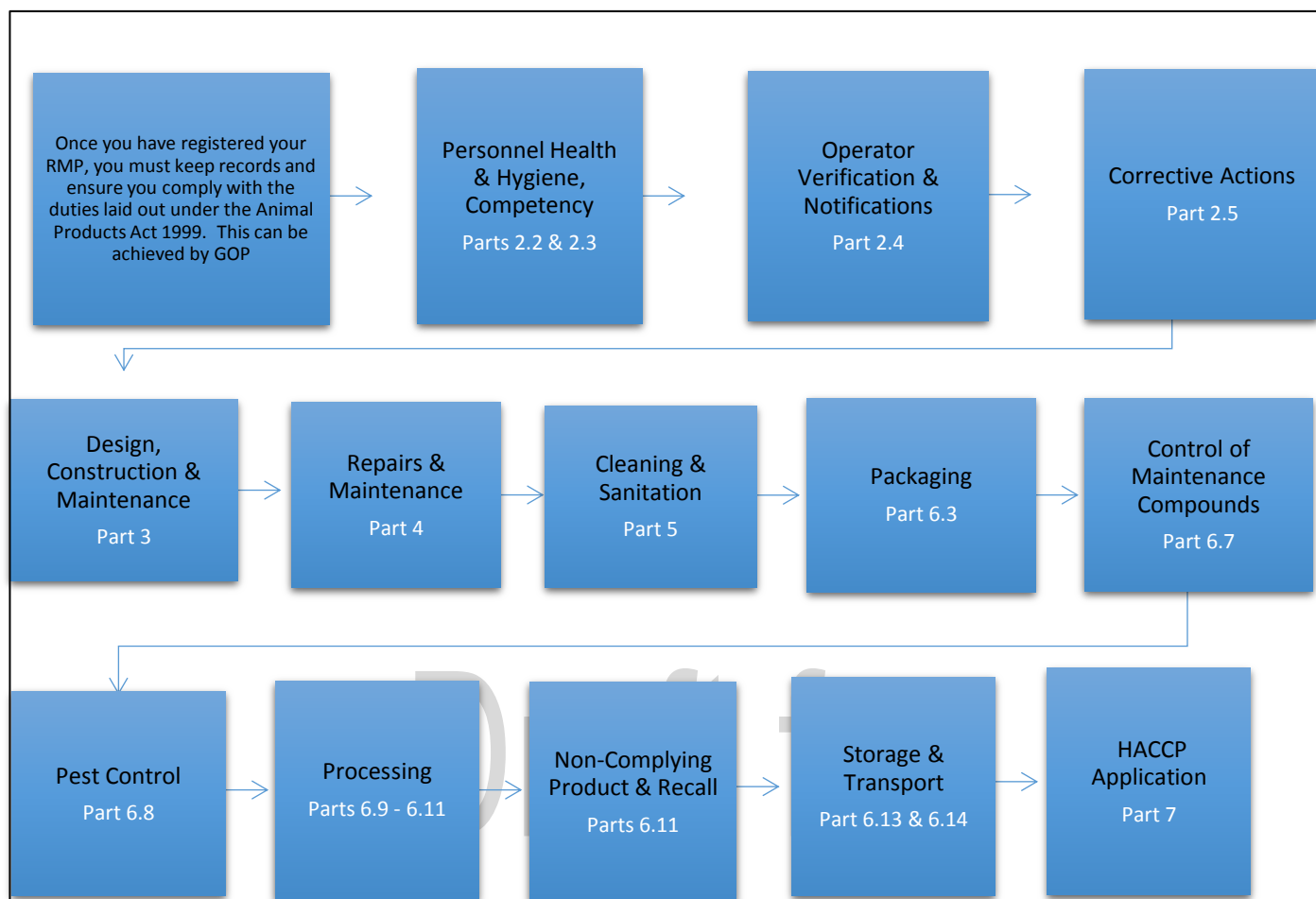
Draft for
Consultation

Part 1: Structure of this Code

1.1 General

- (1) This Code is separated into Parts. Each Part specifies requirements and procedures relating to different aspects of bee products production and processing.
- (2) This Code sets out the following:
 - a) [Part 1: Structure of this Code;](#)
 - b) [Part 2: General Requirements;](#)
 - c) [Part 3: Design, Construction and Maintenance of Buildings, Facilities and Equipment;](#)
 - d) [Part 4: Repairs and Maintenance;](#)
 - e) [Part 5: Cleaning and Sanitation;](#)
 - f) [Part 6: Supporting Systems;](#)
 - g) [Part 7: HACCP application; and](#)
 - h) [Part 8: Identification and Control of Risk Factors Related to Wholesomeness and Labelling.](#)
- (3) Good Operating Practice (GOP) is essential for the consistent production of edible bee products that are fit for their intended purpose and that meet relevant regulatory requirements. This Code provides guidance on hygienic practices and process controls that directly or indirectly impact on the safety and suitability of products. Compliance with these measures will assist operators meet the requirements of the APA, particularly the current version of the Animal Products Notice: Specifications for Products Intended for Human Consumption 2016.
- (4) GOP is the foundation for Hazard Analysis and Critical Control Point (HACCP) and of Risk management Programmes (RMPs). The HACCP approach explained in Part 7 of this Code is based on the expectation that GOP is effectively implemented prior to the application of HACCP principles.
- (5) GOP can also be described as Supporting Systems.

Consultation

Figure 1: Flow diagram of some of the parts of this Code

1.2 Layout of Parts

- (1) Parts 2-6 are generally laid out with the following subheadings:

Purpose and Scope

This describes the purpose and scope of application.

General requirements and procedures

General requirements, recommended procedures and guidance information are distinctly differentiated in this document.

A regulatory requirement is identified by having a citation to the specific legislation from which the requirement is derived from, at the end of the relevant sentence or clause. The word “**must**” is often used to indicate its mandatory status. For example:

“All inputs, including raw materials, ingredients, additives and packaging must be handled, processed, and stored in a manner that minimises any potential contamination or deterioration [AP Reg 9]”.

In many cases, the mandatory requirements have been paraphrased for context. Operators should refer to the cited legislation for the actual wording of the legal requirement.

The abbreviations used for legislation cited in this document are:

APA	<u>Animal Products Act 1999</u>
AP Reg	<u>Animal Product Regulations 2000</u>
HC Spec	<u>Animal Products Notice: Specifications for Products Intended for Human Consumption 2016</u>
RMP Spec	<u>Animal Products (Risk Management Programme Specifications) Notice 2008</u>
FSC	<u>Australia New Zealand Food Standards Code</u>
ACVM	<u>Agricultural Compounds and Veterinary Medicines Act 1997</u>
OAS	<u>Animal Products Notice: Official Assurances Specifications for Animal and Animal Products 2017</u>

Procedures

There may be cases when the operator may decide to use an alternative process, procedure or parameter that is not provided for in this Code (e.g. when new technology becomes available). The operator must be able to demonstrate the effectiveness of any alternative to consistently meet all relevant regulatory requirements and produce products that are fit for their intended purpose (validation).

Confirmation of the effectiveness of any alternative process, procedure or parameter may involve the collection and analysis of evidence by the operator (e.g. data from testing or trials, published scientific information, report from an expert). A protocol for the collection of data should be prepared by the operator as discussed in the [RMP Manual](#).

The programmes covering hygiene and sanitation and RMP requirements (e.g. product recall) are expected to apply to the processing of all types of bee products. However, the process control procedures given in Part 6 only cover honey extracted in a premises, comb honey, dried pollen and royal jelly.

Field extraction of honey and processing of other types of bee products (e.g. honey and fruit blends, honey and velvet, propolis extract) are not specifically covered. The operator will, therefore, need to write their own process control procedures for these products. These procedures, together with any other required RMP documentation will need to be reviewed by an RMP Evaluator.

Guidance

Guidance

Guidance material is presented in a 'guidance box'. It provides explanatory information, examples or options for achieving a particular outcome or requirement. Operators may use alternative methods or measures to those set out in the guidance material provided they do not in any way compromise GOP and the achievement of regulatory requirements. Justification is not needed when deviating from guidance.

Records

This section gives the list of records that should kept by the operator.

1.3 Documentation of GOP

1.3.1 Procedures

- (1) The RMP Spec) requires the operator to document sufficient procedures to ensure that GOP is applied. These procedures must cover:
 - a) the control of hazards and other risk factors;
 - b) any parameters to be met;
 - c) any monitoring procedures that are to be carried out; and
 - d) any corrective action procedures that are to be applied in the event of loss of control, including restoration of control; identification and disposition of affected animal material or animal product; and any measures to be taken to prevent reoccurrence of the loss of control [RMP Spec 11].
- (2) When the Code does not cover a particular procedure required for the operator's RMP, the operator will need to write their own procedures. Sufficient detail should be given to:
 - a) ensure that managers and staff know what to do;
 - b) assist in staff training;
 - c) show how legislative requirements are met;
 - d) ensure clear understanding by external verifiers and accredited evaluators.
- (3) Refer to [2.1 Document Control and Record Keeping](#) for the contents of procedures.

1.3.2 Procedures to be written

- (1) Additional written procedures that should be documented by the operator include as appropriate:
 - a) document control e.g. amendments;
 - b) corrective action e.g. corrective action register;
 - c) water treatment e.g. sampling;
 - d) hygiene and sanitation e.g. handwashing, cleaning, protective clothing;
 - e) personnel health e.g. treating wounds;
 - f) personnel training e.g. induction;
 - g) reviews of the RMP e.g. internal audits;
 - h) notifying the verifier and/or MPI of issues;
 - i) calibration of equipment e.g. calibration methods;
 - j) returning equipment to use e.g. after repair;
 - k) purchasing inputs e.g. honey, packaging;
 - l) allergens e.g. cross-contamination, cleaning;
 - m) traceability e.g. inputs through the process;
 - n) inventory e.g. load in and load outs;
 - o) labelling e.g. design;
 - p) maintenance compounds e.g. storage, handling, use;
 - q) pest control e.g. bait station monitoring;
 - r) operational tasks e.g. mixing chemicals;
 - s) specific processing methods e.g. blending honey for tutin;
 - t) monitoring e.g. cleaning, sanitation, critical limits;
 - u) product testing e.g. tutin;
 - v) non-complying product disposition e.g. updating inventory;
 - w) recall e.g. mock recall; and
 - x) hazard analysis e.g. each type of process.

1.4 Definitions

- (1) In this Code, unless the context otherwise requires:

APA means Animal Products Act 1999, and **the Act** when used in this document has a corresponding meaning

amenities includes toilets, wash rooms, locker rooms, change rooms, lunch/smoko rooms, and cafeterias

batch or **lot** means a homogenous quantity of relevant product manufactured during a discrete period of time, typically not exceeding 24 hours, as part of one continuous process

bulk honey is the common term used in New Zealand for honey obtained by extraction, settling or straining, and with or without minimal heating. Bulk honey is usually packed in drums, IBC's etc.

comb honey is honey presented in its original comb or portions thereof

competent means a person who has sufficient experience, training and knowledge to perform the nominated function

clean, when used as a verb, means to remove visible contaminants from any surface

critical limit means a criterion which separates acceptability from unacceptability at a critical control point, and includes acceptable parameters

critical measurement means a parameter identified as critical in a specification or a critical limit for a critical control point (CCP)

creamed honey is extracted honey that has been processed by controlled crystallization

equipment includes:

- a) the whole or any part of any utensil, machine, fitting, device, instrument, stamp, apparatus, table, or article, that is used or available for use in or for the preparing, marking, processing, packing, storing, carrying, or handling of any animal material, animal product, ingredient, additive, or processing aid; and
- b) any utensil or machine used or capable of being used in the cleaning of any equipment or facilities

essential services includes the provision of process gases, lighting, ventilation, and water and waste management

extraction is the removal of honey from the comb by centrifugal force, gravity, straining or other means

facilities includes amenities, storage areas, and processing areas

Good Operating Practice (GOP) means documented procedures relating to practices that:

- a) are required to ensure products are fit for their intended purpose; and
- b) are appropriate to the operating circumstances [RMP Spec definitions]

hazard means a biological, chemical, or physical agent that:

- a) is in or has the potential to be in animal material or product, or is or has the potential to be a condition of animal material or product; and

- b) leads or could lead to an adverse health effect on humans or animals [APA 4 (1)]

HACCP is a system which identifies, evaluates, and controls hazards which are significant for food safety

honey means the natural sweet substance produced by honey bees from the nectar of blossoms or from secretions of living parts of plants or excretions of plant sucking insects on the living parts of plants, which honey bees collect, transform and combine with specific substances of their own, store and leave in the honey comb to ripen and mature

honey super means a unit of a beehive which contains frames of surplus honey to be harvested by the apiarist or beekeeper, and box, honey box or super has the same meaning. Super has a corresponding meaning

label includes any wording, tag, brand, symbol, picture, or other descriptive matter written, printed, stencilled, marked, embossed, impressed on, appearing on, attached to, or enclosed within any animal material or animal product

liquid honey is extracted honey that has been processed to make it completely liquid and free from visible crystals

maintenance compound means any substance:

- a) used for maintaining, repairing, servicing, cleaning, or sanitising equipment or surfaces that may be the source of, or result in, contamination of bee product or associated things;
- b) used for treating water; or
- c) used for pest control

monitoring (monitor) means checking:

- a) process parameters (e.g. temperature, pH) are within the limits (both operator and regulatory);
- b) documented procedures are being followed (e.g. handwashing procedures, load in checks etc.); and
- c) records are correctly completed

monitoring records may include:

- a) visual and other sensory assessment of equipment and the environment,
- b) checks of the cleaning programme in action including:
 - i) visual checks of the procedures taking place,
 - ii) measurement and mixing of cleaning chemicals,
 - iii) checks on the strength of cleaning solutions when prepared,
 - iv) checks to ensure correct contact times are being observed; and

MPI means the Ministry for Primary Industries

non-complying (non-compliance) means any material or product or input that fails to comply with regulatory requirements

non-conforming (non-conformance) means any material or product or input that is suspected or known not to meet operator defined limits / criteria

official assurance has the meaning given by section 61 (2) of the Act

operator means an operator of a premises or place who operates an animal product business that is subject to an RMP

operator defined limit or food safety objective means a measurable limit established by an RMP operator to manage the fitness for purpose of bee products

operator verification means the application of methods, procedures, tests and other checks by the RMP operator to confirm the ongoing:

- a) compliance of the RMP to the legislative requirements; and
- b) compliance of the operation to the RMP as written; and
- c) applicability of the RMP to the operation; and forms part of confirmation as described in section 17(3)(f) of the Act.

packaging:

- a) means any material that is intended to protect and that comes into immediate contact with the bee product; and
- b) includes rigid materials such as cartons and containers where bee product is filled directly into the carton or container; and
- c) includes any other material contained with, in, or attached to, the bee product (such as labels, and heat sensors)

potable water means water that:

- a) in relation to water supplied by an independent supplier (including a public or private supplier), is of a standard administered by the independent supplier under the Health Act 1956 and any regulations made under that Act; or
- b) in relation to water supplied by the operator solely for the use of the operator (such as bore water, rainwater, surface water, or ground water):
 - i) is of a standard equivalent to that referred to in a), as determined by the operator based on an analysis of hazards and other risk factors; or
 - ii) complies with the requirements in Schedule 1 of the current version of the Animal Products Notice: Specifications for Products Intended for Human Consumption 2016

protective clothing means special garments intended to prevent the contamination of animal material or animal product that are used as outer-wear by persons; and includes head coverings and footwear

regulatory limit means a measurable regulatory requirement that is critical to fitness for intended purpose of bee products

reticulation management plan means a documented programme that contains procedures for the management of the water reticulation system, (including pipework and fittings e.g. backflow prevention devices etc.), within the premises or place to ensure that the water quality is not adversely affected prior to the point of use

risk management programme (RMP) has the same meaning as the Act - a programme designed to identify, control, manage and eliminate or minimise hazards and other risk factors in relation to the production and processing of animal material and products in order that the resulting animal product is fit for intended purpose

sanitary design:

- a) in relation to any premises or place, facility, internal structure, equipment, or conveyance, means designed, constructed, and located so that it:
 - i) meets the requirements appropriate to the type of animal material or animal product and process, and which includes consideration of the movement of people, access, and process flow; and
 - ii) can be readily maintained, cleaned, sanitised, and sterilised where required, to ensure that risk factors from contaminants and pests are minimised; and

- iii) in relation to any equipment or access way in any processing area, means that the equipment or access way is designed, constructed and located so that it:
 - 1) is easily accessible for maintenance, cleaning, operation, checking, and inspection; and
 - 2) minimises the contact of contaminants with any animal material (other than live mammals or live birds), or animal product or other equipment; and
 - 3) prevents the harbouring or accumulation of any contaminants or pests

sanitise means the application of an approved maintenance compound or physical agent with the intention of reducing microbial contamination to a level that will avoid the creation of a hazard

suitably skilled person means a person who in the opinion of the operator is skilled in a particular activity or task through training, experience, or qualifications

transport includes transport by road, rail, sea or air

transportation outer means a package that:

- a) encases any packaged or unpackaged animal material or animal product for the purpose of transportation and distribution; and
- b) is either removed before the animal product is used or offered for retail sale, or is not taken away by the consumer of the product;
- c) but does not include a transportation unit

transportation unit includes vehicles, aircraft, railway wagons, ships, shipping containers, bulk tanks, trailers and any other form of transport used in the transport of animal material or product

validation means a process by which evidence is obtained to demonstrate the process operating at defined parameters, is consistently capable of producing bee products that meet the requirements to be fit for purpose

verification means a review of operator's procedures and processes (including GOP) to ensure that these are in compliance with regulatory requirements and check that these are being followed. This should include the following:

- a) monitoring records;
- b) documented procedures;
- c) reality checks of processing;
- d) customer complaints; and
- e) audit outcomes

water management plan means a documented programme that specifies the water quality standard and criteria, and procedures for the management of the water quality within the premises or place to ensure that the appropriate quality of water is delivered at the point of use

- (2) References in this Code to subclauses, clauses, appendices and parts are references to subclauses, clauses, appendices and parts of this Code unless otherwise stated.
- (3) Any term or expression used in this Code that is defined in the Act or Regulations made under the Act and used, but not defined, in this Code has the same meaning as in the Act or Regulations.

Part 2: General requirements

2.1 Document control and record keeping

2.1.1 Purpose and scope

- (1) To ensure that:
 - a) all RMP documents are managed under a document control system so they are current and authorised;
 - b) obsolete documents are removed from use; and
 - c) records are managed.

2.1.2 General requirements and procedures

- (1) Operators must document the following in their RMP:
 - a) processing procedures;
 - b) product and process parameters;
 - c) procedures for monitoring and verifying compliance with established processing procedures and parameters - in particular, critical limits at identified critical control points; and
 - d) corrective actions for any non-compliance or deviation from any regulatory limit or operator-defined limit, procedures, and product and process parameters [RMP Spec 8, 9 and 11].
- (2) Operators must maintain accurate records, particularly for the monitoring and verification of product and process parameters critical to product safety [RMP Spec 20 (2)].
- (3) Include the following in each of the documented GOP programmes:
 - a) purpose and scope;
 - b) authorities and responsibilities;
 - c) materials and equipment, as applicable;
 - d) procedures (including monitoring, corrective action and operator verification);
 - e) records (including forms/checksheets); and
 - f) references to other relevant documents as applicable.
- (4) Every document or part of a document that forms part of a RMP must be:
 - a) legible;
 - b) dated or marked to identify its version;
 - c) authorised prior to use, either directly or within the document control system, by:
 - i) the operator;
 - ii) the day-to-day manager of the programme; or
 - iii) a person nominated to do so in the programme's document control system [RMP Spec 19 (1)].
- (5) Every document must be available when required to any person with responsibilities under the programme [RMP Spec 19 (1)].
- (6) Operators must list all current RMP documents showing the document titles and their current versions and/or dates of issue [RMP Spec 12 (1)].

2.1.3 Document control

- (1) Operators must implement procedures to:
 - a) control documents and records; and
 - b) ensure that the RMP is up-to-date and reflects actual operations [RMP Spec 19 (2) and HC Spec 9.2 (1)].

- (2) Operators must document procedures for effective document control including how:
- significant and minor amendments are made to the RMP so that the programme is current and reflects the actual operation;
 - the amendments, or the nature of the amendments to the programme are identified or described;
 - documents are authorised prior to issue and use; and
 - all amended parts of the RMP are replaced with the current versions at all distribution points without unnecessary delay after authorisation [RMP Spec 19 (2)].

Guidance

Operators often use an amendment register. This can be useful when applying for a significant amendment to identify the pages affected by the amendment. Refer to RMP Spec clause 21.

2.1.4 Record keeping

- Operators must produce records demonstrating that the requirements of relevant animal product regulations, notices and the registered RMP are being met [HC Spec 9.2 (1)].
- Ensure records accurately reflect any observations taken and remain readable throughout their entire storage period.
- Operators must ensure records relating to the RMP's monitoring, corrective action and operator verification activities (including electronic) include:
 - the date and, where appropriate, the time of the activity or observation;
 - a description of the results of the activity or observation; and
 - the identity of the person(s) who performed the activity [RMP Spec 20 (2)].
- Back up and protect all relevant electronic records from corruption, damage or loss.
- Operators must ensure all records are:
 - legible;
 - stored for 4 years, or for the shelf-life of the product to which the records relate (whichever is longer); and
 - stored in a manner which protects the records from damage, deterioration or loss [RMP Spec 20 (1)(a) and (b)].

Guidance

The requirements given in [2.1.4 Record Keeping](#) apply to both paper and electronic records.

Record dates and times appropriate to the activity being monitored. For example, the monitoring of certain critical process time and/or temperatures may require the recording of the exact date and time when the observation is made. Monitoring a more general time period may be acceptable (e.g. shift) for the observation of certain GOP programmes (e.g. checking for compliance with personal protective equipment (PPE) requirements).

Consider for paper records:

- the durability of paper on which records are kept (e.g. pen does not write well on wet paper);
- its suitability for storage (e.g. thermal papers can fade over time); and
- the writing tool used (e.g. pencil is not suitable because it is easy to erase or alter).

Altering records should be noted alongside the original entry and initialled by the person amending the record. Single pen strokes should be used to delete errors. White out (e.g. Twink™) is not acceptable to auditors and verifiers as it is not possible to see the original entry.

Consider for electronic records:

- systems for backing up the documents and files;

- security of documents and files; and
- version control of documents when amending the record.

Recording information on a whiteboard is not considered a record.

2.1.5 Accessibility of RMP documents and records

- (1) Operators must ensure that:
 - a) RMP documents;
 - b) monitoring and verification records; and
 - c) any archived documents are accessible or can be retrieved and made available within 2 working days of any request to:
 - i) recognised persons;
 - ii) Animal Product Officers;
 - iii) the Director-General; and
 - iv) persons authorised by the Director-General [RMP Spec 19 (4), 20 (1)(c), 20 (3), HC Spec 9.2 (2)(a) and (c)].

2.1.6 Records

- (1) Keep records to demonstrate compliance with the requirements [RMP Spec 20 (2)].
- (2) Keep the following records for document control:
 - a) all RMP records (including monitoring, corrective action and verification records);
 - b) important correspondence with their verifier and with MPI; and
 - c) amendments and obsolete documents.

2.2 Personnel health and hygiene

2.2.1 Purpose and scope

- (1) To ensure that all personnel are medically fit to perform their duties and that they comply with good hygienic practices so as to prevent or minimise the contamination of bee products, other inputs, packaging, equipment, and the processing environment.

2.2.2 Health of personnel

- (1) Operators must take reasonable measures to ensure that a person (including any visitor or contractor) does not handle product, or enter an area where he or she may adversely affect the suitability for processing or the fitness for intended purpose of product, if that person is confirmed as or suspected of suffering from or being a carrier of a disease as described in clause 2.2.2 (3)(a).
- (2) Ensure personnel and visitors are aware of and comply with the health procedures.
- (3) Operators must ensure health procedures include the following:
 - a) instructions for personnel to inform their supervisor or manager if they are (or suspect that they are) suffering from diarrhoea, acute respiratory infection or diagnosed with an illness caused by *Salmonella*, *Shigella* spp., *E. coli* spp., *Campylobacter*, Hepatitis A virus infection or other infections likely to be transmissible via food;
 - b) actions to take so that medically unfit personnel do not work as product handlers or enter areas where the person may adversely affect the safety or suitability of any product;
 - c) clearance requirements (e.g. submission of medical certificates) for personnel resuming work after being diagnosed with an illness mentioned in clause 2.2.2 (1); and
 - d) procedures for treating injuries, wounds or cuts.

- (4) Treat any injury, wound or cut immediately and dress with a secure waterproof dressing to prevent contamination of any ingredients, product, packaging or equipment.

Guidance

Awareness and compliance with health procedures could be achieved through:

- Sickness Policy;
- pre-employment agreements;
- ongoing staff training;
- staff declarations when they resume work after extended periods of leave or premises shut-down;
- induction; and
- declarations from contractors and visitors entering the premises.

“Acute respiratory infections” are not considered to include the common cold or ‘flu as these are not transmissible by food and a medical certificate is not required before resumption of work after suffering from these illnesses. Personnel who are unwell may be able to work but not in areas that may contaminate product e.g. in a store.

Brightly coloured or metallised dressings are recommended as they are more likely to be detected in products if they become dislodged.

2.2.3 Hygienic practices

- (1) Operators must ensure that all personnel whose presence or action within processing areas may result in contamination of edible bee product:
- a) wear appropriate protective clothing, where necessary;
 - b) follow an appropriate personal hygiene routine (refer to [2.2.4 Hygiene Routines](#)); and
 - c) behave in such a manner as necessary to minimise contamination of edible bee product, other inputs, packaging and the processing environment [AP Reg 12].
- (2) Ensure you have procedures to make certain PPE does not become a source of contamination. This includes specific procedures for activities conducted outside processing areas and staff conducting cleaning activities.
- (3) Ensure protective clothing (e.g. coats, overalls, aprons) is visibly clean at the start of each day's operation.
- (4) Ensure footwear is suitably clean so it does not cause soil, mud, grass and other dirty material to be brought into processing and packing areas.
- (5) Ensure personnel do not bring personal items (e.g. sweets, cigarettes, mobile phones and other electronic items) into the processing area.
- (6) Ensure personnel thoroughly wash and dry hands and exposed portions of the arms with hand sanitiser and water:
- a) before entering any processing or packing areas;
 - b) before handling any product or exposed packaging;
 - c) after using the toilet;
 - d) after handling or coming into contact with waste and contaminated surfaces or material; and
 - e) after hand contamination from coughing, sneezing, and blowing the nose.

Guidance

Hand washing water in buckets may be used by personnel during processing only for the purpose of removing sticky honey residues on hands. It should not be used for washing contaminated hands. Change the water on a regular basis and should not become a source of contamination.

- (7) After washing, hands should be thoroughly dried on:
- disposable paper towels; or
 - individual towels which should be laundered and sanitised daily (generally appropriate for small premises only).
- (8) Ensure PPE is:
- maintained in a hygienic condition;
 - made of readily cleanable materials;
 - cleaned or changed whenever it becomes a source of contamination during processing; and
 - stored in a manner that protects it from contamination.
- (9) Ensure disposable or damaged PPE is:
- discarded after use, when damaged (e.g. torn), or if it cannot be effectively cleaned when required during use; or
 - repaired.
- (10) Prohibit the use of street clothes worn over protective clothing.

Guidance

PPE generally includes the following:

- overall or coat, which may be of any colour, provided the presence of any contaminant, relative to the type of work, is clearly distinguishable;
- gloves and sleeves;
- hairnets;
- waterproof apron, as appropriate; and
- waterproof footwear.

Covering of the potential food contact zone will, in the majority of cases, only require a coat that covers the body to below the knee. For example, for personnel working at tables, the potential food contact zone would be from the shoulder line to below the level of the work surface.

Clean gloves before use and should be cleaned or replaced whenever gloves become contaminated.

Store PPE that comes in direct contact with unprotected product in a dedicated storage area when not in use e.g. aprons.

Ensure the colour of PPE makes visible contamination (relative to the type of work) clearly distinguishable.

- (11) Prohibit the following activities inside processing or packing areas:
- eating of any food;
 - smoking;
 - spitting; or
 - any other activity that may cause the contamination of any product and product contact surfaces.

Guidance

Use clean disposable utensils for tasting honey.

- (12) Prohibit personnel involved in the handling of edible bee product wearing any jewellery except plain wedding bands (i.e. no stone). Plain wedding bands may be worn provided they cannot be easily dislodged and they can be effectively cleaned in the same manner as hands.
- (13) Prohibit personal items such as sweets and cigarettes being taken into processing or packing areas.

2.2.4 Hygiene routines

- (1) Ensure no one processes honey in any processing area unless they comply with the hygiene routine. People entering an active processing area without complying should have appropriate corrective actions taken (e.g. re-training, warnings, re-cleaning etc.).
- (2) Implement hygiene routines for personnel when changing between activities of lower to higher hygienic status.
- (3) Include as a minimum in the hygiene routine:
 - a) a complete change of all product contact PPE;
 - b) washing and drying, or sanitising (where required) of the hands and arms; and
 - c) washing or changing footwear and PPE.

Guidance

Where possible, assign personnel to activities where the hygienic status of all procedures they are required to work is the same.

Ensure personnel change their PPE if moving from unhygienic processing areas to relatively cleaner areas.

- (4) Provide enough rubbish bins for dirty (hand) towels and empty as appropriate but as soon as they become full.
- (5) Ensure personnel handling unprotected product:
 - a) keep fingernails clean and short; and
 - b) do not wear fingernail polish or any other fingernail adornment.
- (6) Manage body hair to minimise contamination of product.
- (7) Ensure clean hats (paper, cloth, plastic), hairnets, beard nets, food industry balaclavas are worn to contain hair on the head and face.

Guidance

Hand-washing

Hand-washing and drying should involve the following:

- clean under each fingernail using warm running water, soap and a nail brush;
- wash hands with warm running water and soap, rubbing vigorously (front, back and between fingers); and
- dry hands thoroughly (front, back and between fingers).

Using sanitisers may be part of this process.

Hair

Determine your own policy on acceptable facial hair lengths. As a guide, facial hair longer than stubble would require containment.

Jewellery

Determine your own policy on jewellery. Jewellery includes earrings, rings, bangles, bracelets, brooches, necklaces, studs, exposed body piercings and wristwatches. Plain wedding rings (i.e. no stone) and medical alert jewellery may be worn provided they:

- will not dislodge; and
- are cleaned sufficiently in the same manner as hands.

2.2.4.1 Monitoring

- (1) Regularly check procedure compliance.

2.2.5 Records

- (1) Keep records to demonstrate compliance with the requirements [RMP Spec 20 (2)].
- (2) Keep the following records for personnel:
 - a) illness records, including sighting of medical certificates prior to personnel returning to work (when required);
 - b) registers for injuries;
 - c) visitors' logbook;
 - d) monitoring records of compliance with hygienic practices and/or of any problems observed and any corrective action taken (including restoration of control, product disposition and prevention of recurrence).
 - e) assessments and evidence of personnel competencies;
 - f) individual training records including induction and skills maintenance; and
 - g) any training materials (e.g. manuals or instructions).

Guidance

Records may be kept as a daily diary, logbook, completed form or checklist.

Refer to [2.1 Document Control and Record Keeping](#) requirements.

2.3 Personnel competencies and training

2.3.1 Scope

- (1) To ensure personnel have the knowledge and skills necessary to perform their assigned tasks effectively.

2.3.2 Competencies of key RMP positions

- (1) Operators must identify the following (either by position, designation or name) in your RMP:
 - a) the day-to-day manager or person responsible for the day-to-day running of the RMP;
 - b) the person(s) who authorises all or parts of the RMP document; and
 - c) personnel involved in process control, monitoring, corrective action and operator verification activities [RMP Spec 15 (1)].
- (2) Operators must document the skills or competencies needed by the persons identified in clause 2.3.2 (1) to enable the effective operation of the RMP [RMP Spec 15 (2)].
- (3) The RMP must provide for the keeping of records, in an easily acceptable form, demonstrating that the competencies documented in clause 2.3.2 (2) have been achieved and maintained.
- (4) Ensure the day-to-day manager or person authorising all or part of the RMP is familiar with the documented RMP and has the following competencies:

- a) knowledge in food safety relevant to the bee products industry and hygienic procedures and practices documented in this Code;
 - b) knowledge of regulatory requirements, including responsibilities, related to the effective implementation of the RMP;
 - c) technical knowledge and experience in the particular product/process; and
 - d) able to liaise and communicate effectively with personnel and MPI.
- (5) Ensure personnel performing key tasks (including monitoring, corrective action and operator verification) have the following competencies:
- a) knowledge and skill in executing the particular task; and
 - b) an overall understanding of the area they are monitoring.

Guidance

The following competencies should be documented in relevant job descriptions:

- Ensure the day-to-day manager or person authorising all or part of the RMP is familiar with the RMP and has:
 - good knowledge of product safety and hygienic procedures and practices written in this Code;
 - good knowledge of regulatory requirements;
 - technical knowledge and experience in the processing or manufacturing of bee products; and
 - effective organisational and communication skills.
- Ensure the day-to-day manager shows evidence of upskilling through:
 - membership to relevant industry organisations;
 - subscription to relevant journals;
 - attendance at beekeeper field days or conferences;
 - access to MPI advisory notes, etc.
- Ensure the person responsible for the development and review of the HACCP application within the RMP has a good understanding of the HACCP principles and how they are applied to the processing or manufacturing of bee products. Ideally, the person should have attained a recognised HACCP qualification, (e.g. NZQA Unit Standard 28265).
- Ensure personnel involved in monitoring and corrective action activities and operator verification have:
 - an appropriate level of knowledge and skills in implementing their assigned tasks; and
 - a good understanding of, and be able to consistently comply with, e.g. internal audits, operator verification.

2.3.3 Skills maintenance and supervision of personnel

- (1) Operators must ensure the on-going maintenance of skills of those involved in the following:
- a) process control and monitoring;
 - b) corrective action; and
 - c) operator verification [HC Spec 5.3 (1)].

2.3.4 Induction and on-going supervision of personnel

- (1) Inform new personnel before starting work of:
- a) their job description;
 - b) health requirements; and
 - c) hygienic practices and procedures.

- (2) Ongoing supervision and/or training should be provided to ensure that new personnel are adequately trained in their specific tasks, and in hygienic practices and procedures.
- (3) Develop a training programme which includes:
 - a) the identification of skills and competencies required for key roles;
 - b) training schedules (including refresher training); and
 - c) training records of personnel.
- (4) Review the training programme at least annually to:
 - a) ensure that training remains up-to-date and effective; and
 - b) identify requirements for new training or refresher training e.g. new product/equipment/process.

Guidance

Provide any training appropriate to the nature of the person's assigned task or activity and level of responsibility. This may include induction training, regular in-house meetings, on-the-job training and external training courses.

Training for most personnel should cover:

- health and personal hygiene;
- movement of personnel and materials;
- cleaning and sanitation;
- handling of chemicals; and
- hygienic handling of materials and products.

Where appropriate, ensure there are clear instructions on hygienic practices (e.g. hand washing, use of protective clothing, allergen management) and operational tasks posted in the premises to re-enforce the procedures.

2.3.5 Visitors and contractors

- (1) Ensure visitors and contractors report to the responsible person on arrival at the premises. Ensure they are supervised by assigned staff while within the premises. Ensure it is the responsibility of the assigned staff that hygienic practices and procedures are followed by the visitor or contractor.
- (2) Ensure visitors and contractors are not allowed to handle edible bee product in processing and packing areas unless they have complied with all hygiene requirements for food handlers.

Guidance

Ensure visitors and contractors who enter a processing or packing area:

- sign a visitor's logbook on arrival; and
- are able to declare freedom from diseases as per [2.2 Personnel Health and Hygiene](#).

2.4 Operator verification and notifications

2.4.1 Purpose and scope

- (1) To ensure that the RMP continues to be effective and to notify MPI or verifier of issues as required.

2.4.2 General requirements and procedures

- (1) Operators must document an operator verification system including:
 - a) the activities to be performed and their frequency;
 - b) procedures or methods used (who, what, when, where, how);

- c) any actions to be taken when there is a non-compliance and where the RMP is ineffective; and
- d) any recording and reporting requirements [RMP Specs 16 (1)].

Guidance

Operator verification includes several types of activities that together will provide the operator (and verifier) with confidence that the RMP and GOP are working effectively. Operator verification activities are not restricted to internal verification audits by the operator. Although internal verification audits are important, they need to be completed in conjunction with information from the day-to-day operator verification of the process.

Daily and/or ongoing operator verification activities

Daily and/or ongoing operator verification activities should include:

- routine surveillance and monitoring checks (e.g. daily process control);
- reality checks of processing;
- specific monitoring of process parameters or CCPs;
- monitoring record reviews;
- product sampling results may provide evidence of how the system is working;
- general oversight and supervision of the operation; and
- identifying issues and transferring those to the corrective action system if necessary.

Scheduled operator verification activities

- Scheduled operator verification activities should include: internal verification audits. Usually an RMP operator will have a schedule of internal operator verification audits which covers all systems at least annually.
- RMP review. Usually an RMP operator will review the RMP at least annually. The RMP review considers whether there has been any significant changes (i.e. to the process, equipment, building, products, staff in positions of responsibility, verifier etc).
- HACCP plan review. Usually an RMP operator will review the HACCP plan(s) at least annually. The review considers whether there has been any changes (i.e. to the process flow, inputs or outputs, possible hazards).

Corrective action system

Some RMP operators will use a central register for all non-compliances which will simplify tracking of corrective and preventative actions. Identifying the 'root cause' of defects or issues will ensure that corrective actions are effective. Repetitive issues may result from:

- poorly maintained equipment or processing environment;
- poor control of the process;
- inadequately trained staff;
- lack of resourcing;
- lack of supervision; or
- poor standard of operator verification.

2.4.3 Scope and frequency of internal audit

- (1) Operators should document and implement an internal audit programme.
- (2) Operators must ensure internal audits are carried out by a suitably skilled person at a frequency sufficient to:
 - a) ensure ongoing compliance with documented RMP procedures; and
 - b) enable prompt identification of any problem [RMP Spec 15 (1)(c)]
- (3) Operators must ensure appropriate corrective action is taken when problems are found [RMP Spec 16 (1)].

- (4) Operators must keep records of observations made during any internal audit and any corrective action taken [RMP Spec 20 (2)].

Guidance

Ensure internal audits consist of the following:

- person(s) responsible for conducting the audit;
- audit schedule specifying when each programme is to be checked, considering seasonal activities and risk;
- audit process;
- a review of written procedures;
- review of records;
- reality checks during processing;
- external audit findings;
- confirmation that deficiencies or non-compliances identified from the last internal audit have been rectified; and
- a clear description of when corrective action should be taken and what corrective action is expected.

Ensure the person responsible for undertaking internal audits has:

- auditing skills;
- a good understanding of the operations, processes and GOP covered by the RMP;
- independence from the procedures being audited as much as possible; and
- a good understanding of relevant regulatory requirements.

Determine the frequency of internal audits for the different parts of the RMP programmes, considering various factors such as:

- the importance of the particular programme on product safety, suitability and hygienic operations;
- the frequency of non-compliances;
- the effectiveness of the programme; and
- skills and training of personnel implementing the particular programme.

Increase the frequency of audits when repetitive non-compliances occur or the programme is found to be ineffective.

2.4.4 Internal audit procedures

- (1) Observations made during internal audits and corrective actions taken must be recorded [RMP Spec 16 (1)].
- (2) Ensure the following actions take place when ongoing or recurring non-compliances occur:
- a) investigate to determine possible causes of non-compliance;
 - b) take appropriate corrective actions to regain control and prevent recurrence of the problem;
 - c) increase surveillance of the system; and
 - d) review the RMP or the relevant GOP programme and make necessary changes.
- (3) Ensure a review of relevant parts of the RMP is carried out when:
- a) a major change is made to a product, process or the premises; or
 - b) when there are indications (e.g. process failures, repetitive non-compliances, negative trends or unacceptable external verification audits) that certain programmes or procedures are ineffective.

Guidance

Review written procedures and update to ensure that they:

- are up-to-date with current legislation and standards; and
- reflect actual operations.

Review records for:

- completeness and accuracy of required information;
- appropriateness of corrective actions taken;
- any trends, new hazards, recurring problems; and
- compliance with documented control procedures

Ensure the person performing the audit signs the records (or indicates in some other way) that the records have been subject to an internal audit.

Reality checks should include observations of:

- workers' performance and compliance with hygienic practices and process control procedures;
- compliance with established process parameters such as processing times and temperatures; and
- the hygienic status of the premises' internal and external environment, facilities and equipment.

Follow up all deficiencies found at previous audits using the corrective action system.

2.4.4.1 Ingredient and product testing

- (1) Use product testing to verify compliance with relevant regulatory limits or operator-defined limits written in the RMP.
- (2) Perform moisture content measurements using a suitably skilled person and documented methodologies.
- (3) Operators must record all results of product tests [RMP Spec 20 (2)].
- (4) Ensure samples are representative of the particular batch or lot of product or ingredient being tested.
- (5) Ensure samples of product are hygienically collected by a person who has appropriate training and/or experience in hygienic sampling techniques.

Guidance

Document the product testing programme and include information on:

- products or ingredients to be tested;
- frequency of testing;
- number of samples;
- tests to be done;
- the identity of the suitably skilled person or laboratory that will perform the tests; and
- corrective actions.

Ensure any water testing is carried out by an MPI Recognised Laboratory accredited to ISO/IEC 17025 with the required tests in the laboratory's scope of accreditation.

2.4.4.2 Notification procedures

- (1) Operators must notify the Director-General in writing, without unnecessary delay, of any change to the name or position or designation of the person(s) responsible for the day-to-day management of the RMP [RMP Specs 13 (1)].
- (2) Operators must document procedures for notifying the Director-General of any emerging, new or exotic biological hazards or new chemical hazards that come to the operator's attention in relation to the RMP without unnecessary delay [RMP Specs 13 (2)].

- (3) Operators must follow the notification requirements if honey products are exported and subsequently found to have non-compliant tutin levels ([Animal Products \(Harvest Statement and Tutin Requirements for Export Bee Products\) Notice 2010](#)).
- (4) Operators must document procedures for notifying the recognised RMP verifying agency in writing, without unnecessary delay, of the following issues relating to the operation of the RMP:
 - a) any significant concern about fitness for intended purpose of any bee product;
 - b) where the cumulative effect of minor amendments necessitates the registration of a significant amendment to the RMP;
 - c) where the RMP is considered to be no longer effective;
 - d) where the premises are not or are no longer suitable for their use; and
 - e) where anything within the physical boundaries of the RMP is used for additional purposes or by other operators and the RMP has not adequately considered relevant hazards or other risk factors [RMP Spec 13 (3)].
- (5) Operators must ensure their RMP is amended (except where they are done on a trial basis and the affected bee product is not traded) when:
 - a) making major alterations to the processing facilities or equipment and sometimes the boundaries;
 - b) relocating processing operations to a new physical address (except where this is already permitted for mobile premises);
 - c) processing animal material or animal product that is not covered by the RMP, except:
 - i) where the product and process are similar, and
 - ii) a documented risk factor identification and hazard analysis has shown that all risk factors associated with that animal material or animal product are already adequately addressed by the RMP.
 - d) setting up a new process or process modification that is not covered by the RMP, except:
 - i) where the process or process modification is similar to existing processes; and
 - ii) a documented risk factor identification and hazard analysis has shown that all risk factors associated with that process are already adequately addressed by the RMP.
 - e) making any other changes that introduce new risk factors, or adversely impact on existing risk factors;
 - f) merging 2 or more registered RMPs;
 - g) splitting a registered RMP into 2 or more RMPs; and
 - h) adding a business to a multi-business RMP except where the Director-General's approval under section 17A of the Act applies to a type of business, premises or place rather than to specific businesses [RMP Spec 22].

Guidance

If you need to amend your RMP, the amendment will either be classified as significant or minor. Information on amending an RMP can be found in the [RMP Manual](#).

If you are considering more activities, check with export requirements e.g. OMARs if those activities can be undertaken within your RMP.

2.4.5 Records

- (1) Keep records to demonstrate compliance with the requirements [RMP Spec 20 (2)].
- (2) Keep the following records for operator verification and notifications:
 - a) internal audit reports;
 - b) other information or evidence relating to operator verification activities (e.g. test results);
 - c) copies of any communication sent to MPI or to your verification agency; and

- d) any corrective action(s) taken e.g. restoration of control, product disposition and prevention of recurrence.

2.5 Corrective action

2.5.1 Purpose and scope

- (1) To ensure if problems occur, they are managed appropriately (i.e. restoration of control, product disposition and prevention of recurrence).

2.5.2 General requirements and procedures

- (1) Operators must ensure that corrective actions for any non-conformance or non-compliance include an assessment to determine the cause and extent of the issue and address:
- a) immediate restoration of control;
 - b) identification and disposition of any affected product; and
 - c) prevention or recurrence of the problem [RMP Spec 11 (2)].
- (2) Identify the root cause(s) of the problem and address these by the corrective actions.
- (3) Ensure corrective actions are carried out in an effective and timely manner.
- (4) Maintain a register for corrective actions, including follow-up checks e.g. internal audits, other operator verification activities, external audits.
- (5) Categorise or rank defects based on their potential effect on product contamination and product safety.
- (6) Operators must ensure compliance with requirements and procedures is regularly checked (e.g. monthly) by the responsible person at a frequency that will ensure consistent and ongoing effectiveness of the programme [RMP Specs 16 (1)].

Guidance

Refer to [6.11 Non-Complying Product and Recall](#) for further information on managing non-compliances and recall of affected products.

Refer to [2.4 Operator Verifications and Notifications](#)

Set time frames for performing corrective actions e.g. correct a minor defect within 6 months.

It is common practice to categorise defects into the following three categories: critical, major and minor defects. This assists in setting appropriate corrective actions. Refer to Guidance Table 1 Examples of Defects Categories, the Corresponding Appropriate Corrective Action and Suggested Timeframe below.

Examples of managing the risk to product caused by a defect could include:

- continually monitoring processing and/or product on production days to ensure the risk to product is minimal; or
- preventing defective equipment from being used until repair can take place.

Guidance Table 1: Examples of defects categories, the corresponding appropriate corrective action and suggested timeframes

Defect	Definition	Corrective Action
Critical	Will result in direct contamination of a product. For example: - dirty product contact surfaces; - condensation from an overhead structure directly above exposed products or product contact surfaces.	Correct immediately. Processing must cease if taking the corrective action will have a direct effect on product safety.
Major	May result in direct or indirect contamination of a product. For example: - dirty/contaminated surfaces which are handled by workers - residue build-up on door handles or equipment knobs; - dirty surfaces that are in close proximity to a product contact surface.	Correct at the first available opportunity during the day in which it occurs. Correct before the start of the next processing period, unless it can be shown that a further delay will not have an effect on product safety. Consider the combined effect of multiple major defects on product safety. Correct these defects where there is a direct effect on product safety with appropriate urgency.
Minor	Unlikely to result in contamination of a product. For example: - dirty surfaces that are not near a product contact surface and are unlikely to come into contact with exposed product, product contact surfaces, packaging or workers; - an isolated speck of product residue on a table leg, wall or drain.	Correct as the opportunity arises. Set a timeframe for correction of the defect.

2.5.3 Extenuating circumstances

- (1) Ensure any defect is managed appropriately and risk to product is minimised where the defect cannot be corrected within the suggested timeframes above.
- (2) Report the following to the verifier:
 - a) a description of the problem and any affected product;
 - b) a summary of the assessment made;
 - c) the decision on the disposition of the product; and
 - d) any corrective actions taken to prevent the recurrence of the non-compliance.

Guidance

Extenuating circumstances may include:

- unforeseen events such as floods, fires, and earthquakes;
- replacement equipment and parts not being immediately available;
- unavailability of contractors;
- boil water notice for council supplied water; and
- power failure.

2.5.4 Preventative actions

- (1) Preventative actions to minimise the occurrence of non-conformance or non-compliance may include:
 - a) amending documented programmes to correct deficiencies;

- b) increasing the frequency of inspections or internal audits;
- c) revising supervision or training programmes when staff, visitors or contractors are not following GOP as required;
- d) issuing warnings to repeat offenders; and
- e) a series of escalating responses for repetitive non-conformances.

2.5.5 Records

- (1) Keep records to demonstrate compliance with the requirements [RMP Spec 20 (2)].
- (2) Keep the following records for corrective action:
 - a) trend assessments of monitoring;
 - b) defect criteria decisions;
 - c) any corrective actions (including preventative measures) taken; and
 - d) any reports given to the verifier.

Draft for
Consultation

Part 3: Design, construction and maintenance of buildings, facilities and equipment

3.1 Overview

3.1.1 Scope

- (1) To ensure that all buildings, facilities and equipment are designed, constructed, installed and operated in a manner that minimises contamination of product, packaging, other inputs, equipment, and the processing environment.

3.1.2 References applicable to design and construction

- (1) Additional references applicable to the design and construction of premises are listed below. Refer to the latest versions of the texts unless stated:
 - a) Australian/New Zealand Standard AS-NZS 3500.1:2003 Plumbing and Drainage. Part 1: Water Services
 - b) Building Act
 - c) Building Regulations
 - d) Codex Alimentarius Commission, CAC/RCP 1-1969, Rev. 4 (2003) General Principles of Food Hygiene
 - e) Drinking Water Standard for New Zealand (DWSNZ)
 - f) Health (Drinking Water) Amendment Act 2007
 - g) Handbook of Filter Media, 2 Ed, EU5, DIN 24-185 Part 2
 - h) Health and Safety in Employment Act
 - i) Health and Safety in Employment Amendment Act
 - j) AS/NZS 1680.2.4:199.7 Interior lighting -Part 2.4: Industrial tasks and processes
 - k) New Zealand Building Code (First Schedule to the Building Regulations 1992).
 - l) New Zealand Standard 5807: 1980. Code of Practice for industrial identification by colour, wording or other Coding.
 - m) Resource Management Act
 - n) Health (Drinking Water) Amendment Act
 - o) Water Supplies Protection Regulations
 - p) Water Supplies Protection Regulations 1961: revoked, on 1 July 2008, by section 20 of the Health (Drinking Water) Amendment Act 2007 (SR 2007/92)
 - q) US Code of Federal Regulations Title 21 parts 170-199.

3.1.1 Verification of compliance

- (1) Operators must provide appropriate validation of design, construction and installation attributes that will enable effective verification of compliance with standards [RMP Spec 15 and HC Spec 2.2 (2)].
- (2) This is particularly important where alterations and additions require professional expertise e.g. refrigeration systems, back flow prevention systems and water treatment systems.

3.1.2 Working space

- (1) Provide adequate working space to allow for the following:
 - a) the hygienic performance of all operations;
 - b) personnel flow and access
 - c) effective cleaning;
 - d) product flow;
 - e) equipment installation;
 - f) storage; and

- g) access of materials.

3.1.3 Cross contamination

- (1) Operators must design buildings and facilities to provide separation, by partition, location or other effective means, between operations (including waste disposal) that may cause contamination of bee products [AP Reg 9 and 10].
- (2) Separation should be provided, whenever possible, between the following functions:
 - a) handling of unclean and clean unprocessed product where there is a potential for cross contamination;
 - b) processing of different product types where necessary;
 - c) processing and packing; and
 - d) unprotected product and by-product storage and transportation.
- (3) Premises layout should separate, as appropriate, high and low risk materials, processes and the personnel working within them.
- (4) Design premises, where appropriate, so that personnel flows and access can be controlled to prevent cross contamination.

Guidance

Consider all points of cross contamination that may occur in the RMP premises and ensure that measures are in place to manage the hazards.

Common practices used to provide separation are typically categorised into the following:

- **separation by distance** - to separate to such an extent so as to avoid any possible contact, splash, contamination etc., between specific functions, processes or personnel.
- **separation physically** - to separate by floor to ceiling solid walls and doors, or to fully protect product/by-product by pipelines, enclosed vats, etc.
- **separation by time** - to end one function or process prior to starting a different function or process, and if necessary to avoid contamination with a cleaning operation in between.

3.1.4 Process flows

- (1) Design buildings and facilities to facilitate hygienic operations by means of an organised process flow from the arrival of the raw material at the premises to the finished food or by-product.

Guidance

Design buildings, services and equipment around the process flow path. Implement the principle of one-way-flow of food or by-products wherever possible.

Without good sanitary design at the onset, food safety and sanitation programmes can be less effective and become compromised. Problems such as food poisoning, spoilage, insect infestations and foreign material contaminations are more likely to occur.

3.1.5 Site layout

- (1) Ensure the layout of the site is suitable for the intended operations of the premises.
- (2) Provide, where appropriate, adequate:
 - a) potable water and energy supply to ensure all activities can be carried out efficiently;
 - b) waste and effluent disposal systems; and
 - c) vehicle access ways, constructed and maintained so that they drain surface water and do not create dust and other environmental contamination.

3.1.6 Site considerations

- (1) Consider the following factors in site selection:
 - a) fuel storage and handling facilities;
 - b) staff access and amenities;
 - c) winds;
 - d) future possible expansion;
 - e) flood plains;
 - f) neighbouring industries and facilities;
 - g) ventilation and process air intakes; and
 - h) vehicle access.

3.2 Building design and construction

3.2.1 Purpose and scope

- (1) To ensure that all buildings and facilities are designed, constructed and maintained in a manner that prevents or minimises contamination of edible bee products.

3.2.2 General requirements and procedures

- (1) Operators must ensure the premises, facilities, equipment and essential services are designed, constructed, located and operated in a manner that:
 - a) enables the suitability of any edible bee product to be maintained;
 - b) enables the fitness for intended purpose of any edible bee product to be achieved and maintained; and
 - c) minimises and manages the exposure of any edible bee product, packaging, equipment, and the processing environment to hazards and other risk factors [AP Reg 10].
- (2) Obtain advice from a competent person on the design of new premises and alterations to existing premises that substantially affect the sanitary environment of the premises.
- (3) Operators must ensure any material or interior surface finish used in the building, manufacture, or maintenance of facilities, equipment, or internal structures is:
 - a) impervious, non-absorbent, and free from depressions, pits, cracks, and crevices that may harbour contaminants is:
 - b) easily cleaned and sanitised;
 - c) durable, resistant to fracture, and capable of withstanding effective cleaning and sanitising;
 - d) unaffected by any corrosive substance with which it is likely to come into contact; and
 - e) not a source of physical, chemical or microbiological contamination [HC Spec 2.2 (1)].
- (4) Operators must ensure the sanitary design of facilities, equipment, and internal structures, that may affect the suitability for processing of bee products, or the fitness for intended purpose of any edible bee product [HC Spec 2.2 (2)].
- (5) Operators must ensure premises, facilities, equipment and essential services are designed, constructed and maintained in a manner that prevents the harbourage and entry of pests [AP Reg 10].
- (6) Seal or cover holes, drains and other places where pests are likely to gain access, with screens or similar materials (pest exclusion devices) that restrict the entry of pests.
- (7) Keep internal and external areas of the premises clean and tidy.
- (8) Regularly check the external environment is kept free of any food and pest breeding sites (e.g. long grass, bird's nest, accumulated wastes and junk).

Guidance

Further guidance on the design and construction of facilities can be found in the [Reference Manual for Honey Extracting Facilities and Food Safety Program of Capilano Honey Ltd., Australia](#).

Ensure any material or exposed finish is free from defects e.g. chipped/peeling paint.

Refer to [6.8 Pest Control](#) for more detailed information regarding managing pests in the processing area.

3.2.3 Site locale**Guidance****Site**

- consider potential sources of contamination when deciding where to locate the premises, as well as the effectiveness of any reasonable measures that might be taken to protect the product.

Site location needs to be away from:

- environmentally polluted areas and industrial activities which pose a serious threat of contaminating food;
- areas subject to flooding unless sufficient safeguards are provided;
- areas prone to infestation of pests; and
- areas where wastes, either solid or liquid, cannot be effectively removed.

Transport

- ensure vehicle access ways, and areas between and around buildings, are constructed and maintained so that they drain surface water, and minimise dust and other environmental contamination.

3.2.4 Processing areas

- (1) Ensure the design and layout of the processing rooms facilitate inspection of operations.
- (2) Ensure an orderly flow of:
 - a) product;
 - b) packaging; and
 - c) personnel.

Guidance**Acceptable materials**

- plywood or gib board may be used for walls provided they are effectively sealed so that they are impervious and washable. Unsealed ply panels should not be used due to their tendency to swell and lift if penetrated by water;
- insulated panels are recommended for the construction of processing areas.
- Laminates and melamine face sheeting are also suitable construction materials; and
- gloss enamel, epoxy or polyurethane paint will satisfy the requirement for sealing of surfaces.

3.2.5 Protrusions within the walls, ceilings or floors

- (1) Ensure where fittings and services such as pipes, wiring, ducting and trunking pass through walls, ceilings or floors, are:
 - a) flashed and sealed to eliminate gaps on both the interior and exterior surfaces to prevent water seepage, and harbourage and entry of pests;
 - b) constructed to prevent accumulation of dust and contaminants; and

- c) effectively cleaned at the frequency required for the function of the room or area.
- (2) Ensure insulation materials on pipes within food areas and food support areas:
- a) do not pose a risk to the safety of bee products; and
 - b) are able to be adequately cleaned under the normal conditions of use.

3.2.6 Floors

- (1) Ensure floors are installed and maintained to eliminate all cracks, open joints, depressions or other low areas that would accumulate moisture or harbour contamination.
- (2) Ensure floors subject to wet cleaning are adequately graded and free-draining.

Guidance

Acceptable materials and design considerations

- commonly used acceptable materials should be sealed concrete or other non-toxic substance impervious to liquids and acid resistant. Honey reacts with normal concrete and will break down the surface. Industrial welded vinyl when laid over a masonite base is also a suitable floor covering;
- floors should be smooth as a rough surface will trap small amounts of honey and water that will eventually go mouldy;
- as a safety precaution, excessively smooth floors should be avoided in areas subject to wet cleaning;
- ideally floors should be sloped so that water will run off to floor drains. Floor falls of 1 in 50 have been found to work well in wet processing areas. Wash areas normally have a 1 in 25 fall;
- floor junction coving to a radius of 80 mm has been found to work well in wet cleaning areas;
- suitable floor joint sealants that can be used are polyurethane or polysulfone epoxy mastic; and
- suitable drainage should be provided so that any discharge or overspill from processing areas goes directly into a drain rather than on the floor.

3.2.7 Windows

- (1) Ensure windows are flush with the inside surface of the wall.
- (2) Ensure glass windows are not used where glass could contaminate product if the window breaks.

Guidance

Slope window sills, with an inside ledge, downwards at an angle to prevent the build-up of dust and to facilitate effective cleaning.

Keep windows shut where dust could be an issue.

Angling a window ledge to at least 45° has been found to work well.

Using safety glass is a good alternative.

3.2.8 Doors

- (1) Install doors where their opening and closing from external surroundings or other areas of lower hygiene status (e.g. waste area) will not result in contamination of products, processing equipment and the processing environment.
- (2) Ensure all doors opening from the exterior or by-product areas directly to food areas or food support areas are, as far as practicable, self-closing.
- (3) Ensure doors are properly sealed to prevent water seepage, harbourage and entry of pests and contamination from external environments.

- (4) Ensure door openings and passageways are designed and constructed so that unprotected food does not come into contact with the door jambs or walls.
- (5) Minimise the time doors are opened for traffic to reduce contamination from areas of lesser hygiene.

Guidance**Doors**

- doors in areas where processing and/or packing is carried out should not open directly to the outside environment. An ante-room is recommended for providing two doors between the processing or packing room and the outside;
- self-closing doors reduces the risk of contamination. An ante-room would be an acceptable substitute for a self-closing door;
- dedicated emergency exits are not considered doors; and
- air curtains in doorways are not regarded as doors and should not introduce contamination.

3.2.9 Plastic strips

- (1) Ensure plastic strips used in doorways are:
 - a) installed with sufficient overlap to provide continuous coverage; and
 - b) maintained in a clean and good working condition.

Guidance

Use plastic strips in doorways as the only entry to food areas and food support areas provided they are fit for intended purpose and do not open directly to the exterior or to by-product or other non-product areas.

3.2.10 Stairs, decks and walkways

- (1) Ensure where stairs, decks and walkways are located over exposed product or product contact surfaces, they are constructed of impervious material with solid treads and closed risers to prevent contamination of food by splash or fallout.
- (2) Construct all stairs, decks and walkways to prevent the pooling of water and should be sloped to drain points.

Guidance

Try side curbs at least 150 mm high measured at the front edge of the treads, they have been found to work well.

Use open grid type stairs, decks and walkways where the process is fully enclosed and there is no danger of product being contaminated.

3.3 Essential services

3.3.1 Scope

- (1) To ensure essential services are designed, constructed and maintained in a manner that minimises contamination of product.
- (2) Refer to [3.4 Potable Water](#) for potable water. It is an essential service but is described separately.

3.3.2 Lighting

- (1) Operators must ensure lighting is of a sufficient intensity and quality to enable satisfactory performance of all operations [HC Spec 2.4].

- (2) Ensure light bulbs, fixtures, skylights, or other glass are of the safety type, LEDs or otherwise protected e.g. covers to prevent contamination in the event of breakage, if over:
 - a) products;
 - b) exposed packaging material; or
 - c) equipment.
- (3) Ensure illumination levels comply with the relevant provisions of [AS/NZS 1680.2.4:1997 Interior lighting - Part 2.4: Industrial tasks and processes](#). Refer to Guidance Table 2 below.

Guidance Table 2: Acceptable lighting intensities

Facility	Lux
Staff rooms, changing rooms, locker rooms, cleaners' rooms, lavatories, measured at the floor	150
Stores and loading bays with infrequent access, measured for identification of labels	150
Stores with constant operation, breakdown, make-up, despatch measured at the floor aisles	300
Processing rooms, measured at working plane	500
Areas where product is inspected and prepared to inspection standards, measured at the working plane	750
Areas where quality control inspection is performed, measured at the working plane	1000

3.3.3 Ventilation

- (1) Maintain adequate ventilation and air flow in the processing and storage areas to:
 - a) minimise air-borne contamination of product;
 - b) remove excessive heat, steam and condensation; and
 - c) minimise the entry of odours, dust, vapours, smoke or bees.
- (2) Ensure ventilation systems are designed and constructed to ensure that air flows from:
 - a) food areas to non-food areas; and
 - b) finished food areas to non-finished food areas.

Guidance

Design ventilation systems to take into account factors such as:

- the size of the premises;
- the number of persons working within food areas;
- heat gain (e.g. from equipment or product load);
- water emission;
- relative humidity;
- condensation; and
- general climatic conditions.

Ensure air intakes are located and constructed so that contamination from exhaust stacks, roof-deposited debris (e.g. faecal material from wild birds) or other environmental contamination cannot be taken into the process area. Provide air intakes to food areas with an effective filtration stage.

Ensure filters are:

- capable of withholding particles that have the potential to cause contamination of the bee product and process environment; and
- readily removable for replacement or cleaning.

Choose the filter in accordance with the conditions of use. Consider the type of the product and process, and the size, nature and concentration of the particulate matter to be removed.

3.3.4 Water treatment systems

- (1) Ensure automatic water chlorination systems are fitted with alarm devices that indicate when the chlorination systems has ceased to function correctly.
- (2) Ensure UV light water disinfection systems are fitted with monitoring and alarm systems to automatically shut down the water supply to the UV water treatment unit in the event of:
 - a) power failure to the treatment unit;
 - b) lamp failure of the treatment unit; and
 - c) excessive water turbidity.
- (3) Fit novel or alternative approved water treatment systems with an appropriate monitoring and alarm system.

3.3.5 Drainage

- (1) Ensure drainage systems are designed, constructed and located to:
 - a) effectively remove solid and liquid waste;
 - b) prevent odours, pests, other objectionable material and storm water from entering the premises; and
 - c) prevent contamination of products, packaging and equipment from aerosols and splashes from drains.
- (2) Ensure drains are positioned and of sufficient capacity (i.e. size and fall) to ensure liquid and solid waste is contained and rapidly removed to minimise the spread of waste across floors.
- (3) Ensure effluent and sewage is contained and disposed of hygienically and by means that prevent the contamination of potable water supplies and food.

Guidance

Ensure channel drains are of sufficient size and suitable fall to allow self-draining and ease of cleaning.

Ensure the drainage system is also designed to accommodate the possibility of future alterations to room functions and process room layouts.

Drainage lines should not pass from dirty to clean processing areas. Consider the flow in the process flow design of the plant, so drains don't flow from areas of high contamination to areas of low contamination.

Ensure sewerage lines from toilets and urinals are not connected with any drainage lines within the premises and do not discharge into sumps from which any recovery for further processing is done.

To prevent the possibility of any sanitary drainage backing up and entering the premises, sewerage lines should either be:

- directed to an adequate septic system located at a safe distance from any processing building; or
- discharged into the local sewerage system at a point sufficiently remote from the premises.

3.3.6 Facilities

- (1) Dedicated areas should be provided for the following:

- a) storage and/or preparation of any ingredients if used in the manufacture of bee products including:
 - i) dried ingredients that may include propolis, pollen, fruit, green tea, etc.;
 - ii) wet ingredients that may include fruit concentrate, royal jelly, etc.
 - b) storage of cleaning equipment;
 - c) storage and/or preparation of maintenance compounds;
 - d) storage and/or make-up of packaging materials; and
 - e) storage of PPE when employees are not in processing areas.
- (2) Provide hygiene facilities appropriate to the nature of the process.
 - (3) Ensure packaging material facilities are able to store packaging materials off the floor.
 - (4) Ensure wet cleaning facilities have an adequate supply of hot and cold potable water.
 - (5) Provide PPE at personnel entry points to bee product processing areas e.g. at wash hand basins.

Guidance

A dedicated area could be a room or simply a cupboard, dependent upon the requirements of the premises.

Steam and splash from wash water or cleaning chemicals are a potential source of contamination to bee products being processed, packed, stored or transported.

Ensure cold water is suitable for cleaning processing areas and equipment.

Hot water should be at least 60°C for sanitation.

Refer to [6.13 Storage](#) for further information on storing packaging.

3.3.7 Rooms

- (1) Operators must operate temperature-controlled processing rooms and equipment within their design capability and capacity. Ensure these rooms deliver any temperatures specified in legislation or in the RMP [HC Spec 2.3 (3)].
- (2) Operators must ensure cleaning and sanitation facilities, and equipment, are provided to ensure that the hygiene of personnel, equipment and the premises or place can be maintained [AP Reg 11].

3.4 Potable water

3.4.1 Purpose and scope

- (1) To ensure that adequate supply of potable water is available for hygienic operations so as to minimise contamination and maintain the fitness for intended purpose of edible bee products.
- (2) Topics included are:
 - a) potable and non-potable water;
 - b) water reticulation management plan;
 - c) water management plan; and
 - d) water treatment.

3.4.2 General requirements and procedures

- (1) Operators must ensure water that comes into direct contact or indirect contact with any edible bee product is potable water at the point of use [HC Spec 2.5 (1)].
- (2) Operators must source potable water from:
 - a) a registered supplier (e.g. council supply); and
 - b) operator's own supply (e.g. water sourced from a bore, stream, river or roof) provided it complies with clause 2.4.2 (3) below.
- (3) Additionally, operators that supply their own water must comply with the requirements of Schedule 1 of the current version of the Animal Products Notice: Specifications for Products Intended for Human Consumption. This includes completing the Water Supply Assessment Checklist (Appendix 1 of this Code) for water that comes into direct or indirect contact with any edible bee product [HC Spec 2.5 to 2.9 and Schedule 1].
- (4) Operators must use an alternative water quality standard provided:
 - a) the water quality standard is determined by an analysis of hazards and other risk factors; and
 - b) the suitability for processing or fitness for intended purpose of product is not adversely affected [HC Spec 2.5 (2)].

3.4.3 Use of potable water

- (1) Ensure potable water is available and used for:
 - a) processing of products;
 - b) cleaning and sanitation;
 - c) personnel hygiene activities; and
 - d) any other activity wherein water comes into direct or indirect contact with any edible bee product.
- (2) To ensure the safety and suitability of product and the hygienic operation of the premises, the following should be available:
 - a) an adequate supply, volume and pressure of potable water; and
 - b) appropriate facilities for its storage, distribution and temperature control.

3.4.4 Criteria for potable water

- (1) Operators must ensure potable water meets these criteria at the point of use set out in Table 3: Quality of Potable Water [HC Spec Schedule 1 Part 1].

Table 3: Quality of Potable Water

Measurement	Criteria
<i>Escherichia coli</i> or faecal coliforms	Must not be detectable in any 100 ml sample
Chlorine (when chlorinated)	Not less than 0.2mg/l (ppm) free available chlorine with a minimum of 20 minutes contact time
pH (when chlorinated)	6.5 to 8
Turbidity	Should not routinely exceed 1 NTU, must not exceed 5 NTUs

3.4.5 Non-potable water

- (1) Operators must determine if non-potable non-product contact water is fit for intended purpose:
 - a) by an analysis of hazards and other risk factors; and
 - b) taking into consideration the intended use of the water [HC spec 2.6 (2)].

- (2) Operators must identify the use of non-potable water in the water management plan [HC Spec 2.9].
- (3) Only use non-potable water, of a standard that does not risk the safety and suitability of the product and is satisfactory to the evaluator, in the following situations:
 - a) firefighting;
 - b) toilets and urinals;
 - c) cleaning paved areas, roadways, truck turning aprons, etc.;
 - d) conveying and washing of inedible material;
 - e) washing down sumps and external drains; and
 - f) facilities such as bulk stores.
- (4) Ensure every water line conveying non-potable water is:
 - a) separate from potable water lines, unless the connection is required for firefighting purposes;
 - b) clearly identified at all outlets and any other place where identification is necessary; and
 - c) connected in a manner that prevents contamination of potable water supply.

3.4.6 Summary of requirements for water from different sources

Guidance Table 4: Summary of Requirements for Water from Different Sources

Source	Requirements
Town supply or other independent supply with no additional treatment ¹ by operator	Management of reticulation system – Section 3.4.7
Town supply or other independent supply with additional treatment ¹ by operator	Management of reticulation system – Section 3.4.7 Water management plan, including water sampling and testing – Section 3.4.8
Operator's own supply (e.g. water sourced from a bore, river, stream, roof)	Management of reticulation system – 3.4.7 Water management plan – Section 3.4.8 Water sampling and testing – Section 3.4.10 Assessment ² and reassessment of water supply status – Sections 3.4.10.1 and Schedule 1

1. Examples of additional treatment are chlorination, filtration, boiling, ultraviolet radiation and reverse osmosis.

2. Assessment based on the completed Water Supply Assessment Checklist from Schedule 1 of the current version of the Animal Products Notice: Specifications for Products Intended for Human Consumption.

3.4.7 Water reticulation management plan

- (1) Operators must implement a reticulation management plan for potable water used within your premises or place [HC Spec 2.8 (1)]
- (2) Operators must ensure the reticulation management plan includes:
 - a) systems to ensure that water is reticulated throughout the premises in a manner to ensure the intended water quality is delivered at point of use; and
 - b) systems to ensure that there is no unintentional mixing of water of different standards; and
 - c) an action plan with appropriate sanitation procedures to be implemented in the event of non-compliance with the reticulation management plan [HC Spec 2.8 (2)].
- (3) Operators must ensure the water reticulation system is designed, installed and operated in a manner that prevents:
 - a) cross connections between potable water and non-potable water;
 - b) stagnant water (i.e. no dead ends or unused pipes in the system); and
 - c) back flow that may cause contamination of the water supply [HC Spec 2.8 (2)].
- (4) Operators must maintain water pipes, storage tanks and facilities and other parts of the reticulation system in good condition [HC Spec 2.2 (2)].

- (5) Flush the reticulation system (i.e. open taps at point-of-use to allow a significant flow of water to occur) when water is not used for an extended period, and after any repairs to the system, to ensure that stagnant water, rust, scale and other material is flushed out of the system.
- (6) Check and flush your reticulation system, where processing is seasonal, before pre-season cleaning is carried out.

Guidance

Include in the documented reticulation management plan:

- an up-to-date plan/schematic of the reticulation system; and
- procedures for systematic checks:
 - on all water reticulation pipe work, equipment and storage facilities;
 - on integrity of all backflow prevention devices and valves connecting potable and non-potable water reticulations; and
 - for evidence of leaks.

3.4.7.1 Procedures for non-complying water

- (1) Operators must cease all operations requiring the use of potable water if:
 - a) the independent supplier (e.g. local council) advises the operator that the water is not fit for drinking without additional treatment [HC Spec 2.11 (2)];
 - b) the operator has reason to believe that the water is not fit for use and the operator has no other means described in the RMP to ensure the water is potable at the point of use [HC Spec 2.11 (2)];
 - c) water used is supplied by the operator and the operator fails to comply with any of the requirements of the water management plan 3.4.8 (including corrective actions) and has no other means described in the RMP to ensure the water meets the original standard at the point of use [HC Spec 2.11 (3)]; or
 - d) a 'boil water' notice is issued and the operator is not able to:
 - i) comply with it in respect of all potable water;
 - ii) treat the water to ensure that it is potable; or
 - iii) use an alternative supply which meets the standards [HC Spec 11.2].

Guidance

Base your water treatment on a worst case scenario. Contact a water consultant or your verifier to review your water management plan for the alternative supply to ensure that it is suitable.

The local council may issue a 'boil water' notice e.g. when *E. coli* persist in the water despite successive corrective actions, including disinfection. Local councils should inform processors in the event of a 'boil water' notice. This action is taken only when other forms of disinfection have not been effective. Refer to the [Drinking Water Standards for New Zealand \(DWSNZ\)](#).

Contact your verifier and advise them of the actions you have taken.

3.4.7.2 Handling and disposition of contaminated materials

- (1) Operators must ensure when contamination with non-potable water occurs, the following actions are carried out:
 - a) affected edible bee product must not be used for human consumption [HC Spec 3.2 (2)];
 - b) affected product contact surfaces must be cleaned and sanitised prior to reuse [AP Reg 11]; and
 - c) affected packaging materials that cannot be effectively cleaned and sanitised must not be used for packing of any edible bee product [HC Spec 7.2 (4)].

3.4.8 Water management plan

- (1) Operators must implement a water management plan for water supplied by:
 - a) an independent supplier and is subjected to any treatment by the operator; or
 - b) the operator solely for the operator's use; or
 - c) an alternative water quality standard [HC Spec 2.9 (1)].
- (2) Operators must ensure the water management plan includes:
 - a) any additional treatment:
 - i) as required by the independent supplier or operator supplying potable water; or
 - ii) as determined through an analysis of hazards and other risk factors;
 - b) the water quality standard (including criteria) as determined through an analysis of hazards and other risk factors;
 - c) a water sampling and testing programme;
 - d) an action plan in the event of non-compliance with the water management plan; and
 - e) the requirements of the reticulation management plan described in [HC Spec 2.9].
- (3) Operators must reassess each applicable potable water source that he or she supplies by completing the Water Supply Assessment Checklist (Appendix 1):
 - a) at least once every 3 years;
 - b) prior to using a new operator source of potable water (i.e. the source changes or a new source is added); and
 - c) within one month of any changes to the environment in or around the water source that may affect the potable water quality [HC Spec Schedule 1].

3.4.9 Water treatment

- (1) Operators must ensure the water treatment system is installed and maintained in accordance with the manufacturer's instructions [HC Spec 2.2 (2)].
- (2) Operators must document details of the water treatment in the water management plan including the following:
 - a) the type of water treatment;
 - b) parameters;
 - c) procedures for control, monitoring and testing;
 - d) acceptable limits;
 - e) a water sampling and testing programme for monitoring the effectiveness of the specific water treatment applied; and
 - f) corrective action procedures when the water source is found to be unsatisfactory based on the results of any tests done [HC Spec 9.2 (1)].

Guidance

Examples of water treatment that may be applied by the operator to an independent supply or their own supply include chlorination, UV treatment, heating, coagulation, flocculation and filtration.

Consult with a water treatment expert to determine the most appropriate treatment for the supply.

Discuss the types and frequency of the water testing, with the supplier of the particular treatment, necessary to:

- confirm the effectiveness of the treatment; and
- ensure that it does not adversely affect the quality of the water.

- (3) Operators must in addition to having a water reticulation management plan, operators must implement a water management plan if the water is solely for the operator's use [HC Spec 2.9 (1)].

- (4) Additionally to the requirements given in [3.4.8 Water Management Plan](#), it must include:
- an initial assessment of the water supply status by the operator by completing the Water Supply Assessment Checklist in Schedule 1 of the current version of the Animal Products Notice: Specifications for Products Intended for Human Consumption; and
 - documenting a water management plan if required. This can be simply done by completion of a separate section D1 for each problem identified in the checklist which documents the identified problem and what is being done to manage it [HC Spec 13.7].

Guidance

Check the copy of the Water Supply Assessment Checklist is available in Appendix 1, and also provided on the MPI website as a separate document for ease of downloading and use. Use this checklist to determine whether the water source is secure or satisfactory, and if additional treatment and/or other corrective action should be applied by you.

[Guidance](#) on ways to keep roof water safe is provided in Water Collection Tanks and Safe Household Water, Ministry of Health, August 1999 (code 10148). Guidance on protecting bore and well water is provided in Secure Ground Water (Bores and Wells) For Safe Household Water, Ministry of Health, March 2000 (code 1129). Read Household Water Supplies (code 4602) for more information on water safety and tank installation, available from your local public health service or your local authority (council).

Contact a Health Protection Officer at your local public health service or an Environment Health Officer at your local council if you are concerned about your water supply. They will be able to recommend a local water testing laboratory.

3.4.10 Water sampling and testing

- Operators must ensure potable water at the point of use meets the criteria set out in Table 3: Quality of Potable Water. The minimum testing frequency required is given in Guidance Table 5: Frequency of Ongoing Testing [HC Spec Schedule 1 Part 1].
- Operators must ensure microbiological testing is done by an MPI Recognised Laboratory with the required analysis within the laboratory accreditation scope [HC Spec 2.10].

Guidance

Any water testing should be done by an MPI Recognised Laboratory accredited to ISO/IEC 17025 with the required tests in the laboratory's scope of accreditation. The testing laboratory needs to have at least accreditation to the international standard ISO/IEC 17025 (by IANZ) as a minimum.

Additionally there is a list of tests recognised by MPI: [Consolidated List of Tests for Animal Products: meat, poultry, honey, seafood, dairy, live animals and germplasm](#).

Operators who use an independent water supply that is not further treated on site do not have to carry out water testing. They should consider using simple, low cost techniques such as monitoring free available chlorine levels and temperature to pick up any changes in water quality. Resources should be in place to take microbiological and chemical samples should these checks indicate a potential issue.

The operator should:

- take samples from a number of points in the reticulation system to ensure that the sampling is representative of the system as a whole;
- record the location of each sampling point so the source can be identified (e.g. identifying sampling points on the reticulation plan);

- ensure the sample bottle for chlorinated water supplies contain sodium thiosulphate to neutralise the residual chlorine in the water sample;
- ensure that samples are collected by trained personnel;
- have a documented procedure to ensure samples are taken, handled and transported so there is no significant change in the quantitative value of the determinants; and
- ensure that samples for microbiological analysis are analysed promptly.

If the laboratory cannot analyse samples within one hour of collection the operator should:

- immediately chill the samples to 10°C or cooler (but do not freeze) and deliver them to the laboratory within 6 hours of collection; or
- immediately chill the samples to 2-5°C and deliver them to the laboratory within 24 hours of collection.

- (3) Operators must ensure water samplers are trained by or receive instruction on how to correctly sample water from the laboratory selected [HC Spec 2.10 (2)]
- (4) Operators must ensure chlorine, pH and turbidity measurements are performed by a suitably skilled person using documented methodologies (including calibration procedures) and/or calibrated equipment [HC Spec 2.10].
- (5) Operators with a secure water source are not required to test their water after the initial testing has been completed which confirms compliance with Guidance Table 5: Frequency of Ongoing Testing. Ensure all other water sources are subject to ongoing testing according to the frequency below.

Guidance Table 5: Frequency of Ongoing Testing

Type of operation	Microbiological testing	Turbidity testing	pH testing (for chlorinated water)	Chlorine testing (for chlorinated water)
Honey extractors, packers and processors that operate on a seasonal basis (i.e. 0 - 6 months during the honey flow)	1 test per year done before the start of the season *	1 test per year done before the start of the season *	1 test per year done before the start of the season *	Daily
Honey extractors, processors and packers that operate for 6 months or more	1 test per 6 months	1 test per 6 months	1 test per 6 months	Daily

* Water testing must be undertaken and acceptable results obtained before pre-season cleaning of the premises, facilities and equipment [HC Spec Schedule 1 Part 1 Table 2]

3.4.11 Monitoring

- (1) Regularly check procedure compliance.

3.4.12 Records

- (1) Keep records to demonstrate compliance with the requirements [RMP Spec 20 (2)].
- (2) Keep the following records for water:
 - a) completed Water Supply Assessment Checklist (for operator supplied water);
 - b) water reticulation plan;
 - c) water management plan, if applicable;
 - d) any water testing results; and

- e) observations from monitoring, any water treatment applied, and any corrective action taken.

3.5 Equipment

3.5.1 Purpose and Scope

- (3) To ensure that all equipment is designed, constructed and maintained in a manner that minimises contamination of product.

3.5.2 General requirements and procedures

- (1) Operators must ensure equipment is:
- durable and capable of withstanding repeated exposure to normal cleaning and sanitising;
 - resistant to chipping, cracking, flaking, delamination and abrasion;
 - able to withstand exposure to heat, water and all products expected to be processed under normal operating conditions; and
 - corrosion resistant [HC Spec 2.2 (1)].
- (2) Operators must provide cleaning and sanitation facilities and equipment to ensure that personnel hygiene, hygienic condition of equipment, vehicles, conveyances and premises can be maintained [HC Spec 2.3 (4)].
- (3) Ensure all surfaces in direct contact with any product are inert to the product, cleaning materials and other substances that it is likely to be exposed to under normal conditions of use.
- (4) Operators must use only approved maintenance compounds during processing operations and in the maintenance of processing areas, facilities and equipment [HC Spec 3.4 (1)]

Guidance

Refer to [6.7 Control of Maintenance Compounds](#) for further guidance on chemical compounds.

Contact surfaces

- stainless steel (300 series or better) is the preferred material for equipment that comes into contact with honey and other edible bee products;
- cast iron is not permitted for product contact surfaces because it is readily corroded and surfaces become roughened and pitted, which makes cleaning difficult;
- galvanised metal is not permitted because the zinc coating wears off to expose the base metal which corrodes. In addition, the zinc coating is soluble in acidic food, and in acid and alkali detergents. Where galvanised metal is present in equipment and it is practical to do so, it may be coated with a food-grade protective coating;
- aluminium is not recommended. It has a tendency to warp, is susceptible to oxidation, and is also prone to corrosion;
- wood is not considered a suitable material for the construction of food machinery. Its porous nature allows products to penetrate the surface and once impregnated it cannot be cleaned effectively. Residual product provides a nutrient source for micro-organisms;
- copper and its alloys, such as bronze, and brass, should not be used for direct product contact. Acidic foods may dissolve and erode copper sufficiently to pose a food hazard;
- new equipment for direct contact use with honey and other edible bee products should be provided with a letter of guarantee from the supplier certifying its suitability for food use; and
- where appropriate, have internal corners or angles with a continuous smooth radius of at least 7 mm. A lesser radius may be used where necessary for proper functioning of parts or to facilitate drainage, provided that such areas can be readily cleaned.

3.5.3 Personal hygiene equipment

- (1) Ensure hand washing units are:
 - a) sufficient in number to allow for effective hygiene;
 - b) non-hand operable (e.g. foot, knee, sensor or another approved method);
 - c) located in areas that are readily accessible to all persons working in or entering a processing area;
 - d) located close to points of the process involving manual handling of the product; and
 - e) provided with warm potable water and approved soap dispensers.
- (2) Additionally single use towels or other hand drying facilities that do not contaminate washed hands or the surrounding area should be provided adjacent to hand wash units.
- (3) Provide for disposal of single use hand drying towels, where appropriate.
- (4) Prohibit the use of roller towels and air dryers on the processing floor.
- (5) Provide facilities for washing water proof clothing (e.g. boots, aprons, gloves).
- (6) Ensure wash facilities are designed, constructed and located:
 - a) to suit the operator, the protective clothing that is worn and the equipment that is used; and
 - b) in a manner that minimises splashes onto surrounding areas, products and equipment.

Guidance

The recommended temperature range for warm potable water for hand washing is 38-44°C at the point of use.

3.5.4 Monitoring equipment

- (1) Ensure monitoring equipment have the capability, accuracy and precision appropriate for:
 - a) the product, process, facility or equipment it is fitted to; and
 - b) the measurement being taken.
- (2) Operators must ensure monitoring equipment is:
 - a) installed so measurements can be easily read;
 - b) able to take accurate readings of the relevant parameter (e.g. warmest temperature of the refrigeration equipment or facility and the coldest temperature of the heating equipment); and
 - c) adequately protected from physical and chemical damage.
- (3) Calibrate measuring equipment that is used to carry out a critical measurement [HC Spec 6.2 (2)].

Guidance

Calibration requirements are described in [6.5 Calibration of Measuring Equipment](#). Determine any critical measurements when developing your RMP.

3.5.5 Motors, drives and pumps

- (1) Ensure motors, drives and pumps, including vacuum pumps, associated with processing equipment are:
 - a) appropriately designed and managed; and
 - b) suitably maintained so that food grade lubricants and smoke do not cause contamination of the food or process.
- (2) Ensure lubricants meet the requirements of [6.7 Control of Maintenance Compounds](#).

3.5.6 Cleaning equipment - hoses

- (1) Equip the premises, where required, with an adequate number of hose connection points to enable effective cleaning.

- (2) Provide appropriate facilities for the storage of hoses, where fitted, to ensure hose ends are free from contact with the floor.
- (3) Ensure hose materials are:
 - a) not a source of contamination to any product;
 - b) able to be adequately cleaned and maintained under the normal conditions of use; and
 - c) kept in good condition.

3.5.7 Records

- (1) Keep records to demonstrate compliance with the requirements [RMP Spec 20 (2)].
- (2) Keep the following records for equipment:
 - a) supplier guarantees or certificates.

3.6 Amenities

3.6.1 Purpose and Scope

- (1) To ensure design and construction of amenities (including toilets, wash rooms, locker rooms, change rooms, lunch rooms and cafeterias) are fit for intended purpose.

3.6.2 Lockers

- (1) Construct any lockers provided for the storage of clothing and other personal belongings in the amenities so that:
 - a) there is adequate free space to allow for easy cleaning of lockers and their surrounding area; and
 - b) no material can be stowed on top of the lockers or set flush with the walls.
- (2) Provide physical separation from other items when storing food area PPE in lockers.
- (3) Provide dedicated facilities, where appropriate, for:
 - a) depositing dirty clothing;
 - b) storing clean clothing; and
 - c) laundering of dirty PPE on the premises or by contract arrangement.

Part 4: Repairs and maintenance

4.1 Overview

- (1) This Part covers the aspects of:
 - a) Programmed and non-programmed maintenance;
 - b) Building maintenance; and
 - c) Equipment maintenance.

4.2 Programmed and non-programmed maintenance

4.2.1 Purpose and Scope

- (1) To ensure that premises, facilities and equipment are maintained in good working order.

4.2.2 Programmed maintenance

- (1) Operators must inspect buildings, facilities and equipment routinely and systematically to identify and correct items that require preventative repair and maintenance [AP Reg 11 (1)].
- (2) Ensure programmed maintenance is conducted at a time and in a manner that will not affect product safety and suitability.
- (3) Ensure programmed maintenance only occurs during processing if the impact on product safety and suitability is managed appropriately.

Guidance

Ensure maintenance occurs at the end of the processing period. If this is not practicable, it should take place at a time that reduces the opportunity of contaminating exposed ingredients, packaging and product. This could be at a normal work break during processing.

A delay in completing programmed maintenance is acceptable in some situations (e.g. when parts are not available due to factors outside the operator's control) provided it does not affect product safety and suitability.

- (4) Ensure the frequency of programmed maintenance so that buildings, facilities and equipment remain suitable for producing safe and suitable product.
- (5) Consider how frequently maintenance checks need to be conducted (e.g. daily, weekly, or less frequently). Repetitive problems or breakdowns may indicate that the maintenance frequency needs to be increased, or equipment/facilities need replacing.
- (6) Consider and appropriately manage any risk to product safety and suitability that construction and renovation activities may cause.

Guidance

Consider the impact of construction and renovation activities on product safety during the planning phase of these activities. Implement appropriate measures to prevent product contamination.

Increase the amount of contaminant monitoring in surrounding processing areas during construction or renovation. Processing should not occur in areas directly affected by construction and renovations.

Consider having lock out or tagging systems to protect against inadvertent operation and sign-off of any intrusive maintenance. Evidence of the completion of work e.g. electrical certification is advised.

4.2.3 Non-programmed maintenance (including emergency maintenance)

- (1) Take all practical steps to ensure there is no adverse effect on product safety or suitability from non-programmed maintenance.
- (2) Notify the supervisor immediately of any situation which requires non-programmed maintenance.
- (3) Before any non-programmed maintenance work begins, ensure a suitably skilled person:
 - a) assesses the potential of the work and associated activities to contaminate:
 - i) product;
 - ii) ingredients;
 - iii) packaging;
 - iv) equipment; and
 - v) the processing environment;
 - b) puts in place appropriate controls to protect these items where possible and minimise contamination.
- (4) Consider the impact of the defect on product safety and suitability and assign it to one of three categories: critical, major or minor.

Guidance

It is common practice to categorise defects as:

- **critical** - a defect that would have a direct or immediate effect on product safety (e.g. damage to, or severe deterioration of a product contact surface, processing equipment failure, etc.);
- **major** - a defect that may result in a direct effect on product safety by introducing a conflicting hygiene status; and
- **minor** - a defect which is not expected to have any direct effect on product safety.

- (5) Determine the urgency of which non-programmed maintenance should be undertaken when defects (e.g. breakdowns) occur:
 - a) **critical defects**, operators should take all practical steps to ensure they are repaired immediately;
 - b) **major defects** should be repaired at the earliest opportunity (i.e. at the end of the processing period); and
 - c) **minor defects** should be repaired as the opportunity arises. The operator should set a date for correction of the defect.

Guidance

When determining the urgency of non-programmed maintenance, operators should consider the stage in processing, including the processing environment conditions.

Repairing a minor defect should be scheduled as part of programmed maintenance and corrected within 6 months of being raised, or sooner where possible.

4.2.4 Breakages (glass and other physical hazards)

- (1) Ensure in the event of a breakage during processing, the operator should:
 - a) isolate the affected area;
 - b) notify the supervisor in charge of area of the incident;
 - c) ensure any affected PPE is changed;
 - d) use appropriate equipment to remove the breakage and clean the area;
 - e) identify and isolate any affected product and apply appropriate disposition;
 - f) assess the hygienic status of the affected area and confirm as acceptable prior to resuming processing; and
 - g) document the issue and the corrective actions taken.

4.2.5 Temporary repairs

- (1) Ensure temporary repairs:
 - a) do not affect the hygienic status of equipment, processing areas or the safety or suitability of product; and
 - b) are recorded on the maintenance system to be permanently repaired within an allocated time, as determined by the repair's impact on product safety and suitability.

Guidance

A temporary repair is acceptable to resolve an issue whilst allowing processing to continue in the short-term, when a permanent or complete repair cannot be made.

4.2.6 Approved maintenance compounds

- (1) Using maintenance compounds within processing and support areas must be in accordance with manufacturers' directions and the conditions approved by MPI. Include compounds where there is potential for incidental product contact (e.g. sanitiser, lubricants, and surface treatment compounds).

Guidance

Refer to [6.7 Control of Maintenance Compounds](#) for additional procedures.

4.2.7 External environment

- (1) Operators must maintain external areas within the RMP boundary in a tidy condition to minimise potential sources of contaminants and harbourages for pests [AP Reg 11].

Guidance

Ensure roadways and car parks are tar sealed or concreted.

Ensure landscaped areas (e.g. shrubs, trees, grass) are not in close proximity to buildings where product is processed.

Unused equipment should be covered and stored on hard standings away from buildings where product is processed or stored. Storage on grassed areas may increase the likelihood of pest harbourage due to the difficulties of maintaining the grass height.

4.2.8 Records

- (1) Refer to clause [4.4.5 Records](#).

4.3 Building maintenance

4.3.1 Purpose and scope

- (1) To ensure buildings are maintained to prevent being a source of contamination.

Guidance

Maintain roofs, gutters and drains to prevent build-up of debris that may lead to ponding, flooding, leaks and attract the harbourage of pests.

Coverings over windows, doors, vents and openings should be maintained to minimise the entry of pests.

4.3.2 Services

- (1) Maintain on-site services that affect the production of safe and suitable product. This includes water reticulation systems, waste water and sewage systems, and electricity supply (where appropriate).
- (2) Service maintenance should be part of the programmed maintenance schedule.

4.3.3 Processing Areas, Support Areas and Amenities

- (1) Operators must maintain processing areas, support areas and amenities to:
 - a) allow for appropriate cleaning and sanitation to take place; and
 - b) ensure the integrity of the hygienic envelope [AP Reg 9 and 11].

Guidance

Examples of items that may affect product safety if poorly maintained include:

- exposed wood;
- openings to the outside environment such as windows, doors, and vents; and
- fixtures and fittings (e.g. cracks and crevices in ceilings, walls, floors, flaking paint, overhead leaks from pipes, equipment attachments).

4.3.4 Engineering and Woodworking Workshops, Equipment and Tools

- (1) Prevent debris from engineering workshops (e.g. swarf, sawdust and other unwanted materials) from entering processing or support areas.

Guidance

This may be achieved by keeping doors closed, the use of swarf mats, boot washes etc.

- (2) Operators must ensure equipment, tools and parts used for repairs and maintenance in processing and support areas are not a source of contamination [AP Reg 11].
- (3) Implement a 'tools and parts reconciliation system' to ensure all tools taken into processing or support areas are accounted for once maintenance is complete.
- (4) Remove and/or return tools to storage or a designated area (e.g. a shadow board) once maintenance or repair work is complete.

Guidance

Assess tools, tool kit and parts for their suitability for use in the intended environment. Where necessary clean and sanitise these before being taken into processing and/or support areas.

A reconciliation system could include tool kit monitoring, shadow boards, counting and recording the number in and out, verification and sign-off once maintenance is complete via e.g. a work order.

4.3.5 Records

- (1) Refer to clause [4.4.5 Records](#).

4.4 Equipment maintenance

4.4.1 Purpose and scope

- (1) To ensure equipment is maintained and not a source of contamination.

4.4.2 General requirements and procedures

- (1) Operators must maintain equipment to ensure it is not a source of contamination to product [HC Spec 2.3 (4)].
- (2) Determine the frequency of maintenance based on:
 - a) the type of equipment;
 - b) its intended use;
 - c) frequency of use; and
 - d) manufacturer's recommendations (where available).
- (3) Operators must regularly update the maintenance schedule (as a controlled document) to ensure the maintenance requirements for new or re-commissioned equipment is included [RMP Spec 19 (2)].

Guidance

Where manufacturer's recommendations are not available, maintenance frequencies should be based on the operator's knowledge of equipment performance, reliability and consistency.

Equipment maintenance checks should also include an assessment of:

- the equipment's overall condition and integrity (e.g. is it working properly);
- sources of physical contaminants (e.g. damaged, lost or worn parts, rust, loose flaking paint, loose parts on equipment prone to vibration, broken parts such as needles and blades etc.); and
- microorganism harbourage sites (e.g. worn or frayed hoses, gaskets or belts, porous welds, product contact surfaces).

Repetitive equipment problems or breakdowns may indicate that the maintenance frequency should be reviewed and increased, or that the equipment needs to be replaced.

4.4.3 Damaged, decommissioned or idle equipment

- (1) Store damaged, decommissioned or idle equipment in an appropriate way to ensure it does not become a source of contaminants or harbour pests.
- (2) Ensure equipment that could be a source of contamination is:
 - a) physically isolated from processing lines and product; or
 - b) removed from processing areas.
- (3) Clearly identify damaged or decommissioned equipment that remains in processing areas.

Guidance

Where possible, remove damaged or decommissioned equipment from processing areas. Decommissioned equipment may be stored outdoors, but should be placed on a hard standing (e.g. concrete, sealed or paved area) and covered.

It is recommended to operators that they document why equipment is decommissioned or damaged as these details can be helpful when determining the equipment's suitability for repair or re-commissioning.

4.4.4 Returning equipment to use (including re-commissioning equipment)

- (1) Document a procedure to ensure that equipment returned to use (i.e. after repairs and maintenance, re-commissioning or having previously been idle) is not a source of contamination to the product.
- (2) Ensure the procedure includes steps to:
 - a) thoroughly clean and sanitise equipment before being returned into a processing or support area;
 - b) revalidate previously validated equipment if the repairs and maintenance activity may affect its validation status; and

- c) perform a pre-operational check before processing re-commences.

4.4.5 Maintenance personnel and contractors

- (1) Ensure that maintenance workers, including contractors are:
- a) competent to perform the required tasks;
 - b) trained to do their job without contaminating product (or if contamination occurs, able to follow appropriate product disposition procedures);
 - c) where possible, to minimise contamination of the surrounding environment; and
 - d) trained in, and adhere to hygienic requirements.

Guidance

Examples of minimising contamination of surrounding environment include:

- adequate clean-up upon completion of the work; and
- the use of dedicated tools or at least a sanitation step to minimise cross contamination.

Refer to [2.2 Personnel Health and Hygiene](#) for further guidance.

Ensuring contractors are trained can be achieved in several ways, including:

- providing contractor inductions or refresher training;
- use of approved supplier databases; and
- having identification and supervision (where appropriate) whilst on site.

4.4.6 Monitoring

Guidance

For extractors and packers who operate on a seasonal basis, check compliance with requirements for design and construction before the start of each season. An example of a pre-season checklist is given in Appendix 2 (a copy of the checklist is available as a separate document on the MPI website for ease of downloading and use).

4.4.7 Records

- (1) Keep records to demonstrate compliance with the requirements [RMP Spec 20 (2)].
- (2) Keep the following records for maintenance:
- a) repair and maintenance activities and systems;
 - b) site plan with the RMP boundary; and
 - c) verification activities.

Guidance

Records may be kept as a daily diary, logbook, completed form or checklist.

Records should include the following:

- a maintenance schedule
- maintenance records or job sheets including:
 - when and how the defect breakdown was repaired;
 - who conducted the work;
 - who has signed-off that it was completed;
 - any findings/issues;
 - that appropriate equipment “return to use” procedures were followed;
- corrective action records (including details of affected product if applicable); and
- verification records.

Comprehensive maintenance records will assist the operator to verify that the repairs and maintenance programme is working correctly.

It may also be useful in the event of a food safety incident or trace back situation and may help to reduce the risk to the business.

Refer to [2.1 Document Control and Record Keeping](#) requirements.

Draft for
Consultation

Part 5: Cleaning and sanitation

5.1.1 Purpose and scope

- (1) To ensure the effective cleaning and sanitation of the premises, facilities and equipment to prevent or minimise the contamination of edible bee products.

5.1.2 General requirements and procedures

- (1) Operators must ensure that all areas of their site (e.g. within the physical boundaries) of the RMP, including the facilities, support areas and equipment, are maintained in a clean and sanitary condition appropriate to the use of the area [AP Reg 11 (1)].
- (2) Operators must use only approved maintenance compounds during processing operations or in the maintenance of processing areas, facilities and equipment [HC Spec 3.4 (1)].
- (3) Any maintenance compounds used during processing operations must be approved for that purpose before use [AP Reg 11 (4)].
- (4) Operators must develop and implement a written cleaning programme for all of the following:
 - a) processing areas;
 - b) storage areas;
 - c) freezers, chillers or cool rooms (if relevant), hot rooms;
 - d) equipment;
 - e) amenities; and
 - f) external areas of the premises [AP Reg 11].
- (5) Ensure the cleaning programme includes the following information:
 - a) areas and equipment to be cleaned;
 - b) procedures for all cleaning and sanitising operations, including the cleaning method, frequency of cleaning and sequence of cleaning;
 - c) detergents/sanitiser to be used, their concentration, application method and contact time required;
 - d) the identity or position of person(s) responsible for the cleaning activity;
 - e) methods and frequencies of monitoring and verification of the effectiveness of the cleaning and sanitation procedures; and
 - f) cleaning records forms or check sheets.
 - g)

Guidance

Refer to [2.4 Operator Verification and Notifications](#).

Clean food processing areas, facilities and equipment in accordance to the cleaning programme. Frequency should be often enough to minimise or prevent cross contamination of product.

Regularly clean and sanitise other items that may contaminate products indirectly (e.g. handles of doors and refrigerators, taps, hand wash basins etc.).

Operators may choose to incorporate existing documented information into their cleaning and sanitation programme by reference.

5.1.3 Cleaning methods

- (1) Operators must carry out cleaning activities in a way that will minimise contamination of:
 - a) bee products;
 - b) ingredients;
 - c) product contact materials (e.g. packaging); and

- d) previously cleaned areas, structures facilities or equipment [AP Reg 10 and 11].
- (2) Train workers adequately on the handling of cleaning chemicals and the implementation of the cleaning programme.
- (3) Use cleaning compounds in accordance with procedures given in [6.7 Control of Maintenance Compounds](#).
- (4) Ensure the cleaning method is appropriate to:
 - a) the product and the operation;
 - b) the type of surface to be cleaned; and
 - c) the type and characteristics of the residual material or dirt to be cleaned off the surface.

Guidance

Care is required to avoid re-contamination. Cleaning from clean areas towards dirty areas can help minimise the spread of contamination e.g. example, walls should be washed before floors. However when hosing floors, high-pressure hoses can re-contaminate previously cleaned surfaces with waste water.

Most processing areas will require a wet cleaning routine.

Cleaning using a mixture of wet and dry methods may be suitable in some circumstances (e.g. support areas, packing areas that require occasional wet cleaning).

5.1.4 Wet cleaning

- (1) Wet cleaning (e.g. water and steam) should be contained within the immediate area that is being wet cleaned to prevent wetting dry ingredients, packaging, products and dry product areas.
- (2) If product is not removed from the wet cleaning area, the amount of water used should be limited to that necessary to complete the cleaning procedure.
- (3) All equipment and food surfaces that are wet cleaned should be free from residues and moisture before processing restarts.

5.1.5 Dry cleaning

- (1) Dry cleaning is recommended for areas where dry materials are handled and stored including:
 - a) ingredient and packaging stores;
 - b) preparation areas for dry ingredients; and
 - c) outer packaging areas.
- (2) Dry cleaning methods include brushing, scraping and vacuuming.
- (3) Dry cleaning in areas with exposed ingredients or product is only appropriate where moisture levels in products are below levels sufficient to support microbial growth.

5.1.6 Cleaning inspection

- (1) Cleaning checks or inspections should be undertaken on a regular basis, as indicated in the cleaning and sanitation programme to:
 - a) ensure compliance with the cleaning and sanitation programme; and
 - b) check the effectiveness of cleaning by assigned personnel.
- (2) Pre-operational checks of facilities and equipment should be conducted by a suitably skilled person to ensure that operations begin only after sanitation requirements have been met.
- (3) If a pre-operational hygiene check shows a problem:
 - a) the source of the contamination should be fixed (immediately if there is a food safety risk); or

- b) the frequency of cleaning should be increased sufficiently to manage the problem.
- (4) Pre-operative hygiene checks of the area and equipment to be used should be completed before the product requiring the higher hygienic status is processed.

Guidance

For further guidance on pre-operative hygiene checks, refer to [2.4 Operator Verification and Notifications](#).

5.1.7 Equipment used for cleaning

- (1) Ensure cleaning equipment should not be a source of contamination to bee products, ingredients, packaging and other material.
- (2) Ensure cleaning equipment is:
 - a) used for cleaning purposes only;
 - b) stored in a hygienic manner when not in use; and
 - c) maintained in a good state of repair.

Guidance

Where possible, single use cleaning equipment is recommended. Multiple-use cleaning equipment (e.g. re-useable cloths, brushes, squeegees etc.) should be cleaned and sanitised daily or at a frequency to minimise cross contamination between cleaning activities.

Ensure equipment removed from a dry processing area for purposes of wet cleaning is dry prior to its return.

5.1.8 Pre-season cleaning and maintenance check for extraction premises

- (1) Carry out a complete and thorough cleaning of the extraction premises, facilities and equipment before the start of each extraction season. Check all facilities, essential services (e.g. water, power) and equipment to ensure that they are in good working order ready for operation to commence.
- (2) Keep records that these tasks have been completed. An example of a pre-season checklist is given in Appendix 2 (a copy of the checklist is available as a separate document on the MPI website for ease of downloading and use).
- (3) Remove stored materials and items that may have been stored in the hot room, store room and extraction room during the off-season.
- (4) Clean walls, floors, ceiling, windows, doors, light fixtures, sinks, fans, bee escapes and other fixtures with suitable cleaning agents so that they are visibly clean and free of honey and bee product residues, dirt, dust, moulds, insect parts and waste, and other debris.

Guidance

Check the condition of the floor and walls. They may need to be resealed.

Water tests to demonstrate potability are required before processing starts, refer to [3.4 Potable Water](#).

- (5) Ensure all product contact surfaces, including equipment, containers and other implements, are:
 - a) washed with a suitable detergent, or plain water and sanitiser; and
 - b) rinsed, drained and allowed to dry.
- (6) Clean and tidy external areas surrounding the buildings and access ways. Ensure they are free from any evidence of pest infestation or accumulated waste.

5.1.9 Cleaning during operations in the extraction, processing and packing areas

- (1) Use wet cloths for the ongoing wiping of external surfaces of equipment to remove honey residue. Maintain the cloths in a clean and sound condition. Regularly replace water contained in buckets for rinsing wiping cloths.
- (2) Wiping cloths should not be used for wiping contaminated surfaces such as the floor. They should be washed with detergent and sanitised daily.

Guidance

Sanitise wiping cloths by:

- soaking in an approved sanitiser;
- soaked in chlorinated water; or
- put through a laundry process.

- (3) Clean up honey spills on the processing floor immediately. Spilt honey should not be used for human consumption. Provided it is not contaminated with any chemical substance, spilt honey may be used for animal consumption.
- (4) Operators must clearly identify any contaminated honey as not for human consumption [HC Spec 8.2 (4)].
- (5) Collect waste in identified waste containers and do not allow waste to accumulate where it can contaminate any edible bee product or product contact surfaces.

5.1.10 Cleaning at end of day in the extraction, processing and packing areas

- (1) Remove products, packaging material and other materials from the area that may be contaminated during wash down. Store them in appropriate locations, or protect by covering them.
- (2) Dispose of any waste collected during the day appropriately in designated waste bins.
- (3) Clean floors by hosing or other effective means. Drain or remove water completely.
- (4) Remove visible contamination on walls by hosing, wiping with clean wet cloths or by other effective means.
- (5) Clean equipment, including the pricker/loosener, uncapper, extractor, sump, conveyors, and work tables, with suitable cleaning agents or sanitise whenever it is necessary to:
 - a) enable the effective performance of the particular task;
 - b) remove residual honey that is contaminated with a hazard;
 - c) remove the build-up of foreign matter (e.g. wax, insects, and other debris);
 - d) prevent pest contamination of the honey; and
 - e) satisfy commercial requirements (e.g. switching to organic).
- (6) Clean external surfaces of all equipment so they are visibly clean and free of honey and bee product residues, dirt, dust, moulds, insect parts and waste, and other debris.

Guidance

Wipe with wet cloths or hose down external surfaces of equipment as necessary.

5.1.11 Cleaning of storage areas

- (1) Stack and store packed products, raw materials, packaging and other materials in a tidy manner. Adequate space should be available to allow effective cleaning in the storage area.
- (2) Clean up spills immediately.
- (3) Remove and dispose of damaged packaged products and other materials as soon as possible.

- (4) Keep dry stores dry and clean regularly by sweeping or vacuuming.

Guidance

Packed products, raw materials, packaging and other materials should be stored off the floor e.g. use clean pallets.

Refer to [6.13 Storage](#) for further details.

5.1.12 End of season cleaning and off-season maintenance

- (1) Clean facilities, walls, floor, ceiling, windows, doors, light fixtures, fans, bee escapes and other fixtures with suitable cleaning agents so that they are visibly clean and free of honey and bee product residues, insect parts and waste, and other debris.
- (2) Disassemble equipment as necessary, clean thoroughly by washing, and dry to ensure that there is no honey residue that may attract pests and allow mould growth.
- (3) Do not store the following materials in the hot room, extraction room, or any other processing room:
 - a) poisonous chemicals (e.g. solvents, insecticides, paint, fuel);
 - b) items heavily contaminated with soil, dirt, waste and other contaminants;
 - c) any organic material (e.g. fruits) that may deteriorate and cause microbiological contamination and pest infestation; and
 - d) any other material that could leave residual contaminants after the pre-season cleaning.
- (4) Maintain external areas in a tidy condition so as not to attract pests and allow infestation.

Guidance

Carry out maintenance work on facilities and equipment during the off-season to minimise disruption and the potential for contamination.

5.1.13 Cleaning of amenities

- (1) Regularly clean amenities and maintain in a hygienic condition.

5.1.14 Maintenance of cleaning equipment

- (1) Cleaning implements and equipment should be maintained in a hygienic condition and should not introduce any hazard or foreign object to any edible bee product, packaging or product contact surface.

5.1.15 Monitoring

- (1) Regularly check compliance with documented procedures and the effectiveness of the cleaning programme.

5.1.16 Records

- (1) Keep records to demonstrate compliance with the requirements [RMP Spec 20 (2)].
- (2) Keep the following records for calibration:
 - a) cleaning records.

Guidance

Records may be kept in a daily diary, logbook, record form or checklist.

Refer to clause [2.1 for Document Control and Record Keeping](#).

Part 6: Supporting systems

6.1 Receipt of incoming materials for processing

6.1.1 Purpose and scope

- (1) To ensure that incoming materials (e.g. honey and packaging) received for processing are fit for intended purpose.
- (2) To ensure that all incoming materials are sourced, handled and stored according to requirements.

6.1.2 General requirements and procedures

- (1) Develop and implement written procedures for the sourcing and purchase of inputs (e.g. honey, packaging) to ensure they comply with agreed specifications.
- (2) Operators must store, handle and transport all process inputs, including ingredients, additives and processing aids, so as to minimise any potential contamination or deterioration [HC Spec 14.8].
- (3) Check inputs on arrival or prior to use to ensure they are:
 - a) clearly labelled and are fit for purpose; and
 - b) obtained from suppliers who are trading under appropriate legalisation (e.g. Food Act, APA).

Guidance

For packaging requirements refer to [6.3 Packaging](#).

The operator should have an appropriate supporting system for inputs (ingredients, additives and processing aids).

Consider the following points as appropriate:

- develop specifications for the input that are appropriate to the hazards that are reasonably likely to occur and considering how the input will be used;
- develop a list of approved suppliers;
- on receipt of the input, check the information provided by the supplier such as certificates of analysis or supplier guarantees; and
- check samples of the input periodically against specifications.

6.1.3 Handling and storage

- (1) Operators must store input materials:
 - a) away from inappropriate or potentially harmful chemicals;
 - b) in an area that is clean, tidy and free from pests;
 - c) at the appropriate temperature as per manufacturer's instructions e.g. ambient, chilled or frozen;
 - d) off the floor in closed containers or packs when not in use; and
 - e) with clear identification [HC Spec 14.8].
- (2) Ensure materials and ingredients are:
 - a) moved to appropriate storage rooms as soon as possible after delivery;
 - b) held at appropriate temperatures to maintain their safety and suitability for their intended purpose;
 - c) protected against contamination or damage during storage;
 - d) stored on racks, shelves or pallets to ensure no contact with the floor;
 - e) kept separate from maintenance compounds and other hazardous materials; and
 - f) properly labelled or identified.

Guidance

When dealing with the use and storage of part containers the operator should:

- ensure that clean and/or dedicated utensils are used for dispensing inputs;
- store the opened container in accordance with any manufacturer's instructions;
- ensure that the input is used within any shelf life provided for opened products; and
- dispose any input that is no longer suitable for processing or if information that should be available with the input is lost (e.g. identity, storage instructions, shelf life).

6.1.4 Tutin

- (1) Operators must keep documentation to support the compliance options selected under the [Food Standard: \(Tutin in Honey\) 2016](#).
- (2) Failure to comply with these requirements may result in a loss of eligibility for official assurances.

Guidance

Operators wishing to export honey must comply with the management of tutin affected honey.

The "Harvest Declaration" is an industry term for the "[Apiarist and Beekeeper Statement](#)" or "statement" referred to in this Part.

Most of the requirements in [Food Standard: \(Tutin in Honey\) 2016](#) and Animal Products (Harvest Statement and Tutin Requirements for Export Bee Products) Notice 2010 are not repeated in this Code and it is important that all operators are familiar with them.

An explanatory guide to meeting the requirements can be found in the [Guidance Document: Compliance Guide to the Food Standard: Tutin in Honey 2016](#).

6.1.5 Receipt of honey, pollen and other bee products

- (1) Each consignment or lot of honey supers, pollen or other bee products destined for export with official assurances must not be processed without a correctly completed Harvest Declaration indicating that it is suitable for processing for human consumption [Animal Products (Harvest Statement and Tutin Requirements for Export Bee Products) Notice 2010 5 (1)].
- (2) The beekeeper supplying honey must be listed for any export product requiring official assurances [OAS 7.4].
- (3) Operators must ensure the Harvest Declaration includes:
 - a) complete and correct information and signed by the appropriate beekeeper/apiarist; and
 - b) verifiable evidence that the appropriate beekeeper/apiarist is in full compliance with the Biosecurity Act 1993 [American Foul Brood \(AFB\) Pest Management Strategy](#).
- (4) When an apiarist or beekeeper extracts honey from supers from her/his own apiary, a Harvest Declaration does not need to be completed. However the apiarist or beekeeper must keep **all equivalent records** of all the information required by the Harvest Statement [Animal Products (Harvest Statement and Tutin Requirements for Export Bee Products) Notice 2010 5 (3)].

Guidance

Check all Harvest Declarations at 'reception':

- have been received before processing;
- are correctly completed; and
- are truthful and accurate.

Honey with an incorrect Harvest Declaration should not be processed until the Harvest Declaration has been correctly completed.

Equivalent records include:

- apiarist registration numbers;
- lot/batch numbers;
- harvest dates; and
- all other information such as tutin, ACVM and AFB compliance statements.

Operators/beekeepers who elect to hold “equivalent records”, as required to be held on a Harvest Statement, should ensure that the “equivalent records” they hold will meet audit scrutiny.

A system should be in place for any honey from local unregistered apiarists to be held separate and only consigned for local market sales.

- (5) When the Harvest Declaration indicates that the honey, pollen, or other bee product is not suitable for processing for human consumption (i.e. the statement has a ‘No’ answer or is in error for any reason), it may not be eligible for an official assurance [Animal Products (Harvest Statement and Tutin Requirements for Export Bee Products) Notice 2010 6 (2)].
- (6) Verifiers will check at least one Harvest Declaration (or equivalent records), or transfers, at every routine RMP verification visit [Animal Products (Harvest Statement and Tutin Requirements for Export Bee Products) Notice 2010 8 (1) and 12 (1)].
- (7) Operators must ensure each consignment or lot of honey supers, pollen, or other bee product is clearly identified so that it can be easily linked to the Harvest Declaration [AP Reg 18 (1)].
- (8) Operators should have procedures for handling, identifying and separating honey that is ineligible for processing e.g. awaiting a corrected Harvest Statement.

6.1.6 Records

- (1) Keep records to demonstrate compliance with the requirements [RMP Spec 20 (2)]. provide
- (2) Keep the following records for incoming materials;
 - a) list of suppliers;
 - b) raw material, inputs and ingredient specifications;
 - c) Harvest Declarations;
 - d) any supplier guarantees or certificates of analysis;
 - e) any supplier audit reports; and
 - f) incoming goods checks and delivery documentation.

6.2 Allergen management

6.2.1 Purpose and scope

- (1) To ensure that those operators who process products containing allergens and who also process products that are labelled “allergen free” manage the risk of allergens.
- (2) Allergens refer to those substances in [FSC 1.2.3](#) and Schedule 9.

6.2.2 General requirements and procedures

Guidance

This section applies to operators who process products containing allergens and who also process products that are allergen free.

Royal jelly is a known allergen – FSC 1.2.3-3.
Pollen and propolis are known food allergens – FSC Schedule 9.

“VITAL® decision making tool” is a tool that can be used to assist in allergen labelling. This tool and other useful information are available on the Allergen Bureau website at:
<http://www.allergenbureau.net/>.

- (1) Where appropriate, document procedures to manage allergens throughout the process from reception to load out.
- (2) Where appropriate, document cleaning procedures to minimise the possibility of cross contamination of allergens to products that are not intended to contain that substance.
- (3) Cleaning procedures should include, as appropriate:
 - a) the cleaning of all surfaces, equipment, utensils, clothing and hands (personnel) that may have come in contact with products that contain allergens;
 - b) change-out of PPE;
 - c) management and clean-up of spills;
 - d) cleaning of hidden or static areas and dismantling of equipment to remove residues; and
 - e) evidence that the cleaning regime is effective in removing the allergens in question.
- (4) Ensure that all relevant personnel have knowledge of:
 - a) the consequences of consumption of allergens by susceptible consumers; and
 - b) GOP in the management of allergens specific to:
 - i) their premises;
 - ii) types of products processed; and
 - iii) their roles and responsibilities.
- (5) Document all formulations including ingredients, compound ingredients, substitute ingredients, additives and processing aids, and have knowledge of:
 - a) the presence of any allergens;
 - b) those that are derived from allergens; and
 - c) those that have a high likelihood of having been cross contaminated with allergens (i.e. may contain traces of allergens).
- (6) The operator should have a system of notification from the supplier if the allergen status of an ingredient, additive or processing aid changes.
- (7) Production and/or cleaning schedules should be managed to ensure that cross contamination of allergens does not occur i.e. products that do not contain allergens should be processed first.
- (8) Ensure that if a product does not contain the same allergen as a previously processed product then a full clean down occurs, including the changing of PPE that may contaminate the product.
- (9) Provide separation, by partition, location or other effective means to minimise the opportunity for cross contamination of allergens to non-allergenic products.
- (10) The nature of the separation should be based on a thorough investigation of the products, processes, premises and equipment design and construction.
- (11) Ensure reworked products containing allergens is not included in products that would otherwise be free of that substance.

Guidance

Consider cross contamination during storage and processing. Store possible inputs and products containing allergens separately where possible. Where this is not possible, store in sealed packaging or air tight containers etc. for segregation.

6.2.3 Records

- (1) Keep records to demonstrate compliance with the requirements [RMP Spec 20 (2)].
- (2) Keep the following records for allergen management;
 - a) the name and address of suppliers of raw materials and ingredients;
 - b) details about the supplied item, including the batch number, quantity, delivery date and allergen status;
 - c) the supplier status of any approved suppliers;
 - d) production records indicating the type, formulation and quantity of the finished products manufactured, the production or manufacturing dates and batch numbers, the use of any reworked products, and any repacking done;
 - e) an inventory system either electronic or hard copy that allows finished products to be traced;
 - f) load in and load out checks; and
 - g) the name and address of the person or company to which the batch of products are delivered to.

6.3 Packaging

6.3.1 Purpose and scope

- (1) To ensure that packaging materials used for containing edible bee products are fit for their intended purpose.

6.3.2 General requirements and procedures

- (1) Packaging materials including outer packaging (e.g. transportation outers and wraps) must be stored and handled in a manner that minimises contamination of the packaging or products [HC Spec 14.8(1)].
- (2) Product contact packaging should be:
 - a) checked on arrival to ensure it is intact, clean, clearly labelled, and matches the order;
 - b) stored in a clean dry area, away from chemicals;
 - c) protected from contamination when not in use;
 - d) free from contaminating substances and objectionable odours; and
 - e) clean, unused and undamaged at point of use.
- (3) Do not take outer packaging materials (e.g. transportation outers and wraps), that product contact packaging is delivered or stored in, into food processing areas.
- (4) Regularly check ongoing compliance with documented procedures.

6.3.3 Packaging process

- (1) Ensure packing operations and equipment:
 - a) are not a source of contamination; and
 - b) minimises contact of the product with the outside of the packaging.
- (2) Operators must handle products with damaged packaging in a manner that will minimise:
 - a) the exposure or spillage of the product (e.g. products can be wrapped and sealed);
 - b) contamination or deterioration of the product; and
 - c) contamination of other products and the storage area [HC Spec 7.2 (4)].
- (3) Repacking of product with damaged packaging should occur in a manner that minimises contamination.
- (4) Any product that has been detrimentally affected as a result of the packaging damage should be dealt with in accordance with the requirements of [6.11 Non-Complying Product and Recall](#).

Guidance

Use packaging that is fully sealed to prevent liquids from leaking out.

Confirm seals where leak proof (or similar) packaging integrity is claimed. The frequency of checks should be based on performance. Evidence of good seal formation can result in fewer checks. Increase the frequency if there is a trend of increasing seal failures until the problem is resolved.

6.3.4 Packaging specifications

- (1) The composition and, where appropriate, the conditions of use of packaging must:
 - a) comply with the requirements specified in the current US Code of Federal Regulations, Title 21, Parts 170-199, which applies equally to coatings and linings and cartons where these are the direct product contact surface;
 - b) comply with the requirements specified in the current "Australian Standard: Plastics materials for food contact use", AS2070-1999; or
 - c) be determined by the operator to be suitable for use, based on an analysis of hazards and other risk factors from the packaging [HC Spec 7.2 (1)].
- (2) Operators must ensure the type and composition of the packaging must be appropriate for its intended use [HC Spec 7.2 (2)].
- (3) If the packaging is damaged such that the suitability for processing of bee product or the fitness for intended purpose of bee product may be affected, the bee product must be:
 - a) handled in a manner that minimises contamination and the damage to the packaging rectified; or
 - b) appropriately disposed of [HC Spec 7.2 (4)].
- (4) Operators must retain records (e.g. supplier guarantees) that the composition of the packaging material complies with relevant legislation [HC Spec 9.2 (1)].

Guidance

The FSC does not specify details of materials permitted to be added to or used to produce food packaging materials. However, packaging when used should not cause food to be unsafe or tainted.

Therefore, it is the responsibility of food manufacturers and sellers to ensure their products are safe and that they comply with relevant legislation. In practice, packaging suppliers will need to ensure their products are suitable for the intended use. Compliance with recognised international food standards such as those of the European Union (EU) or the United States Food and Drug Administration (FDA) would be reasonable evidence that materials are suitable for food use.

Ensure packaging materials are of sufficient strength and durability to protect the products from exposure to contaminants that may be encountered during normal operations and in the distribution chain.

Discuss with suppliers how the packaging is to be used, for example, whether it is to be used for frozen or chilled products, whether it needs to be microwavable etc. This will need to be taken into consideration by the supplier when the supplier guarantee is given.

6.3.5 Metal drums

- (1) Operators must ensure all metal drums, including new, reused and reconditioned drums, are coated or lined with a food grade coating [HC Spec 7.2 (2)].
- (2) The drum coating should:
 - a) provide a barrier between the metal surface of the drum and honey;
 - b) be inert;

- c) not impart any flavour to honey;
 - d) be suitable for acidic foods such as honey; and
 - e) be resistant to delamination, flaking or peeling.
- (3) Know the lining coating of any drum used for honey (i.e. new, reconditioned or re-used) and the standards they comply with.
 - (4) Operators must ensure reused drums that have contained other foods such as fermented honey, sucrose, glucose, or orange juice are thoroughly washed and dried, in such a manner as to remove all residues of the food material, before using for honey [HC Spec 7.2 (5)].
 - (5) Drums that have been used to contain non-food materials (e.g. petroleum products and other chemicals) should not be reused for honey.
 - (6) Operators must check drums for damage, deterioration and contaminants prior to use to ensure that they are suitable for containing honey [HC Spec 7.2 (2)]. Do not use badly dented drums.
 - (7) Check the internal surface of drums have no cracks, rust, delaminated coatings, and other defects or damage that may impact on the safety and suitability of honey.
 - (8) Store empty and full drums in a manner that prevents deterioration of the drums, and the entry of water and contaminants into the drums.
 - (9) Ensure drums have properly fitted bungs that prevent the entry of moisture and other contaminants.
 - (10) Handle drums and transport in such a manner that prevents dents and other forms of damage.
 - (11) Operators must ensure potable water is used for washing of drums [HC Spec 2.5 (1)].
 - (12) Dry drums completely after washing and before being sealed with a bung.

Guidance

The internal lining should be approvable by the US FDA under Code of Regulations 175.300. Where products are to be eligible for export to the EU, all packaging materials should be compliant with the EU OMAR requirements for packaging. A specification or letter confirming the suitability of the lining should be provided by the drum supplier.

For drums that are to be reused, a heavy duty lining, such as a food grade epoxy phenolic lining (Coat G), is recommended. Note that some open-top drums used for containing other foods (e.g. anhydrous milk fat) are designed to be used with bags. Therefore, the lining of the drum and gasket of the lids may not be suitable for contact with honey.

Care should be taken when purchasing imported drums. Some imported closed-head drums have been used for chemicals and oils. These drums are difficult to recondition to a standard suitable for food use.

Drums should have tightly fitted bungs. Loose bungs indicate that water and other contaminants could have entered the drums. For closed-head drums, it is common industry practice to use a torch to view the inside of the drum. A mirror should be used to check underneath the lid. Dents can lead to cracking or delamination of the internal lining, and weakening of seams.

For storage of drums refer to [6.13 Storage](#).

Washing and drying of drums

To facilitate drying, washed drums may be dried in hot boxes or rooms.

6.3.5.1 Other bulk containers

- (1) Operators must ensure other bulk containers (e.g. Pallecon, Ecobulk) are not a source of contamination to edible bee products [HC Spec 7.2 (5)].

6.3.5.2 Plastic packaging

- (1) Plastics for food contact use must comply with the current US Code of Federal Regulations, Title 21 or be manufactured in accordance with the Australian Standard for Plastic Materials for Food Contact Use AS 2070-1999 [HC Spec 7.1 (1)]. Plastic materials included in this Australian Standard are:
 - a) polyethylene;
 - b) polyvinyl chloride compound (PVC);
 - c) styrene plastics material;
 - d) acrylonitrile plastics material;
 - e) polypropylene; and
 - f) polyvinylidene chloride compound (PVDC).

Guidance

Check the requirements for any other countries such as the EU for requirements for plastics if appropriate.

Letters of guarantee from suppliers are necessary for plastics. Non-food grade plastic can contain lead (extrusion die lubricant) or toxic plasticizers which can contaminate honey.

- (2) Protect packaging materials during transport to the premises and during storage, against dust, pest and other contaminants, and physical damage.

6.3.5.3 Glass jars

- (1) Ensure metal lids are coated or lined with a food grade material suitable for an acidic food such as honey.
- (2) Protect glass jars during transport to the premises and during storage, against dust, pest and other contaminants, and physical damage.

Guidance

Store glass jars in an inverted position.

- (3) Ensure glass jars are handled in a manner that does not cause any breakage or other damage.
- (4) Remove broken glass and discard immediately. Thoroughly check to ensure that all broken pieces are removed.

6.3.6 Reusable packaging

- (1) Operators must ensure reused and recycled packaging is not a source of contamination to edible bee products [HC Spec 7.2 (5)].
- (2) Operators must ensure labels present on reusable packaging are up to date [HC Spec 8.4 (1)].
- (3) Clean and sanitise reusable packaging (e.g. plastic dixies, bins etc.) which have been in direct contact with product.
- (4) After cleaning and sanitising, ensure reusable packaging is dried and cooled to at least room temperature (25°C) by the operator before use.
- (5) Ensure that the reusable packaging is not damaged (e.g. no sharp edges that may rip packaging) and remains suitable for re-use.

6.3.7 Records

- (1) Keep records to demonstrate compliance with the requirements [RMP Spec 20 (2)].
- (2) Keep the following records for packaging:

- a) a register of packaging and/or packaging supplier contact details;
- b) any supplier statements or guarantees for product contact packaging and containers; and
- c) records of any problems detected and any corrective action taken (including restoration of control, product disposition and prevention of recurrence) [RMP Spec 20 (2)].

Guidance

Records may be kept in a daily diary, logbook, record form or checklist.

Refer to [2.1 Document Control and Record Keeping](#).

6.4 Inventory control and traceability

6.4.1 Purpose and scope

- (1) To ensure that bee products are correctly identified sufficiently at receipt, processing, storage and sale for inventory control purposes and to allow for traceability in the event of a recall.

6.4.2 Inventory control

- (1) Operators must document an inventory control programme for product and records [HC Spec 9.2 (3)].
- (2) Operators must maintain inventories for all raw materials (e.g. incoming honey, pollen) and finished products, including any non-compliant materials and products [HC Spec 9.2 (3)].
- (3) Clearly identify non-complying products and the reasons for non-compliance in the inventory.
- (4) Operators must ensure there must be a system in place for the identification of raw materials and products, and documentation that will allow any finished product to be traced:
 - a) back to the supplier and the apiaries that the bee product was sourced from; and
 - b) to the next person or company that the product is transferred to i.e. for further processing, packing, or storage; distributed to; or sold to [AP Reg 18 (1)].

Guidance

Operators intending to export with an official assurance should check the requirements for inventory control, transport conditions etc., which may include the need to undertake load out checks. Refer to OMARs and/or OAS.

6.4.3 Traceability

- (1) All operators must have a tracking system that:
 - a) allows for the identification of all raw materials, ingredients and products throughout the entire production chain (i.e. from reception of incoming materials, through processing or manufacturing, to dispatch of products); and
 - b) enables the movement of the product to be traced:
 - i) where required by specifications, from the origin, through the supplier and the operator's business premises to the next recipient of the product; or
 - ii) where specifications do not require tracing from origin, from the supplier and the operator's business premises to the next recipient of the product [AP Reg 18 (1)].
- (2) Identify and track rework to finished product.
- (3) All outgoing products must be clearly labelled and accompanied by appropriate documentation to ensure traceability of the batch [HC Spec 8.2 (3) and 8.3 (1)].
- (4) The operator must have procedures to track inputs through processing so that products can be quickly and effectively identified and isolated in the event of that a problem occurs [HC Spec 9.2 (3)].

Guidance

It is recommended that the operator maintain a “one step forward, one step backward” traceability system. This allows the identification of where inputs and other materials have been received from and where the products have been dispatched to.

Record the identification of all inputs (e.g. batch code or lot identification) released to processing each day. The more precisely an input can be traced to a specific product, the less product will be affected in the event that it needs to be held or recalled.

6.4.4 Records

- (1) Keep records to demonstrate compliance with the requirements [RMP Spec 20 (2)].
- (2) Keep the following records for inventory control and traceability;
 - a) the name and address of suppliers of raw materials and ingredients;
 - b) details about the supplied item, including the batch number, quantity and delivery date;
 - c) the supplier status of any approved suppliers;
 - d) production records indicating the type, formulation and quantity of the finished products manufactured, the production or manufacturing dates and batch numbers, the use of any reworked products, and any repacking done;
 - e) an inventory system (either electronic or hard copy) that allows finished products to be traced;
 - f) load in and load out checks; and
 - g) the name and address of the person or company to which the batch of products are delivered to.

6.5 Calibration of measuring equipment**6.5.1 Purpose and scope**

- (1) To ensure that measuring equipment that is used to carry out critical measurements and functions as intended.
- (2) Measuring equipment includes the following:
 - a) temperature measuring/recording devices;
 - b) timing devices;
 - c) scales;
 - d) metal detectors;
 - e) water activity meters;
 - f) pH meters;
 - g) flow meters; and
 - h) other instruments.
- (3) It is recommended that calibration is also applied to equipment used in monitoring GOP parameters (e.g. refrigeration temperatures) and product parameters (e.g. product weight).

6.5.2 General requirements and procedures

- (1) Operators must ensure measuring equipment (whether stand-alone or integrated) that is used to provide critical measurements:
 - a) have the accuracy, precision and conditions of use appropriate to the task performed;
 - b) are calibrated:
 - i) against a reference standard (i.e. shows traceability of calibration to a national or international standard of measurement); or
 - ii) (if no such standard exists) be calibrated on a basis that is documented in, or incorporated by reference into, the RMP; and

- c) are uniquely identified (e.g. by using serial numbers, indelible tags or other permanent means of identification) to enable traceability of the calibrations and to identify the calibration status [HC Spec 6.2 (1)].

Guidance

Refer to Appendix 3 Guidance on Calibration Methods & Frequencies for:

- calibration methods and frequencies; and
- ice point and boiling point calibration methods.

6.5.3 Calibration programme

- (1) The operator must document a calibration programme that includes minimum frequencies of calibration for each piece of measuring equipment used to provide critical measurements, or used as reference standards, taking into consideration the following (as appropriate):
 - a) the stability of the piece of equipment;
 - b) the nature of the measurement; and
 - c) the manufacturer's instructions [HC Spec 6.2 (2)].
- (2) Safeguards must be in place to prevent unauthorised adjustments to the calibration of the measuring equipment, including movement of the equipment where this may invalidate the calibration [HC Spec 6.2 (3)].
- (3) Ensure reference standards (e.g. reference thermometer or reference weights) have a current calibration certificate before they can be used.
- (4) Ensure equipment used for making critical measurements (i.e. for monitoring critical limits), including reference thermometers, metal detectors and scales:
 - a) are calibrated by an accredited agency; or
 - b) have assurance or guarantee of the instrument's accuracy provided by the equipment manufacturer.

Guidance

The calibration programme should also:

- identify whether the measuring equipment is used for taking critical measurements or not;
- identify the person or agency who will perform the calibration;
- indicate the maximum error allowed before corrective action is taken (e.g. $\pm 1^\circ\text{C}$, $\pm 1\text{g}$);
- indicate how the calibration date and any correction factor will be affixed to the measuring device;
- include the corrective actions to be taken when a measuring device;
 - is damaged or provides inconsistent or inaccurate readings; and
 - identification and disposition of any product produced when the device was out of order.

Weighing of bee venom should be considered a critical measurement.

Aside from a calibration certificate or certificate of accuracy, newly purchased measuring devices should be provided with written calibration instructions, including methods and frequencies.

The Weights and Measures Act is administered by the Ministry for Business, Innovation and Employment (MBIE) and applies to all products sold by weight or by a measure, e.g. kilograms. MBIE's Trading Standard team enforces these rules. Further information can be found at the website www.consumerprotection.govt.nz and using the search term: "Trade Measurement".

Use a reference thermometer only for checking working thermometers.

- (5) Routine in-house checks of measuring equipment should be carried out against reference standards at regular and established frequencies by suitably skilled personnel.

6.5.4 Records

- (1) Keep records to demonstrate compliance with the requirements [RMP Spec 20 (2)].
- (2) Keep the following records for calibration:
 - a) identification, location and calibration status of equipment;
 - b) calibration schedules;
 - c) certificates of accuracy or calibration; and
 - d) in-house calibration records.

6.6 Labelling and identification of bee products

6.6.1 Purpose and scope

- (1) To ensure that bee products are correctly identified and labelled and meets the requirements.

6.6.2 General requirements and procedures

- (1) Develop and implement written procedures for retail packs to ensure that:
 - a) labels are designed to meet regulatory requirements;
 - b) all information printed on labels or packaging are correct and accurate;
 - c) any claims on product labels are accurate and evidence is available to support the claims;
 - d) the correct label is applied to each product unit;
 - e) labels are stored in a manner that maintains them in good condition;
 - f) damaged or obsolete labels are disposed of appropriately;
 - g) rework is identified and tracked to finished product;
 - h) "one step forward, one step backward" traceability is maintained; and
 - i) inventory control is maintained.
- (2) Products must be labelled in a manner that enables traceability to be maintained [HC Spec 8.2 (2)].

6.6.3 Products packaged for retail sale

- (1) Products packaged for retail sale must be labelled in accordance with the requirements of the FSC and Weights and Measures Act 1987.

Guidance

For further information and guidance :

- go to the [MPI website](#) and search using "Labelling"; or
- refer to food labelling requirements in the [FSC](#); or
- refer to the [MPI Food Labelling Guide](#).

The MPI and FSANZ labelling guides provide detailed information on what a food label needs to include.

To ensure eligibility for export with an official assurance, unlabelled retail packs and bulk honey should be identified with the following information:

- the RMP number of the premises where the honey was packed;
- product description i.e. the word "honey";
- country of origin; and
- the product's batch code.

Refer to the [Animal Products Notice: Official Assurances Specifications for Animal and Animal Products 2017 \(OAS\)](#).

6.6.4 Labelling of transportation outers

- (1) Operators must ensure labelling is provided on transportation outers and state:
 - a) the product name or description;
 - b) storage directions, where necessary to maintain the product as fit for intended purpose; and
 - c) lot identification [HC Spec 8.2 (3)].
- (2) The label of the transportation outer, or accompanying documentation, of any bee product that is not intended for human consumption but has the appearance of, or could be mistaken for, product that is intended for human consumption, must clearly indicate that the bee product it contains is not intended for human consumption [HC Spec 8.2 (4)].
- (3) If the status of honey or other bee product's fitness for intended purpose changes, and the product has been identified, all affected labelling or the accompanying documentation (where there is no label) must be amended to reflect its new status prior to its release for trade, or the packaging (including labelling) must be replaced [HC Spec 8.4 (1)].
- (4) If honey or bee products are downgraded and are no longer intended to be traded for human consumption, any labelling on the transportation outer, accompanying documentation, inspection legends and any other identification of product as being suitable for processing or as being fit for human consumption must be removed or defaced at the consigning premises [HC Spec 8.4 (2)].
- (5) Any false or misleading labelling on reused or recycled packaging resulting from previous uses must be removed or defaced at the consigning premises [HC Spec 8.4 (1)].
- (6) Operators must document an inventory control programme for bee products and maintain records [HC Spec 9.2 (3)].

Guidance

Refer to the [OAS](#) for information on requirements for export with an official assurance, e.g. having procedures to ensure compliance with any export requirements.

Refer to [6.3 Inventory Control and Traceability](#).

6.6.5 Labelling and accompanying documentation changes

- (1) If the status of the material's suitability changes, labelling must be changed or replaced to reflect this [HC Spec 8.4 (1)].
- (2) If product is downgraded and is no longer intended to be traded for human consumption, any labelling must be removed or defaced at the consigning premises on:
 - a) the transportation outer;
 - b) accompanying documentation;
 - c) inspection legends; and
 - d) any other identification of the product as being suitable for processing for human consumption [HC Spec 8.4 (2)].
- (3) Any false or misleading labelling on reused or recycled packaging resulting from previous uses must be removed or defaced at the consigning premises [HC Spec 8.4 (3)].

6.6.6 Records

- (1) Keep records to demonstrate compliance with the requirements [RMP Spec 20 (2)].
- (2) Keep the following records for labelling:

- a) label checklists;
- b) verified translations of labels; and
- c) copies of the labels.

6.7 Control of maintenance compounds

6.7.1 Purpose and scope

- (1) To ensure the proper use and storage of chemicals to prevent or minimise the contamination of edible bee products, packaging, equipment, or processing environment.
- (2) Chemicals include maintenance compounds used for cleaning, sanitation, fumigation, pest control and the repairs and maintenance of equipment.

6.7.2 General requirements and procedures

- (1) Operators must only use MPI approved maintenance compounds:
 - a) during processing operations;
 - b) in the maintenance of processing areas;
 - c) in facilities and on equipment [HC Spec 3.4 (1)].
- (2) The operator should develop written procedures for storage, handling and use of maintenance compounds [AP Reg 11 (3)].
- (3) Any maintenance compounds used during processing operations must be approved for that purpose before use [AP Reg 11 (4)].
- (4) The operator must label all (decanted) containers of approved maintenance compounds with the name(s) of the maintenance compound as approved or as they appear in the list of approved maintenance compounds contained in specifications [HC Spec 3.4 (2)].
- (5) The operator must store approved maintenance compounds in containers that are:
 - a) clearly labelled;
 - b) not likely to be mistaken for food; and
 - c) not used for storing of food [HC Spec 3.4 (2)].
- (6) Product and packaging contaminated by a maintenance compound, which adversely affects its fitness for intended purpose, must not be used for human or animal consumption [HC Spec 3.4 (1)].

6.7.3 Approved maintenance compounds

- (1) The operator must maintain a current register (list) of maintenance compounds on the premises [HC Spec 9.2 (3)].

Guidance

MPI approval of a maintenance compound, and the associated conditions, only relate to minimising the risk of contamination of animal material or product. The approval does not relate to the efficacy of the compound. Operators should approach their supplier for this information.

Refer to the [MPI Approved Maintenance Compounds \(Non-Dairy\) Manual](#) for a list of MPI approved maintenance compounds. Search using the terms “approved maintenance compound” on the MPI website.

The inventory or list should contain any rodent control compounds.

Refer to [6.4 Inventory Control and Traceability](#).

6.7.4 Storage of maintenance compounds

- (1) Store maintenance compounds in a designated area (e.g. shelf, cupboard, room) and keep separate from edible bee products, ingredients, packaging and any unapproved maintenance compounds.
- (2) Keep maintenance compounds in sealed labelled containers when not in use.
- (3) Clearly identify all containers and implements used for measuring or pouring of maintenance compounds (e.g. labelled as 'For Chemicals Only') to ensure no secondary use of these containers.

Guidance

Store maintenance compounds that are "in-use" or for "immediate use" in processing and support areas, but only in quantities necessary for immediate use.

Refer to [6.13 Storage](#) for further information on storing maintenance compounds.

6.7.5 Handling of maintenance compounds

- (1) Train personnel in the correct access, handling and use of maintenance compounds and provide access to documented directions.
- (2) Ensure all containers or tools (e.g. measuring cylinders, jugs, scoops, funnels) used for measuring or pouring maintenance compounds are:
 - a) used for that purpose only (e.g. labelled 'for chemical use only'); and
 - b) not used for measuring food or ingredients.

6.7.6 Use of maintenance compounds

- (1) All maintenance compounds must be used according to the directions of the manufacturer and used in a way that does not adversely affect the safety or suitability of bee products (the conditions of the MPI approval) [AP Reg 11 (4)].
- (2) Directions for use should be readily available to the user (e.g. given in the label, posted on the wall or in product information data sheets).
- (3) The handling or use of maintenance compounds should be by (or under the supervision of) suitably trained or experienced personnel.
- (4) Clean equipment and other product contact surfaces by thorough washing after exposure to any maintenance compound.

6.7.7 Non-approved maintenance compounds

- (1) Non-approved maintenance compounds may be used in staff rooms, kitchens etc.
- (2) Manage non-approved maintenance compounds by:
 - a) maintaining inventory (list) control;
 - b) storing them separately from approved chemicals; and
 - c) clearly identifying them as not to be used in processing or storage areas.

Guidance

Non-approved maintenance compounds within an RMP boundary may not be permissible for export premises. Check overseas market access requirements for each individual country exported to.

6.7.8 Disposition of contaminated materials

- (1) Dispose of empty chemical containers in accordance with manufacturer's instructions.
- (2) Empty chemical containers should not be re-used for any other purpose within the premises.

- (3) When chemical contamination occurs, the following actions must be carried out:
- a) affected products should be considered unfit for human or animal consumption [HC Spec 3.2 (2)];
 - b) affected food contact surfaces should be cleaned and sanitised prior to reuse [AP Reg 11]; and
 - c) affected packaging materials that cannot be effectively cleaned and sanitised should not be used for packing of any edible bee product [HC Spec 7.2 (4)].

6.7.9 Monitoring

- (1) Regularly checked compliance with documented procedures and the approved maintenance compounds list (for changes).

6.7.10 Records

- (1) Keep records to demonstrate compliance with the requirements [RMP Spec 20 (2)].
- (2) Keep the following records for maintenance compounds:
- a) inventory or list of current chemicals used and held in the premises;
 - b) any chemical information sheets provided by the supplier, including instructions for handling and use;
 - c) material safety data (MSD) sheets;
 - d) personnel training records; and
 - e) monitoring and corrective action records.

Guidance

Records may be kept in a daily diary, logbook, record form or checklist.

Refer to [2.1 Document Control and Record Keeping](#) requirements.

6.8 Pest control

6.8.1 Purpose and scope

- (1) To ensure the effective control of pests so as to prevent or minimise the contamination of edible bee products, packaging, other inputs, equipment, and the processing environment.
- (2) Pests include rodents, birds, insects (including bees), dogs and cats.

6.8.2 General requirements and procedures

- (1) The operator must develop and implement a pest control programme with effective procedures that:
- a) appropriately and adequately control pests;
 - b) minimises the exposure of material, ingredients, products, packaging, equipment and the processing environment to hazards associated with pests; and
 - c) minimises contamination from maintenance compounds by managing their use [AP Reg 11(1) to (3)].
- (2) Include in the programme (but is not restricted to):
- a) who is responsible for the pest management activities;
 - b) how buildings are pest-proofed, (e.g. self-closing doors, fly screens, drain traps);
 - c) external areas within the RMP boundary;
 - d) how pests are killed and prevented from breeding;
 - e) how pesticides and pest management equipment (including rodent bait stations, electric insect killers, traps, etc.) are used in the control of pests;
 - f) the methods used to monitor the presence of pests and the effectiveness of pest control; and

- g) the corrective actions to be taken when pests are detected, including disposing of any contaminated things, including dead pests.

6.8.2.1 Prevention of infestation and access of pests

- (1) Keep buildings and storage facilities (including water storage tanks) in good repair and condition to prevent pest access and to eliminate potential breeding sites.
- (2) Keep holes, drains and other places where pests are likely to gain access sealed, or provided with screens or similar materials that prevent the entry of pests.
- (3) Keep unscreened external doors closed at all times when not in use.
- (4) Keep internal and external areas of the premises clean and tidy. Regularly check the external environment and keep free of any food source and breeding sites (e.g. long grass, bird's nest).
- (5) Do not permit dogs, cats and other mammalian pests entering processing, packaging and storage areas.
- (6) Keep waste materials in covered pest-proof containers, and regularly collected and disposed of.

Guidance

Use mesh screens on windows, doors, ventilators and other openings in the processing and packing areas that may be kept open during operations, to prevent the entry of insects, birds, and other pests.

Spray areas that are likely to attract flies and other insects, as necessary.

Seal or concrete roadways and car parks.

Ensure landscaped areas, e.g. shrubs, trees, grass are not in close proximity to buildings where product is processed.

Cover and store unused equipment on hard standings away from buildings where product is processed or stored. Storage on grassed areas may increase the likelihood of pest harbourage due to the difficulties of maintaining the grass height.

6.8.2.2 Use of pesticides

- (1) Handle, use and store pest control chemicals (rodenticides and insecticides) according to the control procedures given in [6.7 Control of Maintenance Compounds](#).
- (2) Ensure where there is evidence (e.g. varroa treatment strips) of potential contamination of bee products due to failure(s) by beekeepers to adhere to label use or approval condition requirements, e.g. varroa treatments, as required under ACVM, the suspect affected product must be considered unfit for human consumption until such time as laboratory analysis ensures that (varroa) treatment residues in the affected products do not create residue violations.

Guidance

Some ACVM registered varroicides have clear label statements that prohibit the use of honey for human consumption if the varroa treatments are present in honey supers during the time bees are collecting bee products. Ensure that relevant varroa treatment strips are not used in contravention to ACVM label use or approval conditions requirements.

- (3) Remove edible bee products and exposed packaging from the spraying area or kept protected (e.g. covered) prior to the use of chemicals which may result to their contamination. Clean equipment and other product contact surfaces by thorough washing after exposure to any chemical (i.e. after spraying with insecticide is completed).

6.8.2.3 Use of rodent boxes, bait stations and insect traps

- (1) Locate pest traps (including rodent boxes, bait stations and electric insect traps) where they do not present a risk of contamination to the product e.g. not directly above product conveyers or walkways.
- (2) Do not locate bait stations inside any processing area.
- (3) The operator should:
 - a) identify the location of marked rodent bait stations and electric insect traps on a site or building plan, or other suitable record; and
 - b) document changes to equipment locations.
- (4) Only use rodenticides in bait stations.
- (5) Regularly check bait stations for the following:
 - a) correct location as indicated in the plan or record;
 - b) presence of bait;
 - c) evidence of pest activity (e.g. nibbled bait, bait missing, droppings); and
 - d) boxes are in good working condition and numbering is easily legible.

Guidance

Numbering bait stations may make identifying them on a site or building plan easier.

Always read and follow the label directions for rodenticides. All agricultural chemicals should be considered toxic to humans unless there is evidence to show they are not.

Secure rodenticides within bait stations.

- (6) Insect traps, which include ultra-violet lamps, pheromone traps and any form of attractant device, should:
 - a) be constructed so they catch and secure insects in a suitable drawer, tray or adhesive mat which facilitates the capture and removal of insects;
 - b) not cause any air-borne contamination; and
 - c) be sited so there is no contamination from insects falling on to edible bee product, packaging, or product contact surfaces.
- (7) Determine the frequency for monitoring of traps relative to the type of trap and the degree of pest activity noted. Increased monitoring and appropriate corrective actions should be implemented when increased rodent activity is observed.

Guidance

The operator may employ a pest control person or agency to develop and implement a pest control system (e.g. set up traps, spraying programme) and monitor the premises. Ensure that the person or agency responsible is competent to perform the task.

6.8.2.4 Handling and disposition of contaminated materials

- (1) Ensure where there is evidence of contamination from pests (excluding bees) or residues, the following actions are carried out:
 - a) the affected product should be considered unfit for human consumption;
 - b) the affected product contact surfaces should be cleaned and sanitised prior to reuse; and
 - c) affected packaging materials that cannot be effectively cleaned and sanitised should not be used for packing of any edible bee product.
- (2) Ensure that honey is not extracted from honey supers where varroa treatments have been used in a way that could contaminate the honey e.g. not following the ACVM label use or approval conditions.

6.8.2.5 Monitoring

- (1) Regularly check ongoing compliance with documented procedures and the effectiveness of the pest control programme.

6.8.3 Records

- (1) Keep records to demonstrate compliance with the requirements [RMP Spec 20 (2)].
- (2) Keep the following records for pest control:
 - a) details of the contracted pest control person or agency, if applicable;
 - b) observations from monitoring, including any evidence of pests;
 - c) location of bait stations (e.g. a site plan);
 - d) list of approved chemicals used;
 - e) name, amount and point of use of any pesticides used; and
 - f) any corrective action taken (including restoration of control, product disposition and prevention of recurrence).

Guidance

Records may be kept in a daily diary, logbook, record form or checklist.

Refer to [2.1 Document Control and Record Keeping](#).

6.9 Processing of honey

6.9.1 Purpose and scope

- (1) To ensure that honey (including liquid, creamed and comb honey) is processed in a manner that minimises its contamination and deterioration, and maintains its fitness for intended purpose.

6.9.2 Procedures for the processing of honey

6.9.2.1 Receiving and holding of supers

- (1) When the loading bay is located inside the building, measures must be taken to prevent contamination of materials, products, and the processing environment from dust, dirt, bees and other insects, fumes, and other environmental contaminants during the entry and exit of vehicles, and during unloading of honey [HC Spec 14.8 (1)].
- (2) Supers must be transported on clean trucks and covered during transport in a manner that minimises dust, engine fumes and other road-based contamination [HC Spec 16.3 (1)].
- (3) Honey supers that are infested, excessively dirty, or contaminated with faecal material (e.g. bovine, rodent or bird faeces) must not be accepted for processing until they are sanitised [AP Reg 6 (1)].
- (4) Full honey supers must be stored in a suitable storage area or hot room [HC Spec 14.8 (1)].
- (5) Supers that are not stored in a room or will not be processed immediately must be protected from moisture and contamination from dust, dirt, bees and other insects, fumes and other environmental contaminants [HC Spec 14.8].
- (6) Minimise the entry of live bees into the storage area, hot room or extraction room.

Guidance

Ensure processing rooms that open to the loading bay area have a door that is kept closed unless when vehicles enter and exit, and during unloading of honey supers.

Beekkeepers should implement hygienic practices for the handling, storage and transport of honey supers to minimise contamination of the supers which consequently impacts on the microbiological load of honey.

Protect full or empty supers during storage from contamination from pests, wastes, and environmental contaminants.

6.9.2.2 Deboxing and uncapping

- (1) Deboxing must be done in a manner that will minimise transfer of contamination from boxes to combs [HC Spec 14.8 (1)].
- (2) Uncapping equipment (i.e. knives, blades, prickers, hoses, clamps) must be in a hygienic and good working condition that does not allow water, steam or lubricant to leak into honey [HC Spec 14.8 (1)].
- (3) When the uncapper is defective, uncapping must cease until the problem is fixed [AP Reg 10 (b)].

Guidance

Visually inspected honey combs to ensure that contaminated combs are removed and excluded from processing. Exclude combs from processing that have the following condition:

- infested with wax moth larvae;
- contain dead brood (bee larvae);
- with signs of rodent infestation (e.g. faecal pellets, urine odour); or
- had varroa strips attached to the frames.

6.9.2.3 Extraction

- (1) The extractor must be clean and dry before the start of extraction [HC Spec 14.8 (1)].
- (2) Do not allow the build-up of wax, caramelised honey, and foreign matter (e.g. wax, dirt, dead bees) in the extractor.
- (3) Cover the extractor with a lid when not in use (e.g. overnight) to prevent the entry of pests and to prevent steam and water from contaminating honey.
- (4) Honey that has been spilt onto the processing floor must not be used for human consumption [HC Spec 14.8 (1)]. Provided it is not contaminated with any chemical substance, spilt honey may be used for animal consumption.
- (5) Any contaminated honey must be clearly identified as not intended for human consumption [HC Spec 8.4 (1)].

Guidance

The frequency for cleaning the extractor should take into consideration the volume of honey processed, design of the equipment, quality of honey, and other technical and commercial requirements. Refer to [Cleaning and Sanitation](#).

Maintain inventory control e.g. the operator should record the quantity of honey produced after separating the wax and prior to packing.

6.9.2.4 Transfer of honey through the sump tank

- (1) Remove wax and other debris from the sump tank at least daily.
- (2) Construct and locate sump tanks in such a manner that prevents contamination of the honey from water (including splashes from the floor), condensates, dust and other contaminants.

- (3) If honey that is separated from cappings is collected, it must be added to the sump or honey tank in a hygienic manner.

Guidance

Ensure the sides of the sump tank if sunk into the floor extend above the floor height to prevent floor dust and other contamination entering the honey. For example the minimum height of the sides could be 150 mm and 300 mm above floor level.

6.9.2.5 Straining/filtering

- (1) Strainers and filters must be made of material that is suitable for food [AP Reg 10].
- (2) Ensure the mesh size of the strainer or filter is suitable for the type of material that is being filtered from honey.
- (3) Strainers or filters must be maintained in good condition and must not be a source of contamination [AP Reg 10].

6.9.2.6 Holding of extracted honey in tanks

- (1) Holding tanks must be clean and dry before being filled with honey to minimise contamination [HC Spec 14.8 (1)].
- (2) Tanks containing honey must be protected from the entry of bees and other insects, condensates, dust and other contaminants [HC Spec 14.8 (1)].

6.9.2.7 Filling and storage of honey into drums or other bulk containers

- (1) Honey must be filled into drums or other bulk containers in a manner that prevents contamination of honey [HC Spec 14.8 (1)].
- (2) Full drums or other bulk containers must be sealed with tightly fitted bungs or lids to prevent contamination [HC Spec 14.8 (1)].
- (3) Permanently mark or identify full drums or other bulk containers so that it can be easily linked to the relevant *Apiarist and Beekeeper Statement* (i.e. Harvest Declaration).
- (4) Store full drums or other bulk containers in accordance with requirements given in [6.13 Storage](#).

Guidance

Formatted adhesive labels showing the product details has proved to be a better method of marking/identification than using a spirit marker as they reduce the amount of errors and particularly if product is exported.

6.9.3 Processing of liquid and creamed honey

- (1) The external surface of stored honey drums must be clean (e.g. washed in an appropriate manner) to minimise contamination of honey as it is removed from the drum [HC Spec 14.8 (1)].
- (2) Honey must be transferred into vats or tanks in a hygienic manner [HC Spec 14.8 (1)].
- (3) Creaming tanks must be protected from the entry of bees and other insects, condensates, dust and other contaminants [HC Spec 14.8 (1)].
- (4) Creaming tanks, including the mixer blade mechanism, must be in good mechanical condition and must not be a source of contamination (e.g. metal fragments, lubricants) [HC Spec 14.8 (1)].
- (5) Starter honey must not be a source of contamination and must be mixed into the product in a hygienic manner [HC Spec 14.8 (1)].

6.9.4 Processing of comb honey

- (1) Combs that are infested, travel stained, dirty, contaminated with faecal matter, or contain brood or fermented honey must not be processed into comb honey [AP Reg 6].
- (2) Inspect comb honey using a light source or similar device to detect any remaining wire or other foreign matter.
- (3) Only chemicals approved as fumigants for comb honey must be used for fumigating combs to kill wax moth [HC Spec 3.4].
- (4) Honey combs must be adequately packed or protected during freezing to ensure that contamination from other sources is prevented [AP Reg 9].

Guidance

Comb honey poses a greater risk from tutin because it is eaten directly off the comb, increasing the chance of consuming honey with a high concentration of tutin. Comb honey processors must ensure comb honey meets the specific requirements for comb honey contained within the Food Standard: Tutin in Honey.

New foundation and comb should be used for producing comb honey.

Some premises have a metal detector to eliminate any comb honey pack contaminated with metal.

Freezing to kill wax moth may be done off-site (i.e. outside the boundaries of the operator's RMP) provided the freezing operation is undertaken in a premises covered by an RMP under the APA.

Movement of comb honey to and from a premises to freeze the honey must be supported by E-Cert if export eligibility is to be maintained.

6.9.5 Packing and labelling

- (1) All equipment/machinery must be operated to minimise and manage the exposure of bee products to any risk factors [AP Reg 10 (b)].
- (2) Inspect containers (e.g. jars, drums) for damage (e.g. broken glass, dents) and foreign objects prior to filling.
- (3) Segregate and dispose of defective retail packs appropriately in designated bins. Recycle defective drums if appropriate.
- (4) The label on a package of honey must meet the general labelling requirements under the APA and the FSC [AP Reg 19].
- (5) A system must be in place for the identification and inventory of labels, segregation and removal of obsolete labels, and the prevention of incorrect labelling of products [HC Spec 8.4].

Guidance

Collect, identify and store retention samples of product for the required time period for testing and examination, if required.

Refer to [6.6 Labelling and Identification of Product](#).

6.10 Processing of pollen

6.10.1 Purpose and scope

- (1) To ensure that pollen is processed in a manner that minimises its contamination and deterioration, and maintains its fitness for intended purpose.

6.10.2 Receipt of pollen

- (1) The operator must ensure that pollen received for processing is fit for intended purpose:
 - a) pollen must not be:
 - i) mouldy - it is not fit for human consumption and must be discarded.
 - ii) contaminated with rodent droppings and pests such as cockroaches and ants;
 - b) and the presence of dead bees, wax, insect parts, wood, dust and other foreign matter in pollen must be minimised [AP Reg 6].

Guidance

Collect pollen every 3 to 4 days and before any significant rain. In wet weather, pollen which becomes damp may start to grow mould and rot after 4-5 days. Keep pollen containers out of the sun to prevent 'sweating' and clumping of pellets, and to minimise microbiological growth.

Processors of pollen should require their suppliers to have an effective pest control system in place at the hive and storage facilities to minimise contamination of pollen from pests. The presence of rodent droppings indicates that there is a hole in the trap or hive and the entrance to the trap is too large, or gear is being contaminated during winter storage.

6.10.3 Freezing of pollen

- (1) Place fresh pollen in a freezer without unnecessary delay especially if the pollen is wet.
- (2) Contamination of the pollen must be prevented during freezing. Pollen must be properly packed and identified [AP Reg 9].
- (3) The freezer must have the capability to quickly freeze pollen to the required temperature [AP Reg 10].
- (4) The pollen must be loaded in the freezer in such a manner that allows effective freezing of the product [AP Reg 10].

Guidance

Freezing will prevent microbial growth and spoilage, and kill wax moths and pollen mites. Pollen should be frozen at -18°C for at least 48 hours to destroy wax moth.

6.10.4 Drying of pollen

- (1) Drying of pollen must be done in a manner that minimises the contamination of the product and the growth of any microorganism present in the product [AP Reg 9].
- (2) Dry pollen to a final moisture content sufficient for the preservation of the product considering its intended packaging and storage conditions.

Guidance

Pollen is generally dried to < 8% moisture content.

6.10.5 Cleaning of pollen

- (1) Dried pollen must be cleaned to ensure that the product is free of all foreign matter such as dead bees, wax, insect parts, wood, dust, and other contaminants [AP Reg 9].

Guidance

Cleaning small quantities of pollen can be achieved using a simple birdseed cleaning unit which uses a vacuum cleaner for the air supply. Sieves can also be used.

Large quantities may need to be processed in a commercial seed-cleaning machine. These contain vibrating riddles or screens which sift out the pollen into different sizes. They also have an air current to remove the dust and fine debris.

6.10.6 Storage of pollen

- (1) Store pollen intended for human consumption in a deep freeze or as dried pellets in air tight containers at room temperature.

6.10.7 Labelling of pollen

- (1) The label on a package of pollen must meet the general labelling requirements under the APA and the FSC [AP Reg 19].

6.11 Non-complying product and recall

6.11.1 Purpose and scope

- (1) To ensure the correct handling and disposition of non-complying products, including the recall of products from distribution and sale.

6.11.2 General requirements and procedures

- (1) Ensure that non-complying product is appropriately managed.
- (2) Document procedures for the identification, handling, storage and disposition of any non-complying product. The procedures should facilitate the traceability and inventory control of any non-complying products.
- (3) This should include determining whether any other product has been detrimentally affected as a result of the non-compliance and taking appropriate actions to manage this.
- (4) Handle and store non-complying products in a manner that prevents:
 - a) contamination and deterioration of other products; and
 - b) contamination of the storage environment.
- (5) Non-complying products should be:
 - a) clearly identified;
 - b) separated from other products;
 - c) recorded in inventory (unavailable for loadout); and
 - d) held within the premises until disposition is determined by a suitably skilled person or, in certain cases, by MPI.
- (6) The disposition of any non-complying product must be determined by a suitably skilled person considering various factors, such as:
 - a) product safety and suitability;
 - b) the amount of product affected;
 - c) whether the products have been released for distribution or not;
 - d) whether the products can be reprocessed; and

- e) any instructions from MPI or the RMP verifier [RMP Spec 15 (1)(c)].

Guidance

Appropriate actions of any non-complying products may involve one or a combination of the following, depending on the nature and extent of the problem:

- restricted release of products;
- re-grading of products for an alternative use (e.g. feeding to bees);
- reworking;
- reprocessing to ensure that the product conforms to the requirements;
- rejection (disposition); and
- withdrawal or recall of products which have been distributed for sale.

- (7) The RMP operator must notify the recognised RMP verifier without unnecessary delay, when there is any significant concern about the safety or suitability of any of their products [RMP Spec 13 (3)(a)].

6.11.3 Recall

- (1) Where, due to the nature of the bee product, it is possible to recall it from trade, distribution or from consumers, the operator must document their own recall procedure, including:
- a) the criteria for deciding when a recall will be initiated; and
 - b) how retrieval and disposition of the relevant bee product will be managed [RMP Specs 14(1)].
- (2) The operator must document a system for notifying the following people as soon as possible when bee product is recalled from trade, distribution or from consumers because it is not or may not be suitable for processing or fit for its intended purpose:
- a) the Director-General; and
 - b) the RMP verifier or recognised RMP verifying agency [RMP Spec 14 (2)].
- (3) Ensure a product recall plan is periodically tested using a 'trial run' or mock recall exercise. This can be considered as a validation of the product recall plan. Document as a procedure as part of the product recall plan itself. It is recommended that product recall plans be validated annually or more frequently if appropriate and the effectiveness reviewed.

Guidance

In a recall, the removal of the product from consumers should be seen as the initial corrective action. Address the prevention of a recurrence subsequently.

For further information refer to [MPI's Recall Guidance Material](#) for guidance on recall procedures, or go to the MPI website and search on "recall".

6.11.4 Records

- (1) Keep records to demonstrate compliance with the requirements [RMP Spec 20 (2)].
- (2) Keep the following records for non-complying product:
- a) inventory or list of non-complying products;
 - b) records of assessment and disposition of non-complying products;
 - c) records of any recall activities, including mock recalls;
 - d) inventory records; and
 - e) any correspondence with the verifier or MPI.

6.12 Waste materials

6.12.1 Purpose and scope

- (1) To ensure that waste materials are effectively managed and are not a source of contamination to products, processing areas, equipment or personnel

6.12.2 General requirements and procedures

- (1) The operator must effectively manage waste material to minimise pest activity, offensive odours and contamination of product, processing areas, equipment or personnel [AP Reg 11 (1)].
- (2) Waste material must be:
 - a) conveyed to a waste area in a timely manner;
 - b) kept under controlled conditions to ensure that it will not be mistakenly or fraudulently released as suitable for processing or fit for human consumption;
 - c) kept in covered pest-proof containers (if receptacles are kept outside or are not in continuous use inside); and
 - d) regularly collected and disposed of in a manner that ensures that it will not become a source of contamination to other bee products [HC Spec 3.2 and 3.3].

Guidance

Waste management applies to all areas within the physical boundaries of the site, including facilities, support areas and the external environment.

6.12.3 Records

- (1) Keep records to demonstrate compliance with the requirements [RMP Spec 20 (2)].
- (2) Keep the following records for waste:
 - a) general hygiene check of processing areas, facilities and external environment; and
 - b) pest control records.

6.13 Storage

6.13.1 Purpose and scope

- (1) To ensure a storage environment that will maintain the intended state of preservation and prevent contamination so that products and materials remain fit for purpose.

6.13.2 General requirements and procedures

- (1) Operators must establish and carry out effective procedures to:
 - a) ensure appropriate and adequate maintenance, cleaning and sanitation;
 - b) manage waste; and
 - c) control pests [AP Reg 11 (1)].
- (2) Operators must ensure that maintenance compounds are stored, handled and used in a manner that minimises contamination [AP Reg 11 (3)].
- (1) Identify products and materials at all times.
- (2) Store products and materials to:
 - a) minimise deterioration;
 - b) minimise damage to packaging;
 - c) facilitate effective cleaning; and
 - d) facilitate effective inventory control.

- (3) Clean up spills immediately.
- (4) Storage areas used to store or contain bee products that is not suitable for processing or not fit for human consumption but is suitable or fit for some other purpose must:
 - a) be kept under controlled conditions so it is clearly identified in a manner that will ensure that it will not be mistakenly or fraudulently released; and
 - b) not be sources of contamination to other product that is intended for human consumption [HC Spec 3.2 (1) and (2)].
- (5) Discard any stored raw material or ingredient when:
 - a) it is no longer safe (e.g. contaminated with rodent droppings, chemicals) or suitable for use (e.g. it has signs of spoilage, it is past its use-by date); or
 - b) important information needed for its safe use is lost (e.g. identity).

Guidance

Storage for receipt of raw materials etc. is covered in [6.1.3 Handling and Storage](#).

Records of the storage location of bee products, raw materials and ingredients should be maintained.

Refer for [5.1.5 Dry Cleaning](#) for cleaning a storage area.

Products not intended for export should be identified so that they cannot be mistaken for export eligible product. For export refer to the [Code of Practice for Cold and Dry Stores](#) available on the Food Safety website, or search on “cold stores”.

6.13.3 Packaging

- (1) Operators should ensure that opened cartons are re-closed and covered during storage to prevent dust contamination. Any wet plastic packaging should be disposed of rather than stored.
- (2) If the packaging is damaged such that the suitability for processing of bee product for intended purpose may be affected, the product must be:
 - a) handled in a manner that minimises contamination and the damage to the packaging is rectified; or
 - b) appropriately disposed of [HC Spec 7.2 (4)].

Guidance

Make-up cartons should be protected from dust by covering the top layer of cartons or inverting the topmost carton.

Return unused containers and packaging to the store providing the packaging is re-wrapped to minimise contamination from dust and pests.

6.13.4 Drums

- (1) Stack and store bulk honey drums, empty drums and other materials in a tidy manner.
- (2) Ensure drums have properly fitted bungs that prevent the entry of moisture and other contaminants.
- (3) Remove and dispose of damaged drums as soon as possible.
- (4) Handle and transport drums in such a manner that prevents dents and other forms of damage.

Guidance

Store empty and full drums under cover (i.e. inside a building or shed) whenever possible. This prevents:

- rusting which weakens the drum structure;
- contamination on the outside of the drums (e.g. dirt, dust, and other debris) which can be transferred to the honey during subsequent processing; and
- entry of moisture and other contaminants.

Empty drums that are stored outside should be held on their side and pyramid stacked with the bung facing away from the prevailing weather. They should be stored under some form of cover or under shade to prevent huge changes in temperature within the drum. Changes in temperature or a big temperature gradient within the drum will create a vacuum and allow air and moisture to be sucked into the drum.

Cover the top of full drums that are stored outside with a plastic cover or other form of protection to prevent moisture entry, and contamination and accumulation of water and other materials on the lid (e.g. leaves, dirt, insects, bird and rodent faeces).

Store empty and full drums off the ground (e.g. use pallets).

Drums should not be dropped or thrown around to prevent dents which can lead to cracking or delamination of the internal lining and weakening of seams.

6.13.5 Storage of waste materials

- (1) Storage areas used for waste which contain bee products that are not suitable for processing, or not fit for human consumption but is suitable for fit for some other purpose, should:
 - a) be clearly identified; and
 - b) not be sources of contamination to other product that is intended for human consumption.
- (2) Keep waste materials in covered pest-proof containers and regularly collect and dispose of.
- (3) The operator should ensure that non-complying product is appropriately managed.

Guidance

Refer to [6.11 Non-complying Product and Recall](#).

6.13.6 Refrigerated storage

- (1) Any chilling of product should be conducted without unnecessary delay and in a manner that minimises deterioration e.g. venom, pollen.
- (2) Ensure any operator defined temperature is reached as quickly as necessary to maintain the fitness for purpose of the product.

6.13.7 Monitoring

- (1) Regularly check compliance with documented procedures and the effectiveness of storage procedures.

6.13.8 Records

- (1) Keep records to demonstrate compliance with the requirements [RMP Spec 20 (2)].
- (2) Keep the following records for storage:
 - a) inventory records;
 - b) pest control;

- c) load in and load out checks;
- d) records of cleaning and maintenance of stores;
- e) any refrigeration/temperature records; and
- f) corrective actions.

6.14 Transport

6.14.1 Purpose and scope

- (1) To ensure that bee product maintains its status as suitable for processing and to minimise hazards, including transport between premises or places operating under an RMP.

6.14.2 General requirements and procedures

6.14.2.1 Design and construction of transportation units

- (1) Transportation units and loading equipment must be designed, constructed, equipped and operated to:
 - a) maintain the status of bee products as suitable for processing and fit for intended purpose; and
 - b) minimise hazards and other risk factors [HC Spec 16.2 (1) and (2)].

6.14.2.2 Hygiene and maintenance

- (1) Transportation units and loading equipment must be kept clean and maintained in good working condition [HC Spec 16.3 (1)].
- (2) The operator must ensure that:
 - a) hygienic handling practices are followed by persons involved in the transportation of bee products; and
 - b) any exposed bee products is not handled by any person with any condition or illness [HC Spec 16.3 (2) and (3)].

Guidance

Refer to [2.2 Personnel Health and Hygiene](#) for further guidance on conditions or illness that could affect the safety or suitability of bee products.

6.14.2.3 Operation

- (1) Bee product that is conveyed together with any other animal material or product or any other thing that may be a source of contamination must be adequately:
 - a) separated from the source of contamination; or
 - b) protected in a manner that prevents cross contamination [HC Spec 16.4 (1)].
- (2) The taking of any samples must be carried out in such a manner that contamination of that bee product is minimised [HC Spec 16.4 (3)].
- (3) The transport operator must ensure that persons transporting bee products are aware of the relevant specifications and are adequately trained [HC Spec 16.4 (6)].

6.14.2.4 Refrigerated transport

- (1) Refrigerated transport units must be designed, constructed and equipped to ensure that the specified temperatures are achieved and maintained throughout transportation [HC Spec 16.2 (3)].
- (2) Temperature-measuring devices used to measure critical temperatures must be calibrated and located to measure the internal temperature of a transportation unit at the warmest point [HC Spec 16.2 (4)].
- (3) Transportation units must be:

- a) operated so that the required product temperature is maintained throughout transportation; and
 - b) loaded within the designed refrigeration capacity [HC Spec 16.2 (1)].
- (4) Bee products must be maintained at their preservation temperatures, or alternative temperature or cooling condition specified in the RMP during transportation [HC Spec 16.4 (2)].
- (5) Records demonstrating the maintenance of the preservation temperature or condition during transportation must be kept [HC Spec 16.4 (2)].
- (6) The determination of bee product temperature must be carried out in such a manner that contamination of that bee product is minimised [HC Spec 16.4 (3)].
- (7) The transport operator must have a documented contingency plan to deal with any failure to maintain preservation temperatures during transportation, including:
- a) immediate notification to the person who has responsibility for the bee product; and
 - b) corrective actions to prevent recurrence [HC Spec 16.4 (5)].

Guidance

Refer to [6.1 Calibration of Measuring Equipment](#).

Transporting bee products for export that require an official assurance must operate under an RMP or Regulated Control Scheme (RCS). Further requirements and guidance for transport are specified in the following: MPI transport webpage: <http://www.mpi.govt.nz/exporting/border-clearance/transport/>.

Developing RMP for transport operators: <http://www.mpi.govt.nz/exporting/border-clearance/transport/risk-management-programmes-for-transport-operators/>.

6.14.3 Records

- (1) Keep records to demonstrate compliance with the requirements [RMP Spec 20 (2)].
- (2) Keep the following records for transport:
- a) delivery records;
 - b) records of cleaning and maintenance of transportation units;
 - c) any refrigeration/temperature records; and
 - d) load in and load out checks.

Part 7: HACCP application

7.1 Introduction

7.1.1 Purpose of this document

- (1) To ensure the correct application of hazard analysis so as to minimise any hazards that are likely to be present.

7.1.2 Hazard

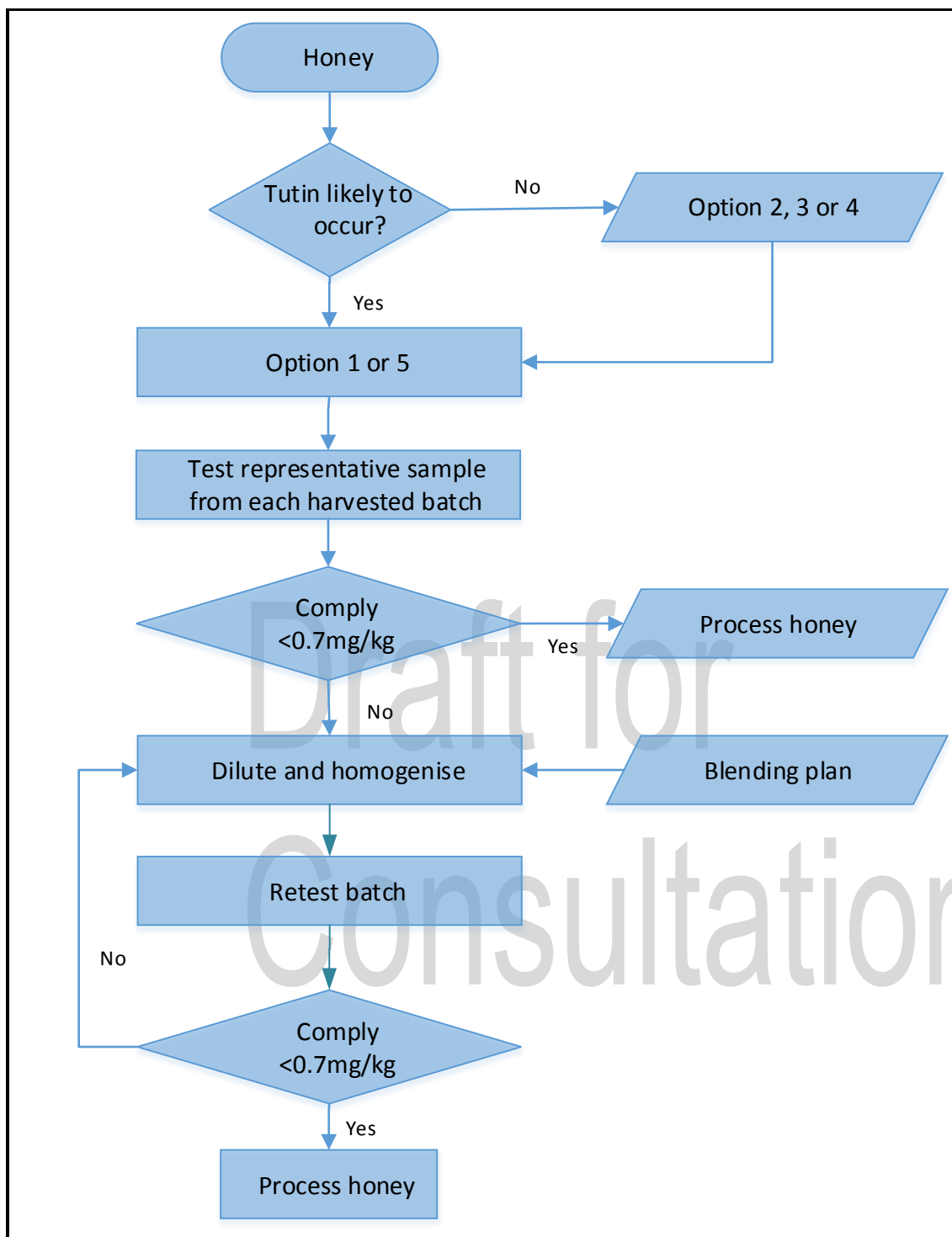
- (1) A hazard is a biological, chemical or physical agent in, or condition of, food with the potential to cause an adverse health effect.
 - a) biological hazards include pathogenic microorganisms (e.g. *Clostridium* spp, *Bacillus* spp). Microorganisms that are non-pathogenic are not considered as hazards. For example, yeast causes fermentation of honey and, therefore, is an undesirable organism in honey, but it is not considered a hazard because it does not cause illness;
 - b) chemical hazards include heavy metals, pesticides, veterinary medicines, and biotoxins (e.g. tutin in honey). Some food additives may also be hazardous if present in excessive or toxic amounts; and
 - c) physical hazards are objects that may cause illness or injury. Examples of these hazards are glass, metal fragments and plastic.
- (2) Hazards may occur in the product as a result of:
 - a) an input (e.g. raw material, ingredients, packaging);
 - b) the process itself; or
 - c) direct or indirect contamination from “other sources” (e.g. personnel, water, pests, wastes, equipment, internal and external environs).

7.1.3 Chemical residue monitoring

- (1) Monitoring and surveillance of a range of chemicals from random and targeted bee products is regularly conducted by MPI. The primary objectives are:
 - a) to provide confidence to export markets; and
 - b) to confirm that the control of substances is working as designed e.g. through Harvest Declarations.
- (2) Chemical residues such as amitraz have been found but not on a regular basis and below harmful levels during 2014-2016. It is important to consider chemical residues (from agricultural chemicals and veterinary medicines) as a hazard in the hazard analysis.

7.1.4 Tutin in honey

- (1) Tutin is a chemical hazard and the FSC has a maximum level of 0.7mg/kg in all honey, including comb honey.
- (2) Options on how tutin is managed is described in the [Food Standard: Tutin in Honey 2016](#) and the [Guidance Document: Compliance Guide to the Food Standard: Tutin in Honey 2016](#).
- (3) The decision on whether tutin is likely to occur i.e. options 1 and 5 (Food Standard: Tutin in Honey) is a CCP for extraction of honey. The steps of dilution / homogenisation and testing, have been included in the process flow charts to be followed when options 1 and 5 apply. Refer to Figure 1: Guidance Decision Tree for Tutin in Honey.

Figure 1: Guidance decision tree for tutin in honey

7.1.5 Good operating practice (GOP)

- (1) GOP should be developed and documented prior to HACCP application. The HACCP approach used in this Code is based on the expectation that these systems are effectively being implemented.

7.1.6 General requirements and procedures

- (1) An RMP must specify any uncontrolled hazards that are likely to be present in bee products leaving the physical boundaries of the RMP and the operator must be able to justify that this is appropriate considering the intended use of the product [RMP Spec 10].
- (2) Ensure your RMP contains sufficient procedures to ensure that:
 - a) bee product subject to the RMP is fit for its intended purpose and that it complies with the programme; and
 - b) legislative requirements (including regulatory limits) are met [RMP Spec 11 (1)].

Guidance

Refer to [1.2.1 Documentation of GOP](#) for further information about procedures.

- (3) The procedures must cover:
 - a) good operating practice (GOP);
 - b) identifying, controlling, managing, eliminating, or minimising risk factors [APA 17 (2)];
 - c) conduct a hazard analysis (as defined by Codex below);
 - i) determine the Critical Control Points (CCP);
 - ii) establish critical limits;
 - iii) establish a system to monitor control of the CCP;
 - iv) establish the corrective action to be taken when monitoring indicates that a particular CCP is not under control;
 - v) establish procedures for verification to confirm that the HACCP system is working effectively; and
 - vi) establish documentation concerning all procedures and records appropriate to these principles and their application
 - d) any corrective action procedures that are to be applied in the event of loss of control, including:
 - i) how control will be restored;
 - ii) how any affected bee product will be identified, controlled or disposed of;
 - iii) any measures to be taken to prevent recurrence of the loss of control; and
 - iv) where the loss of control is due to unforeseen circumstances and there is no specific corrective action already documented, nomination of a suitably skilled person to manage the corrective action, recording of the issue and corrective actions taken, and reporting of such matters to the recognised RMP verifier without unnecessary delay [RMP Spec 11].
- (4) An RMP must specify the following for each identified critical control point:
 - a) the justification for its identification; and
 - b) the critical limits to be met and the justification for those limits [RMP Spec 11]
- (5) An operator whose products and processes are adequately covered by the HACCP application in this document can use this for developing their RMP. The relevant HACCP sections of this Code can be copied into the RMP, or they can be incorporated into the RMP by reference. The operator may need to make some changes in the HACCP application to ensure that it accurately reflects the products and processes covered by their RMP.
- (6) The operator is required to apply these HACCP principles to the process, including all inputs. The operator is **not** required to carry out hazard identification and analysis for “other sources” (e.g. personnel and environmental sources), which are expected to be controlled by GOP (supporting systems).
- (7) Applying these principles is discussed in detail in the [RMP Manual](#).

7.1.7 HACCP application for products and processes not covered by this code

- (1) Carry out your own HACCP application if the one given in this document does not adequately cover your product or process. Use the HACCP approach and format shown here as a guide or pattern for your own application.
- (2) This Code covers the following processes for HACCP:
 - a) extraction of honey;
 - b) processing of liquid and creamed honey; and
 - c) processing of pollen.
- (3) The HACCP application must be documented, and supported using information such as historical company records, technical publications or information provided by MPI [RMP Spec 9].
- (4) The person or people involved in this activity must have the appropriate knowledge and skills regarding HACCP, the product and the process [RMP Spec 15 (1)].

7.2 HACCP application for the extraction, processing and packaging of honey

7.2.1 Scope

Guidance Table 6: Scope of the HACCP application

Components	Description/Details
Material being processed	Blossom honey or honeydew honey
Products	• Liquid honey ¹ • Creamed honey ² • Comb honey ³ • Bulk honey ⁴ • Wax
Process	• From receipt of supers to dispatch of packed honey • Key processing operations: – Extraction ⁵ – Processing of liquid or creamed honey (including heating, straining, creaming, blending) – Cutting of comb honey – Packing – Storage

1. Liquid honey is extracted honey that has been processed to make it completely liquid and free from visible crystals.

2. Creamed honey is extracted honey that has been processed by controlled crystallization.

3. Comb honey is honey presented in its original comb or portions thereof.

4. Bulk honey is the common term used in New Zealand for honey obtained by extraction, settling or straining, and with or without minimal heating. Bulk honey is usually packed in drums or IBCs.

5. Extraction is the removal of honey from the comb by centrifugal force, gravity, crushing, straining or other means.

7.2.2 Product description

Guidance Table 7: Intended use and consumer of products and product requirements

Product	Liquid or creamed honey	Comb honey	Bulk honey	Wax
Intended consumer	Humans (general public)	Humans (general public)	Humans (general public)	Humans (general public)
Intended use of product that leaves RMP ^{1,2}	Ready-to-eat Ingredient for preparation of other foods	Ready-to-eat	Further processing and packing to liquid/creamed honey or other honey products Ingredient for preparation of other foods	Further processing into products for pharmaceutical use and manufacture of cosmetics, etc. Further processing into comb foundation Applying as a coating on plastic frames
Regulatory limits ³	FSC 1.4.1 Sch 19-6 – Tutin 0.7mg/kg	FSC 1.4.1 Sch 19-6 – Tutin 0.7mg/kg	FSC 1.4.1 Sch 19-6 – Tutin 0.7mg/kg	None
Other regulatory requirements specific to honey	FSC 2.8.2 - Reducing sugars ≥ 60% Moisture ≤ 21%	FSC 2.8.2 - Reducing sugars ≥ 60% Moisture ≤ 21%	FSC 2.8.2 - Reducing sugars ≥ 60% Moisture ≤ 21%	N/A
	Animal Products Notice: Contaminant Specifications 2016 Specified chemical substances in honey ≤ maximum permissible levels ⁴	Animal Products Notice: Contaminant Specifications 2016 Specified chemical substances in honey ≤ maximum permissible levels ⁴	Animal Products Notice: Contaminant Specifications 2016 Specified chemical substances in honey ≤ maximum permissible levels ⁴	N/A
Labelling	Labelling of retail packs as specified in the FSC. Labelling of transportation outers Part 6.6 of this Code.	Labelling of retail packs as specified in the FSC. Labelling of transportation outers Part 6.6 of this Code.	Labelling of transportation outers Part 6.6 of this Code.	Labelling of transportation outers Part 6.6 of this Code.

1. It is common practice in the New Zealand honey industry to downgrade honey that does not meet certain commercial requirements (e.g. burnt, fermented honey) for animal consumption (e.g. fed to bees or used for stock feed).

2. Wax may also be further processed into products that are not for human or animal consumption (e.g. candles, floor wax, furniture wax).

3. Regulatory limits are limits that are essential to be met for food safety and are established by MPI under the APA and FSC.

4. Every consignment of honey must be provided with a Harvest Declaration as required by Animal Products (Harvest Statement and Tulin Requirements for Export Bee Products) Notice 2010 5 (1)]. This statement confirms the controls applied by the beekeeper that are intended to minimise the risks to human health from agricultural chemicals (e.g. pesticides, herbicides), and plant toxins, including tulin.

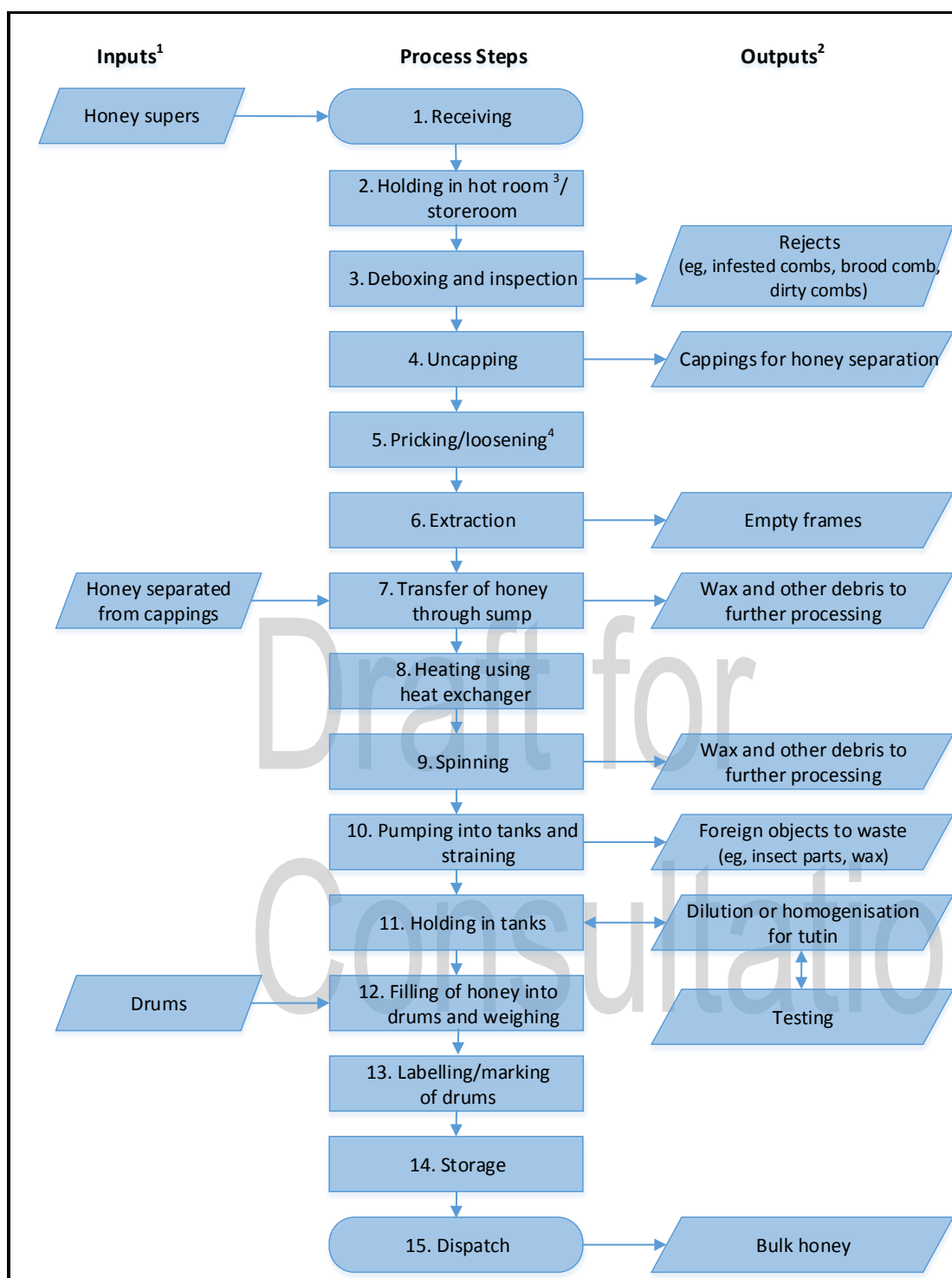
Note: Where the operator is exporting, additional labelling requirements may be described within the export requirements (OMARs).

Draft for
Consultation

7.2.3 Process description

- (1) The process flow diagrams show the key steps based on a generic process.
- (2) Process steps and their sequence may differ for each premises.
- (3) Operators must ensure that their process is accurately reflected in their RMP [RMP Spec 11].

Draft for
Consultation

Figure 2: Generic process flow diagram for the extraction of honey

1. An input is any material, additive, processing aid, ingredient, or packaging that is added or used for the production or processing of a food product.

2. An output is any material or product resulting from any operation under an RMP.

3. Some extractors do not use a hot room, particularly during warm summer days and when only a few boxes of honey are to be extracted (i.e. honey is extracted immediately after harvesting from the hives).

4. Thixotropic honeys, such as manuka, can only be extracted when a pricker/loosener is used to loosen the contents of each honey cell before extraction.

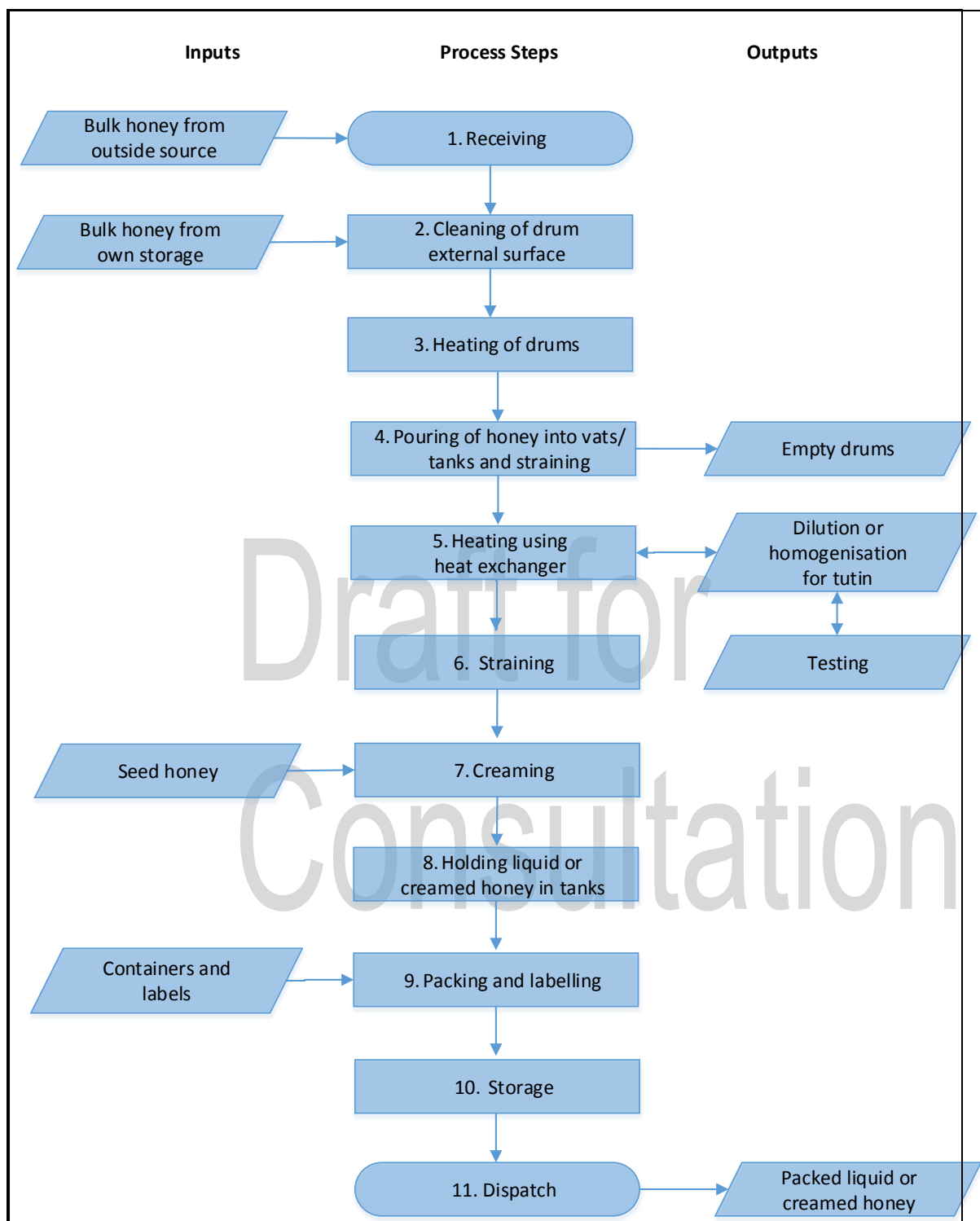
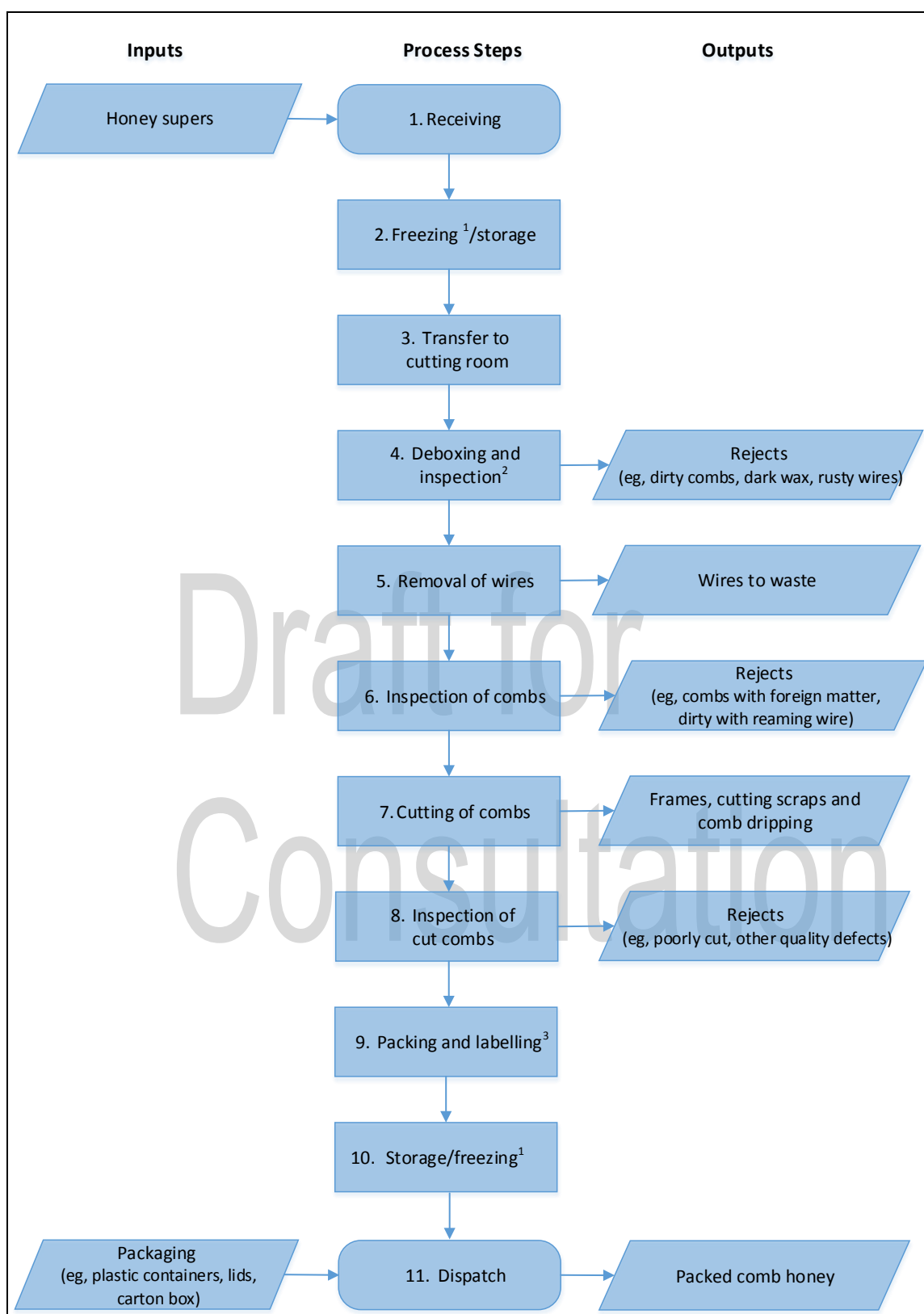
Figure 3: Generic process flow diagram for processing of liquid and creamed honey

Figure 4: Generic process flow diagram for processing of comb honey

1. Freezing is used for killing wax moth.

2. The number and location of inspection steps will vary for each premises.

3. Some operators have a metal detector.

7.2.4 Hazard analysis and CCP determination

7.2.4.1 Identification of hazards from inputs

(1) Hazards associated with each input are identified, considering any supplier agreements and requirements given in the Code.

Guidance Table 7: Hazard identification

Inputs	Description/specification	Biological hazard (B)	Chemical hazard (C)	Physical hazard (P)
Honey supers ¹	Accompanied by a Harvest declaration)	Bacterial spores (e.g. <i>Bacillus</i> spp., <i>Clostridium</i> spp.) ²	Plant toxins (e.g. tutin) ³ Chemical residues (e.g. varroacides, herbicides, pesticides) ⁴	Wire, wood, and nails from wooden frames Plastic from plastic frames
Seed honey	Produced under an RMP (may be own product or purchased from another supplier)	Bacterial spores (e.g. <i>Bacillus</i> spp., <i>Clostridium</i> spp.)	Plant toxins (e.g. tutin) ³ Chemical residues (e.g. varroacides, herbicides, pesticides) ⁴	None
Drums	Meets the drum requirements given in 6.3 Packaging of this Code.	None	None	None
Plastic containers	Suitable for use as food contact material as specified in 6.3 Packaging of this Code.	None	None	Plastic pieces
Glass jars	Suitable for use as food contact material as specified in 6.3 Packaging of this Code.	None	None	Glass fragments

1. Generally, only new foundations and combs are used for producing comb honey.

2. The pathogenic microorganisms of concern in honey are primarily spore-forming bacteria. Bacterial spores, particularly those in the *Bacillus* genus, are regularly found in honey. *Clostridium* spores, such as *Clostridium perfringens*, can also be found in honey. Microorganisms can be introduced into honey either while the bees are making the honey (known as the primary source) or after the honey has been harvested (a secondary source). The primary sources of microorganisms are likely to include pollen, the digestive tracts of honey bees, dust, dirt, and flowers.

3. There have been a number of reported cases of tutin poisoning in New Zealand. Tutin toxicity in honey results from honey bees gathering honeydew exudate from the sap-sucking insect commonly known as the passion vine hopper, when these vine hoppers have been feeding on the sap of tutu (*C. arborea*, *C. sarmentosa*) bushes. Certain beekeeper controls and the use of the Harvest declaration are intended to minimise the risk to human health from tutin in honey. Beekeeper controls include: removing hives and honey supers before the risk period; or by monitoring the tutu, vine hopper and foraging conditions in the areas around the apiary and not collecting honey when conditions indicate that tutin is likely to be a problem.

Comb honey poses a greater risk to human health from tutin because it is eaten directly off the comb, increasing the chance of consuming honey with a high concentration of tutin. Extracted honey is often bulked or blended with other honey thereby reducing the concentration of toxin.

4. The types of chemical residues that can occur in honey include pesticides for controlling mites and insect infestations, varroacides, herbicides and fungicides. The control of chemical residues involves effective beekeeping practices (confirmed by the Harvest Declaration) and the monitoring of certain chemical residues.

Draft for
Consultation

7.2.4.2 Process step hazard analysis and CCP determination

Guidance Table 8: Hazard analysis and CCP determination for the extraction of honey

Process step	Inputs	Hazard reasonably likely to occur on or in the product at this step	Justification	Q1. Is there a control measure(s) for the hazard at this step? If yes, identify the control measure and then answer Q2. If no, consider hazard at next step.	Q2. Is the control measure at this step essential to food safety as defined by a regulatory limit? If yes, this step is a CCP. If no, this step is not a CCP.	CCP no.
1. Receiving	Supers	B – Bacterial pathogens	Bacterial spores (e.g. <i>Bacillus</i> spp, <i>Clostridium</i> spp) may occur	No	No	
		C – Tutin toxin	Reported incidence of tutin in NZ honey	Yes – Harvest Declarations confirming beekeeper controls and options 1-5 ¹	Yes	1
		C – Chemical residues	Residues may occur in honey e.g. natural, weed killers, etc. ²	Yes – Harvest Declarations confirming beekeeper controls	No	
2. Holding in hot room/storeroom	Supers	B – Bacterial pathogens	Hazard carried over from previous step	No		
3. Deboxing	Supers	B – Bacterial pathogens	Micro contamination from boxes (e.g. dirt, insect larvae, rodent excretions) can occur	Yes – GOP: visual inspection of combs; removal of defective and infested combs; and hygienic practices will minimise contamination	No	
4. Uncapping	Combs	B – Bacterial pathogens	Micro contamination from the cappings (e.g. dirt, dust, dead bees and other foreign matter) is likely to occur	Yes – GOP: hygienic practices; and maintenance of uncapping knife will minimise contamination	No	
5. Pricking /loosening	Combs – uncapped – capped	B – Bacterial pathogens	Micro contamination from the pricker/loosener can occur	Yes – GOP: cleaning of pricker/loosener will minimise contamination	No	

Process step	Inputs	Hazard reasonably likely to occur on or in the product at this step	Justification	Q1. Is there a control measure(s) for the hazard at this step? If yes, identify the control measure and then answer Q2. If no, consider hazard at next step.	Q2. Is the control measure at this step essential to food safety as defined by a regulatory limit? If yes, this step is a CCP. If no, this step is not a CCP.	CCP no.
6. Extraction	Uncapped or pricked combs	B – Bacterial pathogens	Micro contamination from the comb and frames is likely to occur	Yes – GOP: removal of damaged and dirty combs/frames; and cleaning and maintenance of equipment will minimise contamination	No	
		P – Foreign objects, e.g. wood, wire, nails, plastic	Wood pieces, wire fragments and nails from wooden frames, and plastic from plastic frames can occur	Yes – GOP: maintenance of frames will minimise the hazards Straining of honey	No	
7. Sump	Extracted honey	B – Bacterial pathogens	Micro contamination from the sump and surroundings can occur	Yes – GOP: cleaning of sump; regular removal of debris; and covering of sump will minimise contamination	No	
		P – Foreign objects, e.g. wood, wire, nails, plastic	Carried over from previous step	Yes – GOP: removal of debris from the sump will remove some physical hazards	No	
	Honey separated from cappings	B – Bacterial pathogens	Honey separated from cappings can have higher micro levels.	Yes – Excluding honey from cappings will minimise micro contamination of honey	No	
8. Heating	Extracted honey	B – Bacterial pathogens	Carried over from previous step	No		
		P – Foreign objects, e.g. wood, wire, nails, plastic	Carried over from previous step	No		

Process step	Inputs	Hazard reasonably likely to occur on or in the product at this step	Justification	Q1. Is there a control measure(s) for the hazard at this step? If yes, identify the control measure and then answer Q2. If no, consider hazard at next step.	Q2. Is the control measure at this step essential to food safety as defined by a regulatory limit? If yes, this step is a CCP. If no, this step is not a CCP.	CCP no.
9. Spinning	Extracted honey	B – Bacterial pathogens	Carried over from previous step	No		
		P – Foreign objects, e.g. wood, wire, nails, plastic	Carried over from previous step	Yes – GOP: most physical hazards are removed when honey is passed through the spinner	No	
10. Pumping into tanks & straining/filtering	Extracted honey	B – Bacterial pathogens	Carried over from previous step	No		
		P – Foreign objects, e.g. wood, wire, nails, plastic	Carried over from previous step	Yes – GOP: any remaining physical hazards are removed by the strainer/filter ³	No	
11. Holding in tanks	Extracted honey	B – Bacterial pathogens	Carried over from previous step	No		
12. Filling into drums & weighing	Extracted honey	B – Bacterial pathogens	Carried over from previous step	No		
	Drums	B – Bacterial pathogens	Micro contamination from left over honey or other food residue can occur.	Yes – GOP: compliance with drum requirements; and cleaning of drums will minimise contamination	No	
		C – Chemical residues	Chemical residues from reused drums can occur.	Yes – GOP: compliance with drum requirements	No	
13. Labelling/ marking of drums	Bulk honey	B – Bacterial pathogens	Carried over from previous step	No		

Process step	Inputs	Hazard reasonably likely to occur on or in the product at this step	Justification	Q1. Is there a control measure(s) for the hazard at this step? If yes, identify the control measure and then answer Q2. If no, consider hazard at next step.	Q2. Is the control measure at this step essential to food safety as defined by a regulatory limit? If yes, this step is a CCP. If no, this step is not a CCP.	CCP no.
14. Storage	Bulk honey	B – Bacterial pathogens	Carried over from previous step	No		
15. Dispatch	Bulk honey	B – Bacterial pathogens	Carried over from previous step ⁴	No		
		C – Tutin toxin	Carried over from step 1 <0.7mg/kg	No	No	
		C – Chemical residues	Residues may occur in honey. ²	No	No	

1. The Food Standard: Tutin in Honey 2016 describes 5 options for managing tutin in honey to ensure tutin level <0.7mg/kg.

2. Chemical residues can occur when beekeepers or farmers use agricultural chemicals and veterinary medicines in and around hives. Beekeepers must follow all product label directions when directly treating hives and work to minimise bee's exposure to pastures sprayed with agricultural chemicals while honey supers are on their hives. If beekeepers inform you of any potential concerns regarding chemical exposure of bees or honey supers, or declare a known or suspected exposure, defer extracting the affected supers and contact your verification agency or MPI for advice.

3. If the operation has no steps for removing foreign matter (e.g. spinner or other strainer device), bulk honey produced from this operation is likely to contain foreign matter, including objects that may be considered as physical hazards (e.g. wire, stones). The operator who will further process or pack the bulk honey must ensure that these hazards are eliminated by their process [RMP Spec 11 (1)].

4. Vegetative forms of bacterial pathogens (e.g. *Salmonella* spp., *Listeria monocytogenes*) have not been detected in honey. However, bacterial spores (e.g. *Bacillus* spp, *Clostridium* spp) may occur in honey. Although these spores will not grow in honey, when it is used as an ingredient in another food, the bacterial spores from honey could be introduced to and grow in that food.

Consultation

Guidance Table 9: Hazard analysis and CCP determination for the processing of liquid and creamed honey

Process step	Inputs	Hazard reasonably likely to occur on or in the product at this step	Justification	Q1. Is there a control measure(s) for the hazard at this step? If yes, identify the control measure and then answer Q2. If no, consider hazard at next step.	Q2. Is the control measure at this step essential to food safety as defined by a regulatory limit? If yes, this step is a CCP. If no, this step is not a CCP.	CCP no.
1. Receiving	Bulk honey ¹	B – Bacterial pathogens	Bacterial spores (e.g. <i>B. cereus</i> , <i>Clostridium</i> spp) may occur in honey.	No		
		C – Tutin toxin	Reported incidence of tutin in NZ honey	Yes – Harvest Declarations confirming beekeeper controls and options 1-5 ²	Yes	1
		C – Chemical residues	Residues may occur in honey ³	Yes – Harvest Declarations confirming beekeeper controls	No	
2. Cleaning of drum external surface	Bulk honey	B – Bacterial pathogens	Carried over from previous step.	No		
3. Heating in hot room	Bulk honey	B – Bacterial pathogens	Carried over from previous step.	No		
4. Transfer of honey into vats/tanks & straining	Bulk honey	B – Bacterial pathogens	Micro contamination from equipment can occur.	Yes – GOP: hygienic practices and cleaning of equipment will minimise contamination	No	
5. Heating using heat exchanger	Honey	B – Bacterial pathogens	Carried over from previous step.	No		
6. Filtering	Honey	B – Bacterial pathogens	Carried over from previous step.	No		
7. Creaming	Honey	B – Bacterial pathogens	Micro contamination from equipment can occur.	Yes – GOP: hygienic practices and cleaning of equipment will minimise contamination	No	

Process step	Inputs	Hazard reasonably likely to occur on or in the product at this step	Justification	Q1. Is there a control measure(s) for the hazard at this step? If yes, identify the control measure and then answer Q2. If no, consider hazard at next step.	Q2. Is the control measure at this step essential to food safety as defined by a regulatory limit? If yes, this step is a CCP. If no, this step is not a CCP.	CCP no.
	Seed honey	B – Bacterial pathogens	Bacterial spores (e.g. <i>B. cereus</i> , <i>Clostridium</i> spp) may occur in honey.	No		
8. Holding in tanks	Liquid or creamed honey	B – Bacterial pathogens	Micro contamination from equipment can occur.	Yes – GOP: hygienic practices and cleaning of tanks will minimise contamination	No	
9. Packing and labelling	Honey	B – Bacterial pathogens	Carried over from previous step.	No		
	Glass jars & lids	Glass	Pieces of broken glass are occasionally found in glass consignments; jars can also break during handling and processing.	Yes – GOP: supplier agreement; visual inspection; correct handling procedures; and proper setting of machines will prevent contamination	No	
	Plastic containers	Plastic pieces	Plastic pieces are occasionally found in container consignments.	Yes – GOP: supplier agreement; visual inspection; and correct handling procedures will prevent contamination	No	
10. Storage	Packed honey	B – Bacterial pathogens	Carried over from previous step.	No		
11. Dispatch	Packed honey	B – Bacterial pathogens	Carried over from previous step. ⁴	No		
		C – Tutin toxin	Carried over from step 1 <0.7mg/kg	No	No	

Process step	Inputs	Hazard reasonably likely to occur on or in the product at this step	Justification	Q1. Is there a control measure(s) for the hazard at this step? If yes, identify the control measure and then answer Q2. If no, consider hazard at next step.	Q2. Is the control measure at this step essential to food safety as defined by a regulatory limit? If yes, this step is a CCP. If no, this step is not a CCP.	CCP no.
		C – Chemical residues	Residues may occur in honey. ³	No	No	

1. It is assumed in this hazard analysis that the bulk honey received has undergone a process which has eliminated any physical hazards (e.g. by straining). Bulk honey that has not undergone effective spinning and/or straining after extraction is likely to contain foreign matter, including objects that may be considered as physical hazards (e.g. wire, stones). The operator who will further process or pack this type of bulk honey must ensure that the relevant physical hazards are identified in their hazard analysis and controlled by their process (e.g. by filtering) [RMP Spec 11 (1)].

2. The Food Standard: Tutin in Honey 2016 describes 5 options for managing tutin in honey to ensure tutin level <0.7mg/kg.

3. Chemical residues can occur when beekeepers or farmers use agricultural chemicals and veterinary medicines in and around hives. Beekeepers must follow all product label directions when directly treating hives and work to minimise bee's exposure to pastures sprayed with agricultural chemicals while honey supers are on their hives. If beekeepers inform you of any potential concerns regarding chemical exposure of bees or honey supers, or declare a known or suspected exposure, defer extracting the affected supers and contact your verification agency or MPI for advice.

4. Vegetative forms of bacterial pathogens (e.g. *Listeria monocytogenes*) have not been detected in honey. However, bacterial spores (e.g. *Bacillus* spp, *Clostridium* spp) may occur in honey. Although these spores will not grow in honey, when it is used as an ingredient in another food, the bacterial spores from honey could be introduced to and grow in that food.

Draft for
Consultation

Guidance Table 10: Hazard analysis and CCP determination for comb honey

Process step	Inputs	Hazard reasonably likely to occur on or in the product at this step	Justification	Q1. Is there a control measure(s) for the hazard at this step? If yes, identify the control measure and then answer Q2. If no, consider hazard at next step.	Q2. Is the control measure at this step essential to food safety as defined by a regulatory limit? If yes, this step is a CCP. If no, this step is not a CCP.	CCP no.
1. Receiving	Supers	B – Bacterial pathogens	Bacterial spores (e.g. <i>B. cereus</i> , <i>Clostridium</i> spp) may occur in honey supers	No	No	
		C – Tutin toxin	Reported incidence of tutin in NZ honey ¹	Yes – Harvest Declarations confirming beekeeper controls and options 1-5 ¹	Yes	1
		C – Chemical residues	Residues can occur in honey ²	Yes – Harvest Declarations confirming beekeeper controls	No	
2. Freezing/ storage	Supers	B – Bacterial pathogens	Carried over from previous step	No		
3. Transfer to cutting room	Supers	B – Bacterial pathogens	Carried over from previous step	No		
4. Deboxing & inspection	Supers	B – Bacterial pathogens	Micro contamination from boxes (e.g. dirt, insect larvae, rodent excretions) can occur	Yes – GOP: visual inspection of combs; removal of defective and infested combs; and hygienic practices will minimise contamination	No	
5. Removal of wires	Combs	B – Bacterial pathogens	Carried over from previous step	No		
		P - Wire	Broken wire can be left inside the comb	Yes – GOP: correct techniques will minimise occurrence of broken wires		

Process step	Inputs	Hazard reasonably likely to occur on or in the product at this step	Justification	Q1. Is there a control measure(s) for the hazard at this step? If yes, identify the control measure and then answer Q2. If no, consider hazard at next step.	Q2. Is the control measure at this step essential to food safety as defined by a regulatory limit? If yes, this step is a CCP. If no, this step is not a CCP.	CCP no.
6. Inspection of combs	Combs	B – Bacterial pathogens	Carried over from previous step	No		
		P - Wire	Broken wire can occasionally be left inside the comb	Yes – GOP: inspection using a light box and rejection of affected combs		
7. Cutting of combs	Combs	B – Bacterial pathogens	Carried over from previous step	No		
8. Inspection of cut combs	Combs	B – Bacterial pathogens	Carried over from previous step	No		
9. Packing and labelling	Combs	B – Bacterial pathogens	Carried over from previous step	No		
	Plastic containers	P – Plastic pieces	Plastic pieces are occasionally found in container consignments	Yes – GOP: supplier agreement and visual inspection of containers will prevent contamination.	No	
10. Storage	Packed comb honey	B – Bacterial pathogens	Carried over from previous step	No		
11. Dispatch	Packed comb honey	B – Bacterial pathogens	Carried over from previous step ³	No		
		C – Tutin toxin	Carried over from step 1 <0.7mg/kg			

1. Comb honey poses a greater risk to human health from tutin because it is eaten directly off the comb, increasing the chance of consuming honey with a high concentration of tutin. The [Food Standard: Tutin in Honey 2016](#) describes 5 options for managing tutin in honey to ensure tutin level <0.7mg/kg. Generally, comb honey processors impose stricter controls for sourcing of honey supers for comb honey production to minimise the risk to human health from tutin.
2. Chemical residues can occur when beekeepers or farmers use agricultural chemicals and veterinary medicines in and around hives. Beekeepers must follow all product label directions when directly treating hives, and work to minimise bee's exposure to pastures sprayed with agricultural chemicals while honey supers are on their hives. If beekeepers inform you of any potential concerns regarding chemical exposure of bees or honey supers, or declare a known or suspected exposure, defer extracting the affected supers and contact your verification agency or MPI for advice.
3. Vegetative forms of bacterial pathogens (e.g. *Salmonella* spp., *Listeria monocytogenes*) have not been detected in honey. However, bacterial spores (e.g. *Bacillus* spp, *Clostridium* spp) may occur in honey. Although these spores will not grow in honey, when it is used as an ingredient in another food, the bacterial spores from honey could be introduced to and grow in that food.

Draft for
Consultation

7.2.4.3 Outcome of CCP determination

- (1) A CCP for tutin was identified for the extraction, processing and packing of honey based on homogenisation/dilution of honey to an acceptable level of tutin. The level of tutin is verified by testing a homogenised/diluted representative sample.

7.3 HACCP application for the processing of dried pollen

7.3.1 Scope

Guidance Table 11: Scope of the HACCP application

Components	Description/Details
Material being processed	Fresh or frozen pollen
Products	Dried pollen
Process	From receipt of pollen to dispatch of packed dried pollen. Key processing operations: • drying • cleaning • freezing • packing • storage

7.3.2 Product description

Guidance Table 12: Intended use and consumer of products, and product requirements

Product	Dried pollen
Intended consumer	Humans (general public)
Intended use of product that leaves RMP	Ready-to-eat Ingredient for preparation of other foods and dietary supplements
Regulatory limits ¹	None
Other regulatory requirements specific to bee products	Every consignment of pollen must be provided with a. Harvest Declaration ²
Labelling	Labelling of retail packs as specified in the FSC including an advisory statement as required by Standard 1.2.3. Labelling of transportation outers Part 6.6 Labelling and identification of bee products of this Code.

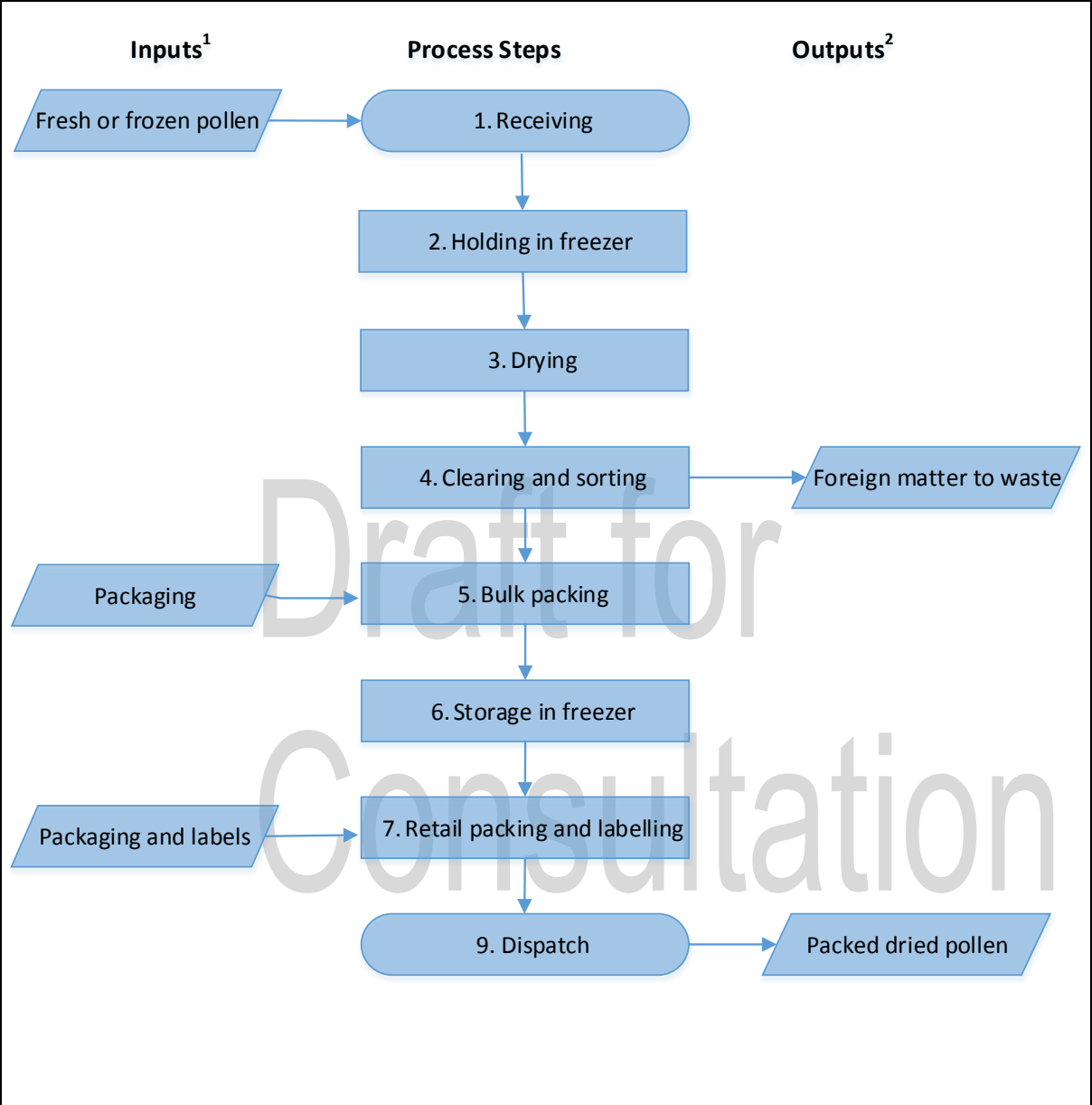
1. Regulatory limits are limits that are essential to be met for food safety and are established by MPI under the APA and FSC.

2. The Harvest Declaration confirms the controls applied by the beekeeper that are intended to minimise the risks to human health from agricultural chemicals (e.g. pesticides).

7.3.3 Process description

- (1) The process flow diagrams show the key steps based on a generic process. Process steps and their sequence may differ for each premises. Operators must ensure that their process is accurately reflected in their RMP [RMP Spec 9].

Figure 5: Generic process flow diagram for the processing of dried pollen



1. An input is any material, additive, processing aid, ingredient, or packaging that is added or used for the production or processing of a food product.

2. An output is any material or product resulting from any operation under an RMP.

7.3.4 Hazard analysis and CCP determination

7.3.4.1 Identification of hazards from inputs

(1) Hazards associated with each input are identified, considering any supplier agreements and requirements given in this Code.

Guidance Table 13: Hazard identification

Inputs	Description/specification	Biological hazard (B)	Chemical hazard (C)	Physical hazard (P)
Fresh or frozen pollen	Accompanied by a Harvest Declaration.	Bacterial pathogens from rodent droppings, insect fragments and wastes, dust and other contaminants ¹	Chemical residues, e.g. pesticides ² Allergen ³	Wood, metal pieces (e.g. staples, wire)
Plastic packaging	Suitable for use as food contact material as specified in 5.5 of the Code.	None	None	Plastic pieces
Glass jars	Suitable for use as food contact material as specified in 5.5 of the Code.	None	None	Glass fragments

1. At present, there is insufficient information on the types and levels of pathogen contamination on bee pollen. Further investigation on this matter is proposed.

2. The potential for chemical residue contamination in bee pollen is minimised by controls at the apiary, and confirmed through the Harvest Declaration as required by the Animal Products (Harvest Statement and Tulin Requirements for Export Bee Products) Notice 2010 5 (1). This statement confirms the controls applied by the beekeeper that are intended to minimise the risks to human health agricultural chemicals (e.g. pesticides) and plant toxins.

3. The ingestion of bee pollen has been identified as a possible cause of anaphylaxis, gastro-intestinal symptoms, asthma, and angioedema/urticaria. The Report of the New Zealand Bee Product Warning Scientific Review Working Group (1999) concluded that the estimated risk to the population from ingestion of bee pollen is extremely low. The Working Group also concluded that risk management should be limited to ingredient labelling of all products containing bee pollen.

Consultation

7.3.4.2 Process step hazard analysis and CCP determination

Guidance Table 14: Hazard analysis and CCP determination for the processing of dried pollen

Process step	Inputs	Hazard reasonably likely to occur on or in the product at this step	Justification	Q1. Is there a control measure(s) for the hazard at this step? If yes, identify the control measure and then answer Q2. If no, consider hazard at next step.	Q2. Is the control measure at this step essential to food safety as defined by a regulatory limit? If yes, this step is a CCP. If no, this step is not a CCP.	CCP no.
1. Receiving	Fresh or frozen pollen	B – Bacterial pathogens	Bacterial pathogens may be present in fresh pollen from contaminants such as rodent droppings, insect parts and wastes, dust	Yes – Supplier agreements and inspection for contaminants at receipt will minimise contamination	No	
		C – Chemical residues	Residues can occur in pollen ¹	Yes – Supplier statements confirming beekeeper controls	No	
		C - Allergens	Pollen is known to cause allergic reactions in certain people	No ²		
2. Holding in freezer	Pollen	B – Bacterial pathogens	Carried over from previous step	Yes – GOP: proper freezing will prevent micro growth ³	No	
3. Drying	Pollen	B – Bacterial pathogens	Carried over from previous step	Yes – Proper drying may reduce micro levels and prevent micro growth ³	No	
4. Cleaning and sorting	Dried pollen	B – Bacterial pathogens	Carried over from previous step	Yes – GOP: effective cleaning and removal of dust, insect and other physical contaminants can reduce micro levels ³	No	
5. Bulk packing	Dried pollen	None				
	Packaging	None				

Process step	Inputs	Hazard reasonably likely to occur on or in the product at this step	Justification	Q1. Is there a control measure(s) for the hazard at this step? If yes, identify the control measure and then answer Q2. If no, consider hazard at next step.	Q2. Is the control measure at this step essential to food safety as defined by a regulatory limit? If yes, this step is a CCP. If no, this step is not a CCP.	CCP no.
6. Storage in freezer	Dried pollen	None				
7. Retail packing and labelling	Dried pollen	C - Allergen	Carried over from step 1	No. Labelling will not control the hazard but it will minimise the risk to the consumer ²		
	Packaging	None				
8. Storage	Dried pollen	C – Allergen	Carried over from previous step	No		
9. Dispatch	Dried pollen	C - Allergen	Carried over from previous step ²	No		

1. The control of chemical residues involves effective beekeeping practices which is confirmed through the Harvest Declaration as required by the Animal Products (Harvest Statement and Tulin Requirements for Export Bee Products) Notice 2010 5 (1). There is insufficient data, at present, to confirm the levels of chemical residues in New Zealand pollen. The level of any chemical residue is not going to increase during pollen processing, thus, they have not been considered further in succeeding steps.

2. The Report of the New Zealand Bee Product Warning Scientific Review Working Group (1999) concluded that management of risks from allergens in bee pollen should be limited to ingredient labelling of all products containing bee pollen. The Food Standards Code 1.2.3 requires that the label on a package of bee pollen must include an advisory statement to the effect that the product contains bee pollen which can cause severe allergic reactions.

3. There is insufficient information, at present, on the impact of certain process steps (e.g. freezing, drying, cleaning) on the microbiological load in bee pollen. Limited industry data suggests that proper collection of pollen, application of GOP during processing and the thorough removal of physical contaminants minimises the microbiological load in bee pollen. The hazard analysis shown in this table is based on limited industry information, and scientific information on the general impact of these process steps on microorganisms in food. Further investigation is necessary to confirm the hazard analysis.

Consultation

7.3.4.3 Outcome of CCP determination

- (1) No CCP was identified for the drying of bee pollen. The control of hazards at key steps is expected to be adequately addressed by GOP (i.e. complying with the procedures given in this Code).
- (2) Since no CCP has been identified, the other HACCP principles that relate to a CCP (i.e. identification of critical limits, CCP monitoring, CCP corrective action) have not been applied to the generic process.

Draft for
Consultation

Part 8: Identification and control of risk factors related to wholesomeness and labelling

8.1 Introduction

8.1.1 Purpose of this document

- (1) The operator must identify in their RMP any risk to the wholesomeness of the product, and any risk from false or misleading labelling that is reasonably likely to occur. The operator must also document the control measures for effectively addressing any identified risk factor [RMP Spec 7 and 8].
- (2) You can develop your RMP where your products and processes are adequately covered by the risk factor identification in this Code. Copy or incorporate by reference into your RMP. You should make some changes to ensure that the risk factor identification accurately reflects the products and processes covered by their RMP.
- (3) When the risk factor identification in this document does not adequately cover your product or process, you should carry out your own risk factor identification. Use the approach and format shown here as a guide or pattern for your own application.

8.1.2 Wholesomeness

- (1) Wholesomeness, means that the product does not contain or have attached to it, enclosed with it, or in contact with it; anything that is offensive, or whose presence would be unexpected or unusual in product of that description. Examples of wholesomeness risk factors relevant to honey are fermented honey and the presence of foreign objects that are not considered as physical hazards (e.g. insect parts).

8.1.3 False or misleading labelling

- (1) Animal products intended for the New Zealand market must meet all relevant legislative requirements related to labelling including:
 - a) The [Animal Product Regulations 2000](#), regulations 8 and 19;
 - b) Part 8 Labelling of the [Animal Products Notice: Specifications for Products For Human Consumption 2016](#);
 - c) Part 1.2 Labelling and other information requirements of the [Australia New Zealand Food Standards Code](#);
 - d) Part 1 General provisions relating to food safety of the [Food \(Safety\) Regulations 2002](#); and where applicable; and
 - e) Section 3 Protection of Food of [Industry Standard 7: Byproducts](#).
- (2) When identifying risk factors, consideration should be given to the type and intended use of the product, the intended consumer (animal or human), specific consumer groups (e.g. religious groups, people with allergies) and requirements for authenticating certain claims (e.g. organic, GM free).
- (3) Those operators who export their products will also need to consider the labelling requirements of the relevant market. These requirements may be additional to those needed in the RMP.
- (4) Risk factors related to wholesomeness and labelling are discussed in detail in the [RMP Manual](#).

8.2 Identification and control of risks to wholesomeness

Guidance Table 15: Summary of identified risk factors and controls related to wholesomeness of honey

Risk factor	Source or cause of risk factor	Control measures for preventing/minimising the risk factor
Fermented honey	High moisture content	Proper draining and drying of equipment Preventing water or steam from getting into the product Proper storage
	High yeast level	Hygienic practices Cleaning and sanitation
Insect and insect parts	Bees and other insects	Removal of live bees Covering of equipment Pest control Proper storage of supers Straining Freezing or fumigation of comb honey
Other foreign matter that are not considered as physical hazards (e.g. wood, propolis, wax, other debris)	From frames, capping surfaces	Maintenance of frames in good condition Hygienic practices Cleaning and sanitation Proper storage of supers Straining

Guidance Table 16: Summary of identified risk factors and controls related to wholesomeness of dried pollen

Risk factor	Source or cause of risk factor	Control measures for preventing/minimising the risk factor
Mouldy pollen	High moisture content	Rejection of mouldy pollen at receipt Drying to correct moisture content
	Improper holding temperature	Proper freezing of fresh pollen
	Improper packaging and/or storage	Proper packaging and storage of dried pollen
Foreign matter that are not considered as physical hazards (e.g. wood, wax, insect parts, other debris)	Contaminants from hives, bees and other debris collected in or surrounding pollen traps	Supplier agreements covering good hive maintenance and practices; hygienic collection; incoming material specifications Rejection of fresh pollen with high levels of foreign matter Sieving and cleaning

8.3 Identification and control of risks from false or misleading labelling

Guidance Table 17: Summary of identified risk factors and controls related to false or misleading labelling of honey and other bee products

Risk factor	Source or cause of risk factor	Control measure for preventing/minimising the risk factor
All products		
Incorrect details on label or transportation outers, e.g. • type of product • claims (e.g. organic) • product description • lot identification or batch number • floral species	Incorrect label design	Procedures for ensuring correct label design and compliance with regulatory requirements
	Processing errors, e.g. Wrong identification of drums Wrong product put in a pre-labelled container Wrong label or information put on product (e.g. date, batch number)	Procedures for ensuring correct packaging and labelling of products

Draft for
Consultation

Appendix 1 Water Supply Assessment Checklist

Complete one checklist for each water source being assessed.

A: SUPPLIER DETAILS

RMP No.	
Person who completed checklist	

B: WATER SOURCE

Tick the box representing your water source and then go to the appropriate part of the checklist as indicated.

☐	Deep bore water (i.e. bore greater than 10m deep) – Go to B1
☐	Surface water (e.g. bore less than 10m deep, spring, well, river, stream, dam, lake, reservoir) – Go to B2
☐	Roof Water – Go to B3

B1: DEEP BORE WATER (i.e. bore > 10m deep)

Tick the appropriate boxes in the table below and then move on to the relevant parts of the checklist as appropriate to the responses given.

Yes	No	Question
☐	☐	Is the bore less than 10m deep?
☐	☐	Is the soil/rock types such that contaminants could flow into the groundwater?
☐	☐	Is surface water able to drain into the bore, due to the bore-head being inadequately sealed?
☐	☐	Is the bore-head in an area prone to ponding and flooding?
☐	☐	Do farmed animals have access to the bore-head?
☐	☐	Is there any septic tank/long drop toilet outlet within 100 metres from the bore-head?
Do any of the following water characteristics change after rain? (you will need records of this to confirm these statements)		
☐	☐	Colour
☐	☐	Temperature
☐	☐	Turbidity
☐	☐	pH
☐	☐	<i>E. coli</i> or faecal coliform count

If all responses are NO, the water is secure, go to C, Water Storage

If any responses are YES, the water is not secure. Record details of problem(s) in row B1 of Table D. If the problems can be eliminated from the water supply permanently, eliminate the problem and then go to C, Water storage. If problems cannot be eliminated permanently, go to B2 and complete the questions for surface water.

If all responses are YES, the water is not secure - go to B2 and complete the questions for surface water.

B2: SURFACE WATER

e.g. Shallow bore (less than 10m), deep bore - not secure, spring, dam, lake, reservoir, stream

Tick the appropriate boxes in the table below and then move on to the relevant parts of the checklist as appropriate to the responses given.

Describe the water source (including name where appropriate)			
☐	Shallow bore.....	☐	Dam.....
☐	Deep bore - not secure.....	☐	Lake.....
☐	Spring.....	☐	Reservoir.....
☐	Stream.....	☐	River.....
☐	Other (specify).....		
Yes	No	Question	
		Are any of the following within 50 metres of the water source?	
		Offal pit / soak hole	
		Animal effluent to pasture	
		Sumps, stock yards or feed pads not connected to an approved effluent system	
		Fuel tanks	
		Timber treatment facility	
		Abandoned or decommissioned wells	
		Septic tank / long-drop toilet	
		Land disposal site/refuse pit	
		Silage stack	
		Chemical preparation/storage	
		Pesticide residues	
Do you have any of the following water problems?			
You will need records of this to confirm these statements			
		Bacterial contamination	
		Turbidity	
		Sediment	
		Colour	
		Smell	
		Taste	
Do any of the following factors present risks to the water?			
		Spray drift	
		Nearby factories	
		Mining operations	
		Material from effluent ponds or surface impoundments (waste ponds or lagoons) - either treated discharge or leakage	
		Contaminants washed into source during irrigation	
		Geothermal contaminants (e.g. arsenic, boron, lithium etc)	
		Saline water	
		Possible flooding (consider council land information/LIM reports)	
		Other factors (Specify here);	

If all responses are NO, continue with B2

If any responses are YES, record details of problem(s) in row B2 of Table D then continue with B2

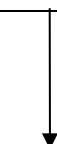
B2: SURFACE WATER (Continued)

Tick the appropriate boxes in the tables below and then move on to the relevant parts of the checklist as appropriate to the responses given.

Describe the surface water type	
☐	Flowing water (e.g. unsecure bores, rivers, streams, springs) – Go to B2 (i)
☐	Confined water (e.g. dams, lakes, reservoirs) – Go to B2 (ii)

B2 (i): FLOWING SURFACE WATER

Yes	No	Question
		Is effluent discharged less than 2 km upstream of the water intake and if yes, is effluent discharged less than 4 hours before water is taken from that source? If Yes to both statements, state water source
		Do farmed animals have access to within 10m of the water intake?
		Is industrial or urban stormwater discharged to the source water upstream of the intake?



If all responses are NO, go to C, Water Storage

If any response is YES, record details of problem(s) in row B2(i) of Table D and then go to C, Water Storage

B2(ii): CONFINED SURFACE WATER

Yes	No	Question
		Is the water accessible to farmed animals?
		Is effluent discharged into the dam/lake/reservoir?
		Is industrial or urban stormwater discharged into the dam/lake/reservoir?



If all responses are NO, go to C, Water Storage

If any response is YES, record details of problem(s) in row B2(ii) of Table D then go to C, Water Storage

B3: ROOF WATER

Tick the appropriate boxes in the table below and then move on to the relevant parts of the checklist as appropriate to the responses given.

Yes	No	Question
		Roofing Materials:
		Are any of the following materials used on the water collection surfaces?
		Galvanised iron?
		Lead materials (lead nails, flashings, paint)?
		Asbestos materials?
		Paint or other surface treatment in poor condition?
		Roof environment
		Is the roof overhung by trees?
		Are there any other factors that could encourage birds or other pests to move about or settle on the roof?
		Atmospheric fall out
		Are there industrial (including agricultural chemicals) or natural sources of atmospheric fall out?
		Is there any ash/soot deposit on the roof?
		Roof maintenance
		Are the gutterings left for more than a month before cleaning them out?



If all responses are NO, go to C, Water Storage

If any response is YES, record details of problem in row B3 of Table D and then go to C, Water Storage

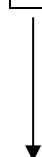
C: WATER STORAGE

Describe Water Storage Facilities	
☐	Do not have holding tanks – Go to Table D if problems have been identified in the previous parts, or E if no problems have been identified in the previous parts.
☐	Have holding tanks – Go to C1

C1: HOLDING TANKS

If there is more than one storage facility, copy and fill out this section for each storage facility.

Yes	No	Question
		Is the outlet of the holding tank below or level with the base of the tank, allowing any debris that has settled to be sucked out with the water?
		Is the water in holding tanks prone to stagnation that results in deterioration of water quality?
		Are holding tanks inspected and maintained less than once per year?
		Are holding tanks dirty and not cleaned when necessary?
		Are holding tanks uncovered allowing access by animals, or other debris or other contaminants into the tanks?



If all responses are No, the water STORAGE is satisfactory. Go to table D and check that any other problems identified in the checklist are followed up.

If any response is Yes, the water STORAGE is not satisfactory. Record details of problem in row C1 of Table D then fill out rest of Table D.

Wherever there was a “Yes” answer in the part of the checklist referred to, write the details of the problem identified into the correct row of this table. Fill out the rest of the table to show whether or not the problem is a source of contamination; and where possible what you have done to eliminate the problem and permanently prevent the contamination from occurring (e.g. preventing animal access, no longer using chemicals in the vicinity of the collection area, resurfacing roof etc).

Ref	Problems identified	Biological hazard, chemical hazard or turbidity issue caused by the problem(s)	Action taken to address problem(s)	Problem	
				Eliminated (✓)	Still Remains (✓)
B1 Deep bore water					
B2 Surface water					
B2(i) Flowing surface water					
B2(ii) Confined surface water					
B3 Roof Water					
C1 Holding Tanks					
E Initial water testing					

↓
If problems have been permanently eliminated, a water management plan is not needed. Go to E

↓
If some problems still exist, record the problem in the first row of D1 and then fill out the rest of D1 with how this problem will be managed on an ongoing basis.

D1: WATER MANAGEMENT PLAN

A water management plan is required where there are any problems that are not managed with your water supply.

This water management plan covers the routine, ongoing water treatment undertaken or actions to ensure that the water is potable, or it may include routine testing conducted to demonstrate that the problem (that cannot be permanently eliminated) is being controlled on an ongoing basis such that treatment is not needed.

A separate D1 should be completed for each problem that needs to be managed from Table D.

Document and implement a water management plan.
Remaining problem from Table D:
Method to manage the identified problem ☐ Filtration ☐ Chlorination ☐ Ultraviolet light ☐ Ozone ☐ Routine ongoing testing to demonstrate control ☐ Other (Specify).....
The treatment is done in accordance with the procedures: ☐ provided by the manufacturer / supplier of the water treatment system (<i>attach</i>); or ☐ given below: <i>(enter details where relevant, e.g. - equipment type, equipment maintenance (frequency, activity and method, e.g. for replacement or cleaning filters or replacement of UV lights), - other control measures, (e.g. addition of chlorine or ozone, frequency, method, any limits (e.g. concentration of chlorine, monitoring frequency)), what is checked (e.g. chlorine level, turbidity) and method, corrective action to be taken when limits exceeded or not met):</i> OR ☐ Details of the routine testing to demonstrate that the problem is being controlled on an ongoing basis (test, frequency).
Other ongoing control measures (either frequency, activity and method, e.g. for routine cleaning of roof or tanks):



Once this table is completed, go to E

E: INITIAL WATER TESTING

Yes	No	Question
		Has a microbiological test for <i>E.coli</i> or faecal coliforms been done on this source within the last month?
		If a particular chemical hazard was identified as likely to occur during completion of this checklist, has a relevant chemical test been done on this source within the last month?

↓

If any response is NO, get the relevant tests done, then

↓

If all responses are YES

↓

Name the laboratory which did each test		
Yes	No	Question
		Does the water satisfy the microbiological in Table 3: Quality of Potable Water?
		For any additional chemical tests done, does the water satisfy the requirements of the current DWSNZ?

↓

If any response is No, Go to Table D and review / improve the corrective actions taken.
Repeat the testing and corrective action process until the water is satisfactory

↓

If all responses are yes

↓

The water is satisfactory. No further action is needed until reassessment of the water supply is required (see clause 4, reassessment of the water supply) or further water testing is required in accordance with the requirements of Table 2, Frequency of Ongoing Testing.

Appendix 2 Pre-season Checklist Example

Pre-season Checklist

This checklist should be completed by the operator before the start of each honey extraction season. Refer to appropriate parts of this Code for details about the requirements.

	Requirement	Okay (✓) Not okay (X) Not applicable (NA)	Date checked	Corrective action required	Target date for action	Date rechecked	Checked by (Initial)
1	Applicability of RMP						
1.1	MPI has been notified of any change in the day-to-day manager of the RMP.						
1.2	Amendments to the RMP due to significant changes have been registered.						
2	Water						
2.1	Water tests were done before cleaning, and results are acceptable.						
2.2	Reticulation system was flushed before cleaning.						
2.3	Pipes, storage tanks, and taps are in good condition (no leaks, corroded parts).						
3	Facilities and equipment						
3.1	All unnecessary materials have been removed from processing and storage rooms.						
3.2	Holes, drains, and other places where pests are likely to gain access are sealed, or covered with screens or similar material.						
3.3	Floors are in good condition (no big cracks, moulds) and properly sealed.						
3.4	Walls are in good condition (no moulds and rotten parts) and properly sealed.						
3.5	Sufficient lighting is provided. Lights are of safety type or protected.						

	Requirement	Okay (✓) Not okay (X) Not applicable (NA)	Date checked	Corrective action required	Target date for action	Date rechecked	Checked by (Initial)
3.6	Hand washing facility is in an accessible location, in good working condition and provided with soap/cleaner & paper towels.						
3.7	Processing equipment are constructed of materials that comply with this Code.						
3.8	All processing equipment are in good working condition.						
3.9	Equipment layout allows for effective and hygienic operation, cleaning and personnel movement.						
3.10	Reusable containers (e.g. plastic buckets) are properly identified as to their use (e.g. by colour coding or labelling).						
3.11	Waste bins that are properly labelled are provided.						
3.12	Work instructions and signs (e.g. cleaning instructions, operating instructions for equipment, hygiene requirements) are clearly posted at appropriate locations.						
4	Cleaning and sanitation						
4.1	Walls, floor, ceiling, windows, doors, lights, sinks, fans and other fixtures have been washed/wiped and are visibly clean ¹ .						
4.2	All processing equipment, containers & implements disassembled, as necessary, washed clean and dried.						
4.3	External areas are clean and tidy (no pest infestation, long grass, accumulated waste materials and other junk). Drums stacked in a tidy manner.						
5	Pest control						
5.1	Pest traps and bait boxes are located in appropriate areas (not in processing rooms).						
5.2	Pesticides are in the approved chemicals list.						
6	Personnel competency and health						
6.1	Workers are medically fit to handle honey and other edible bee products.						
6.2	Workers are trained to do assigned task.						

	Requirement	Okay (✓) Not okay (X) Not applicable (NA)	Date checked	Corrective action required	Target date for action	Date rechecked	Checked by (Initial)
6.3	Workers are familiar with required hygienic procedures and practices, and cleaning procedures.						
6.4	Clean work gear (e.g. overall, aprons, caps, boots) are available.						
7	Chemicals						
7.1	There is an up to date list of all approved chemicals that are used and held in the premises.						
7.2	Chemicals are stored in a designated area (e.g. shelf, cupboard, room).						
7.3	Chemicals are properly labelled.						
8	Document/ record & inventory control						
8.1	The current version of the Code, RMP and other documents are readily accessible.						
8.2	Record forms or logbooks for recording monitoring observations, inventory etc are available and ready for use.						
8.3	A system for collection and storage of records (e.g. harvest declarations, purchase orders, test results, inventories, checklists, etc) is in place.						
8.4	A system for inventory control, identification of products, and traceability is in place.						

1. Visibly clean – free of honey and bee product residues, dirt, dust, moulds, insect parts and waste, and other debris.

Appendix 3 Guidance on Calibration Methods & Frequencies

Guidance Table Appendix 3: Guidance on calibration methods and frequencies for various measuring equipment

Measuring equipment	Method	Frequency	Person / agency responsible
Standardised thermometer (reference thermometer)	Standardised against a national or international standard	Once every 1- 5 years	Accredited / approved laboratory
Working thermometers	Calibrated against a reference thermometer	Annually	Accredited person or agency
	Ice point and/or boiling point method, as appropriate. (Refer to methods in following guidance box)	Those used daily for monitoring critical limits – weekly or fortnightly. Other working thermometers - monthly	Suitably skilled person
Continuous temperature reading devices used in refrigeration rooms	Calibrated against a reference thermometer	Annually	Accredited person or agency
Thermocouples and data loggers	Refer to methods in following box		
Heat exchanger or hot room probe and temperature recorder (e.g. data logger)	Calibrated against a reference thermometer	Data logger and probe - annually	Accredited person or agency
	Calibrated against a reference thermometer (in-house check)	Probe – monthly, if used to determine the final product temperature and the cooking schedule	Suitably skilled person
Weighing scales (ingredient and product scales, platform scales)	Check against test weights	Daily	Suitably skilled person
Weighing scales (e.g. final product scales)	Certify for accuracy as per the Weights and Measurement Act 1987	Annually	Accredited person or agency
Test weights	Standardised against a national standard	Annually	Accredited / approved laboratory
pH meter	Check against standard solutions; manufacturer's instructions	Before each day's use, or as recommended by manufacturer	Suitably skilled person
Moisture meter	Check against standards; manufacturer's instructions	Before each day's use, or as recommended by manufacturer	Suitably skilled person
Metal detector	Test against metal test pieces	At least daily	Suitably skilled person
	Servicing and calibration	Annually	Instrument specialist

Guidance**Ice point and boiling point calibration methods**

Hot point calibration is used when monitoring temperatures are higher than room temperature (e.g. hot room temperatures). A combination of the ice point and hot point methods is recommended for a more accurate calibration of thermometers used to monitor a wide range of temperatures.

Ice point method:

- i) use enough crushed ice in a container to allow immersion of most of the probe stem. Add just enough water to remove the air around the ice particles and to form a slush. Wait for the ice to appear clear;
- ii) stir the mixture (do not use the probe for mixing), tip off excess water, insert the probe and leave it for about 2 minutes. Ensure that the tip of the probe is in good contact with the slush ice at the centre of the container;
- iii) stir the mixture again and check the reading on the thermometer. Accept if the deviation from 0°C is within the declared limits of accuracy; and
- iv) if the deviation from 0°C is greater than the limit of accuracy or greater than $\pm 1.0^{\circ}\text{C}$, adjust the thermometer accordingly or discard and replace the thermometer.

Boiling point method:

- place the probe in a container with boiling water for about 2-3 minutes until the thermometer reading stabilises. The probe should be at the centre of the container;
- accept if the deviation from 100°C, or appropriate temperature according to elevation, is within the declared limits of accuracy; and
- if the deviation from 100°C is greater than the limit of accuracy, or greater than $\pm 1.0^{\circ}\text{C}$, adjust the thermometer accordingly or discard and replace the thermometer.

Calibration of thermocouples and data loggers

Here is a method to calibrate thermocouples and data loggers:

Thermocouples and data loggers:

- create an ice water mixture in a container. Add one thermocouple, use this as reference temperature ($^{\circ}\text{C}$);
- fill a temperature controlled water bath, heat bath to 30°C. Turn on thermocouple device;
- connect each lead of multi-meter to one end of thermocouple;
- place one thermocouple to the water and allow the voltage to stabilise;
- increase the water temperature by 5°C increments from 35°C-60°C;
- measure the room temperature and look up the voltage for your thermocouple type at the room's temperature. For example, the voltage for a type K thermocouple at a temperature of 25°C is 1 mV. Add this value to each of the voltages you recorded in Steps 2 and 3; and
- use the curve-fitting method of your choice to find the line that best fits your recorded data. The slope of this line provides the voltage increase for each degree of temperature increase. The voltage on a standard type K thermocouple should increase about 40 μV for every degree Celsius increase in temperature.